

**E20-393**

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File Version: 1.0



**Unity Solutions Specialist Exam for Implementation Engineers**



**Exam A****QUESTION 1**

What is the minimum VMware Hypervisor version a server must be running in order to support the deployment of a UnityVSA system?

- A. 4.0
- B. 5.0
- C. 5.5
- D. 6.0

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

UnityVSA requirements include: VMWare ESXi 5.x, 6.x

References: <http://sweden.emc.com/products-solutions/trial-software-download/unity-vsa.htm>

**QUESTION 2**

Which feature is supported on a UnityVSA operating environment?

- A. Asynchronous Replication
- B. MCC Write Caching
- C. Quick Start Pool Provisioning
- D. Data at Rest Encryption

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Asynchronous Unified Replication is available natively on UnityVSA. This allows file and block resources to be replicated between UnityVSA systems, between UnityVSA and physical Unity systems, and also locally back to the same UnityVSA system

References: <https://www.emc.com/collateral/white-papers/h15092-emc-unity-unity-vsa.pdf> (Page 15)

**QUESTION 3**

A storage administrator is creating a host profile in Unisphere to provide host access to block storage resources using the iSCSI protocol. The host initiators were not automatically discovered and must be manually added.

In addition to the SAN host IQN, what other configuration can be performed through the "Create iSCSI Initiator Wizard" window?

- A. Enable and disable CHAP settings
- B. Create Mutual CHAP secret
- C. Create Global CHAP secret
- D. Enter CHAP username and secret

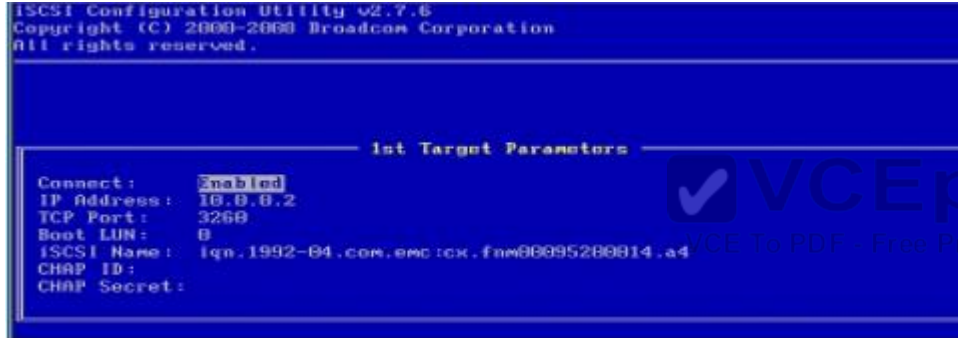
**Correct Answer: D**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

A sample from a Broadcomm BIOS is provided in the figure below, illustrating the IQN assignment for the VNX iSCSI target.



References: <https://www.emc.com/collateral/hardware/technical-documentation/h8229-vnx-vmware-tb.pdf> (page 34)

#### QUESTION 4

What describes the LUN Snapshot Copy operation?

- A. Parent cannot be a snapshot copy
  - Can only copy a detached snapshot
  - Has an independent Retention Policy from the parent
- B. Parent can be a snapshot copy
  - Can only copy a detached snapshot
  - Has an independent Retention Policy from the parent
- C. Parent can be a snapshot copy
  - Can copy an attached or detached snapshot
  - Inherits the parent Snapshot Retention Policy
- D. Parent cannot be a snapshot copy

Can copy an attached or detached snapshot  
Inherits the parent Snapshot Retention Policy

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Note: You can create copies of LUNs by cloning LUNs from the Snapshot copies in a volume. These FlexClone LUNs are readable and writable copies of the LUNs as the LUN existed when the Snapshot copy was created. Before you can clone a LUN, you must create a Snapshot copy (the backing Snapshot copy) of the LUN you want to clone.

References: <https://library.netapp.com/ecmdocs/ECMP1368845/html/GUID-E0660F7B-491B-4AA0-A1A8-22B12DC6917D.html>

#### QUESTION 5

Which technology is used by Unity Snapshots?

- A. Copy on First Write
- B. Inline Deduplication
- C. Redirect on Write
- D. Block Compression

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

The technology used for snapshots of both block and file resources in Unity is called redirect on write.

References: <https://www.emc.com/collateral/white-papers/h15089-emc-unity-snapshots.pdf> (page 6)

#### QUESTION 6


DRAG DROP

What is the correct sequence of steps taken by the storage array when an AC power failure is detected?

**Select and Place:**

Array is powered down

BIOS loads the PMP firmware

 **VCEplus**  
Storage Processors reset and goes into Low Power mode

Power is switched to the BBU and SPs are reset

SP Cache dirty pages are written to flash

**Correct Answer:**



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 **VCEplus**  
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**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

The Battery Backup Unit (BBU) provides power to the Storage Processor in the event that cabinet power is lost. The BBU is designed to power the SP long enough for the system to store SP cache content to the M.2 SSD device before powering down. The BBU includes sensors which communicate its charge and health status to the SP. In the event the BBU is discharged the SP will disable cache until the BBU has recharged. In the event the BBU has faulted or cannot sustain enough charge, an alert will be generated.

References: <https://www.emc.com/collateral/white-papers/h15084-emc-unity-introduction-to-the-unity-platform.pdf>

### QUESTION 7

Which Unity feature provides a high bandwidth connection for large file transfers, enables proactive Service Request generation and usage license reporting, and operates on a 24x7 basis?

- A. EMC Service Center
- B. Software Licensing Central
- C. Unisphere Central
- D. EMC Secure Remote Services



**Correct Answer: A**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

EMC Service Center provide secure, high-speed, 24x7 predictive monitoring and remote repair for your EMC information infrastructure. EMC Secure Remote Services (ESRS) enables EMC Customer Service to identify and proactively resolve potential issues before they can impact your business.

Incorrect Answers:

C: Unisphere Central enables administrators to remotely monitor multiple EMC VNX Series, EMC VNXe Series, EMC CLARiiON CX4 Series, and EMC vVNX storage systems residing on a common network.

References: <http://www.emc.com/customer-services/online-support-tools-resources.htm>

### QUESTION 8

Which software bundles are provided with the Unity Starter software package?

- A. FAST Cache and Fast VP
- B. Thin Provisioning and Quality of Service
- C. Controller-Based Encryption and RecoverPoint Basic



D. FAST Cache and Local Point-in-Time Copies

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

The UnityVSA offers a dynamic deployment model that allows you to start for free and grow as business needs evolve.

UnityVSA include:

- FAST Cache leverages the performance of Flash media to improve workloads that are interfacing with spinning disk media.
- Fully Automated Storage Tiering for Virtual Pools (FAST VP) ensures your data is distributed effectively across the various media types in a multi-tier pool.

Reference: <https://www.emc.com/collateral/white-papers/h15084-emc-unity-introduction-to-the-unity-platform.pdf> (page 20)

#### QUESTION 9

When configuring asynchronous remote replication, how many internal Unity Snapshots are configured and utilized on the source system by a single replication session?

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



**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Internal Snapshot (Replication Snapshot) are Unity Snapshots created by the system which are part of an asynchronous replication session. These Snapshots can be viewed in Unisphere, but user operations are not permitted. Each asynchronous replication session uses two internal snapshots taken on the source and destination storage resources.

Reference: <http://www.emc.com/collateral/white-papers/h15088-emc-unity-replication-technologies.pdf> (page 5)

#### QUESTION 10

A storage administrator is required to test a new version of an application loaded on a secondary host. The administrator must use existing data contained on a LUN provisioned from Unity to a primary host.

Which solution will meet the requirement and provide space efficiency?

- A. Create a snapshot of the LUN  
    Configure LUN access for the secondary host  
    Attach the snapshot to the secondary host
- B. Create a snapshot of the LUN  
    Configure snapshot access to the LUN for the secondary host  
    Attach the snapshot to the secondary host
- C. Create a Synchronous Replication session for the LUN  
    Configure access to the replica LUN for the secondary host  
    Attach the secondary host
- D. Create an Asynchronous Replication on session for the LUN  
    Configure access to the replica LUN for the secondary host  
    Attach the secondary host

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Attaching a snapshot is only applicable for block snapshots, and makes the snapshot available for host IO. A host must have Snapshot access or LUN and Snapshot access configured in order to access the snapshot. When a snapshot is attached, Unisphere provides the option to create a copy of the snapshot in case the administrator wants to preserve the current snapshot view for future use.

References: <https://www.emc.com/collateral/white-papers/h15089-emc-unity-snapshots.pdf> (page 9)

**QUESTION 11**

On which systems is Quality of Service available?

- A. Physical Unity systems only
- B. UnityVSA systems only
- C. Physical Unity and UnityVSA systems
- D. All Flash Unity systems only

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

UnitVSA features Host I/O limits, also known as Quality of service.

The EMC [Physical] Unity array comes with a pack of new hardware and software features focusing on the true unification:

- Support for setting up Host I/O limits, also known as QOS, providing a more predictable performance for the workloads by putting limits on I/O throughputs and bandwidth

- DPE reduced from a 7U footprint to an innovative 2U footprint
- 12 GB SAS back-end for the Unity DAEs; EMC VNX/VNXe supported only 6 GB SAS backend
- Completely redesigned user interface based on HTML5

References: <https://www.emc.com/collateral/white-papers/h15092-emc-unity-unity-vsa.pdf> (page 16)  
<http://www.presidio.com/blog/technical-summary-emc-unification-unity>

#### QUESTION 12

When deploying virtual disks for a UnityVSA system, what is an EMC recommended Disk Provision Policy?

- A. Thick Provision Eager Zeroed
- B. Thin Provision
- C. Thick Provision
- D. Thick Provision Lazy Zeroed

**Correct Answer:** A

**Section:** (none)

**Explanation**

#### Explanation/Reference:

EMC recommends the following settings for all virtual disks:

- Disk Provisioning: Thick Provision Eager Zeroed.
- Location: A different datastore than the VM.



Reference: <https://www.emc.com/collateral/white-papers/h15092-emc-unity-unity-vsa.pdf> (page 12)

#### QUESTION 13

A system administrator has configured a system using the Initial Configuration wizard. After completing the wizard, the administrator discovers that an incorrect IP address has been assigned to the Unity system.

How can the IP address be changed?

- A. The IP address cannot be changed once it has been configured
- B. Through the Service interface using the ifconfig command
- C. In the Unisphere Settings menu
- D. The IP address can only be changed using the UEMCLI

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

The `svc_initial_config UEMCLI` command sets up initial system configuration. It configures a management IP address when the Connection Utility (CU) is not available on the network. If an address is set, this command can also change the management IPv4 and IPv6 configuration mode. It attempts to configure the system with the given friendly name and/or network parameters.

Note: The Unisphere CLI (UEMCLI) is a tool that provides us with the CLI access to perform the same actions as one would on the Unisphere web interface.

References: <https://www.emc.com/collateral/TechnicalDocument/docu69328.pdf> (page 60)

**QUESTION 14**

Which FAST Cache operation can be performed from the Settings window?

- A. Disable FAST Cache use on a specific pool
- B. Pause FAST Cache use
- C. Expand FAST Cache
- D. Enable FAST Cache use on a specific pool

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 15**

What is the maximum number of LUNs in a Consistency Group?

- A. 25
- B. 50
- C. 75
- D. 100

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

The consistency group (CG) term is used for grouping several LUNs together in order to ensure write-order consistency over several volumes. Each LUN can contain up to 2 TB, and the total supported capacity can be up to 150 TB.

References: <https://en.wikipedia.org/wiki/RecoverPoint>

**QUESTION 16**

Which migration tool can be used to move file data a Unity storage array in both NFS and CIFS/SMB protocols?

- A. EMC Select Datadobi
- B. Unity Async Replication
- C. rsync
- D. EMCopy

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

EMcopy will work to copy the data from Solaris host to export CIFS and NFS including the security configuration.

References: <http://storage.ittoolbox.com/groups/technical-functional/emc-l/copy-data-from-nfs-shared-file-systems-to-nfs-and-cifs-4965765>

**QUESTION 17**

What is the minimum and maximum recovery point objectives (RPO) configurable when using Unity native asynchronous replication?

- A. Minimum= 5 minutes  
Maximum= 24 hours
- B. Minimum= 5 minutes  
Maximum= 48 hours
- C. Minimum= 1 minute  
Maximum= 24 hours
- D. Minimum= 1 minute  
Maximum= 48 hours

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Recovery Point Objective (RPO) is an industry accepted term that indicates the acceptable amount of data, measured in units of time, that may be lost in a failure. When you set up an asynchronous replication session, you can configure automatic synchronization based on the RPO. You can specify an RPO from a minimum of 5 minutes up to a maximum of 1440 minutes (24 hours).

References: <https://www.emc.com/dam/uwaem/documentation/unity-p-replication-config.pdf> (page 7)

**QUESTION 18**

A system administrator has added a new Unity storage array to their environment. The administrator wants to migrate block data from vVNX running in their VMware environment to a UnityVSA. In addition, the administrator needs to migrate the block data from an older CLARiiON storage array to the new Unity storage array.

Which single block migration option will work for both the virtual and hardware storage devices?

- A. SAN Copy Push
- B. VPLEX
- C. Host-Based LVM
- D. RecoverPoint

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

You move Block storage from a CLARiiON CX or VNX Series storage system to an EMC Unity system.

Note: Clariion (styled CLARiiON) is a discontinued [1] SAN disk array manufactured and sold by EMC Corporation, it occupied the entry-level and mid-range of EMC's SAN disk array products. In 2011, EMC introduced the EMC VNX Series, designed to replace both the Clariion and Celerra products.

Incorrect Answers:

D: EMC RecoverPoint protects storage arrays LUNs and provides concurrent local and multiple remote data replication copies with continuous data protection for any PiT Recovery. It supports EMC VMAX 10K, 20K, 40K, VNX, VNXe3200, VNX-F, VPLEX, XtremIO and 3rd party arrays via VPLEX.

**QUESTION 19**

A system administrator experienced a power failure in their environment. To which device will cache de-stage?

- A. M.2 SSD on each Storage Processor
- B. First four disks in the Disk Processor Enclosure
- C. Cache does not need to de-stage as it is now non-volatile
- D. Backup Battery Unit will keep the data alive in cache

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 20**

A service provider is installing a Unity storage system for an end-user. The end-user is concerned about network security and will not allow the service provider access to the network.

How can the service provider set a static IP address for the Unity storage system management interface?

- A. Use the embedded InitCLI tool
- B. Connect directly to the service ports and configure the networking through UEMCLI
- C. Use an IPMI serial over LAN connection
- D. Use the Connection Utility to create a configuration file

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

The `svc_initial_config UEMCLI` command sets up initial system configuration. It configures a management IP address when the Connection Utility (CU) is not available on the network. If an address is set, this command can also change the management IPv4 and IPv6 configuration mode. It attempts to configure the system with the given friendly name and/or network parameters.

Note: The Unisphere CLI (UEMCLI) is a tool that provides us with the CLI access to perform the same actions as one would on the Unisphere web interface.

References: <https://www.emc.com/collateral/TechnicalDocument/docu69328.pdf> (page 60)

**QUESTION 21**

Which severity level alerts for a fault condition that has occurred, has minor impact on the system, and does not need to be fixed immediately?

- A. Critical
- B. Notice
- C. Error
- D. Warning

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Event Severity levels are: critical, error, warning, info.

**QUESTION 22**

A storage administrator wants to configure a Unity system to log system events to a remote log server. In order to allow access to the log server, which port should the administrator ensure is not blocked by the firewall?

- A. 514
- B. 714
- C. 1000
- D. 5179

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

The storage system supports logging user/audit messages to a remote host. By default, the storage system transfers log information on port 514 using UDP.

References: <https://www.emc.com/collateral/TechnicalDocument/docu69321.pdf> (Page 31)

**QUESTION 23**

A Unity system LUN has a daily snapshot schedule with a Retention Policy of seven days. A hardware failure results in a double fault of the LUN.

Which snapshot behavior will be experienced?

- A. All of the snapshots will be unavailable to restore data from
- B. Data restoration is available from the oldest snapshot, all others are unavailable
- C. All of the snapshots will be available to restore data from
- D. Data restoration is available from the newest snapshot, all others are unavailable

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

The oldest snapshots residing on that pool with retention policy set to pool automatic deletion begin being deleted.

**QUESTION 24**

What describes multiple LUN snapshots?

- A. Captures multiple point-in-time data states.  
Snapshot data state is marked "unmodified" from its source when attached.



- Snapshot tree supports multiple simultaneous attaches.
- B. Captures multiple point-in-time data states.  
Snapshot data state is marked “unmodified” from its source when attached.  
Snapshot tree supports only one attach at a time.
- C. Captures multiple point-in-time data states.  
Snapshot data state is marked “modified” from its source when attached.  
Snapshot tree supports multiple simultaneous attaches.
- D. Captures multiple point-in-time data states.  
Snapshot data state is marked “modified” from its source when attached.  
Snapshot tree supports only one attach at a time.

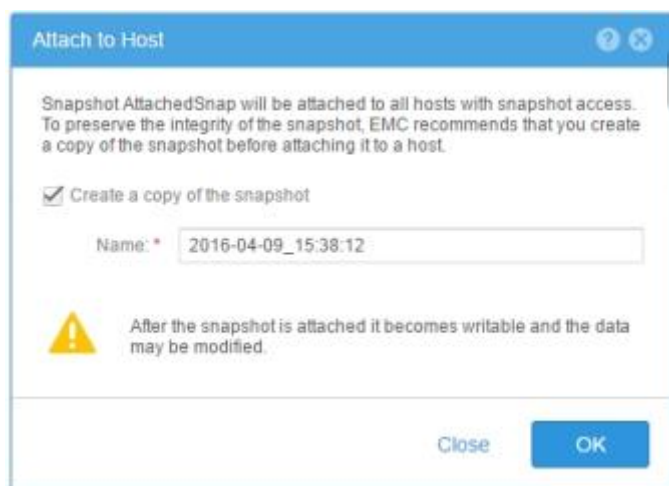
**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Only a single snapshot per LUN can be attached at any given time, and must be detached prior to attaching another snapshot of the same LUN.



References: <https://www.emc.com/collateral/white-papers/h15089-emc-unity-snapshots.pdf> (page 9)

#### QUESTION 25

What is the maximum number of LUN snapshots that are supported by Unity?

- A. 16  
B. 96

- C. 256
- D. 512

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Note: Logical Unit Number (LUN) – A block-level storage device that can be accessed using a protocol such as iSCSI.

#### **QUESTION 26**

At which stage in the Unity power up sequence would the Storage Processor enter Service mode upon detecting an error?

- A. After the CMI is started
- B. Bootflash
- C. POST
- D. BIOS

**Correct Answer:** C

**Section:** (none)

**Explanation**



**Explanation/Reference:**

Note: Boot counters are a troubleshooting mechanism that is designed into the Unity architecture to help pinpoint the specific cause of software or hardware events during the boot sequence. If the Unity system detects a problem with software or hardware components, its corresponding Boot Counter is incremented. If a counter reaches a predefined threshold, the SP boots into Service Mode during its next boot cycle.

References: <https://www.emc.com/collateral/TechnicalDocument/docu69328.pdf> (page 12)

#### **QUESTION 27**

An administrator's Unity system is configured with both a Fibre Channel CNA and a Fibre Channel I/O module. Which Fibre Channel port on each SP must be used for native synchronous replication?

- A. CNA FC port 5
- B. I/O module FC port 2
- C. CNA FC port 4
- D. I/O module FC port 5

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Only one FC port can be configured and used for synchronous replication. Once an FC port is assigned, it will continue to act as the synchronous replication port and can never be changed. To determine the FC port used for synchronous replication, in the CLI console, run the command `/remote/sys show -detail`. Port information, similar to the following example, will appear in the output:

Synchronous FC ports = spb\_fc4, spa\_fc4

References: <https://www.emc.com/en-us/documentation/unity-family/unity-p-replication-config/03-unity-rep-br-considerations-syncprep.htm>

**QUESTION 28**

Which feature provides the ability to provision block and file storage for Microsoft Windows or Microsoft SharePoint sites?

- A. EMS Storage Integrator for Windows
- B. Array Offloaded Data Transfer
- C. vStorage APIs for Array Integration
- D. EMC Virtual Storage Integrator

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 29**

Which information must be retrieved and used to select the unconfigured UnityVSA system when running the Auto-discover option of the Connection Utility?

- A. Array Name
- B. System's Serial ID
- C. DNS Host Name
- D. System's UUID

**Correct Answer: B**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Note: The Connection Utility can be use the Auto Discover option to discover the system and configure the system name, IPv4 management settings, and/or IPv6 management settings.

References: <https://www.emc.com/collateral/TechnicalDocument/docu69316.pdf>

### QUESTION 30

What is an advantage for selecting Centralized ESRS over Integrated ESRS?

- A. External virtual machine is not required
- B. WAN compression is not required to Unity systems
- C. CHAP security is not required between Unity systems
- D. Internet connectivity is not required for every Unity system

**Correct Answer: D**

**Section: (none)**

**Explanation**

#### **Explanation/Reference:**

The following requirements are related to the Integrated ESRS implementation only:

- If your ESRS implementation will include a proxy server to connect to the Internet, you must indicate this when you configure the ESRS feature.
- If your ESRS implementation will include a Policy Manager for more control over remote access to your storage system, you must indicate this when you configure the ESRS feature.
- If your ESRS implementation will include a proxy server for your storage system to connect to a Policy Manager, you must indicate this when you configure the ESRS feature

References: <https://www.emc.com/collateral/TechnicalDocument/docu69327.pdf> (page 12)

### QUESTION 31

In UnityVSA, what is the maximum storage capacity offered by the VVOLs license?

- A. 4TB
- B. 10TB
- C. 25TB
- D. 50TB

**Correct Answer: D**

**Section: (none)**

**Explanation**

#### **Explanation/Reference:**

UnityVSA maximum Usable Capacity is 4 TB (Community Edition); 10 TB; 25 TB; and 50 TB licenses available.

References: <https://store.emc.com/se/Product-Family/EMC-Unity-Products/EMC-Unity-VSA/p/EMC-Unity-Virtual-Storage-Appliance>

**QUESTION 32**

A system administrator receives a warning that their DPE I/O Module has a fault. In this situation, which type of replacement is required?

- A. Hot-pluggable CRU
- B. Non-Hot-pluggable FRU
- C. Hot-pluggable FRU
- D. Non-Hot-pluggable CRU

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Your storage system is designed to be powered on continuously. Most components are hot swappable; that is, you can replace or install these components while the storage system is running.

References: [http://corpusweb130.emc.com/upd\\_prod\\_AX4/UPDFinalPDF/en/AX4\\_Replacing\\_a\\_Storage\\_Processor-Master\\_1692986.pdf](http://corpusweb130.emc.com/upd_prod_AX4/UPDFinalPDF/en/AX4_Replacing_a_Storage_Processor-Master_1692986.pdf)

**QUESTION 33**

Which UnityVSA storage resource can be configured with Host I/O limits?

- A. NAS Server
- B. Pool
- C. File System
- D. LUN

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Host I/O limits is a feature which allows the user to control the amount of throughput and bandwidth consumed by block resources. This feature can be applied to LUNs, VMFS datastores, or attached snapshots.

References: <https://www.emc.com/collateral/white-papers/h15092-emc-unity-unity-vsa.pdf> (Page 16)

**QUESTION 34**

Which option can be enabled in the Advanced tab of the SMB Share Properties window?

- A. Shared VHDX

- B. Controller-Based Encryption
- C. SMB Direct
- D. Protocol Encryption

**Correct Answer: D**

**Section: (none)**

**Explanation**

**Explanation/Reference:**



Figure 28. SMB Share Settings

References: <https://www.emc.com/collateral/white-papers/h15091-emc-unity-virtualization-integration.pdf> (page 23)

**QUESTION 35**

Which UnityVSA configuration can be performed using the Unisphere Initial Configuration wizard?

- A. Register host iSCSI initiators
- B. Configure Link Aggregation
- C. Register host HBA WWNs

D. Add iSCSI network interfaces

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

The Unisphere Initial Configuration wizard walks through a complete configuration of the UnityVSA, including changing passwords, licensing, network setup (DNS, NTP), creating pools, e-mail server, support credentials, your customer information, ESRS, iSCSI and NAS interfaces.

References: <http://blog.mdschneider.me/unityvsa-part-3/>

### QUESTION 36

A system administrator wants to configure asynchronous replication on their Unity system. What is required before creating a replication session?

- A. A Fibre Channel connection configured between the remote systems.  
A configured replication connection between the remote systems.
- B. A Sync Replication Management Port configured on each system.  
A Fibre Channel connection configured between the remote systems.  
A configured replication connection between the remote systems.
- C. An IP-based replication interface on the same network as the destination system's replication interface.  
A configured replication connection between the remote systems.
- D. A Sync Replication Management Port configured on each system.  
An IP-based replication interface on the same network as the destination system's interface.  
A configured replication connection between the remote systems.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Asynchronous remote replication requires a replication interface be created on each SP on the system.

For asynchronous replication, replication is performed over Ethernet interfaces configured on the system. On EMC Unity physical systems, the onboard 10GbE BaseT ports, CNA ports with Ethernet personality, or Ethernet ports located on I/O modules can be used for replication. In UnityVSA systems, any I/O port can be used for asynchronous replication.

References: <http://www.emc.com/collateral/white-papers/h15088-emc-unity-replication-technologies.pdf>

### QUESTION 37

How long before a license expires will UnityVSA send the first alert warning?

- A. 3 days
- B. 7 days
- C. 15 days
- D. 1 month

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

As a reminder, UnityVSA displays several alerts in Unisphere prior to the license expiration date. The table below shows when alerts are generated leading up to the expiration date.

Weeks	Days
4 weeks	6 days
3 weeks	5 days
2 weeks	4 days
1 week	3 days
	2 days
	1 day

References: <https://www.emc.com/collateral/white-papers/h15092-emc-unity-unity-vsa.pdf> (page 7)

**QUESTION 38**

What is the minimum memory requirement for a host running VMware ESXi 6.0 to support the deployment of a UnityVSA system?

- A. 8 GB
- B. 12 GB
- C. 16 GB
- D. 18 GB

**Correct Answer:** B

**Section:** (none)

**Explanation**



**Explanation/Reference:**

A minimum of 12 GB RAM per UnityVSA VM is recommended.

References: <https://www.emc.com/collateral/TechnicalDocument/docu69316.pdf> (page 2)

**QUESTION 39**

A storage administrator wants to create a series of daily snapshots for an existing critical LUN. How can the snapshots be created?

- A. Snapshot schedules can only be configured within the LUN Creation wizard
- B. From the Pool Properties page, configure the Snapshot schedule
- C. Only manually taken snapshots are supported on existing LUNs
- D. From the LUN Properties page, configure the Snapshot schedule

**Correct Answer: B**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

In addition to being created ahead of time on the Snapshot Schedules page, new snapshots schedules may also be created during the process of creating a new storage resource from within the creation wizard as an alternative to selecting an existing schedule.

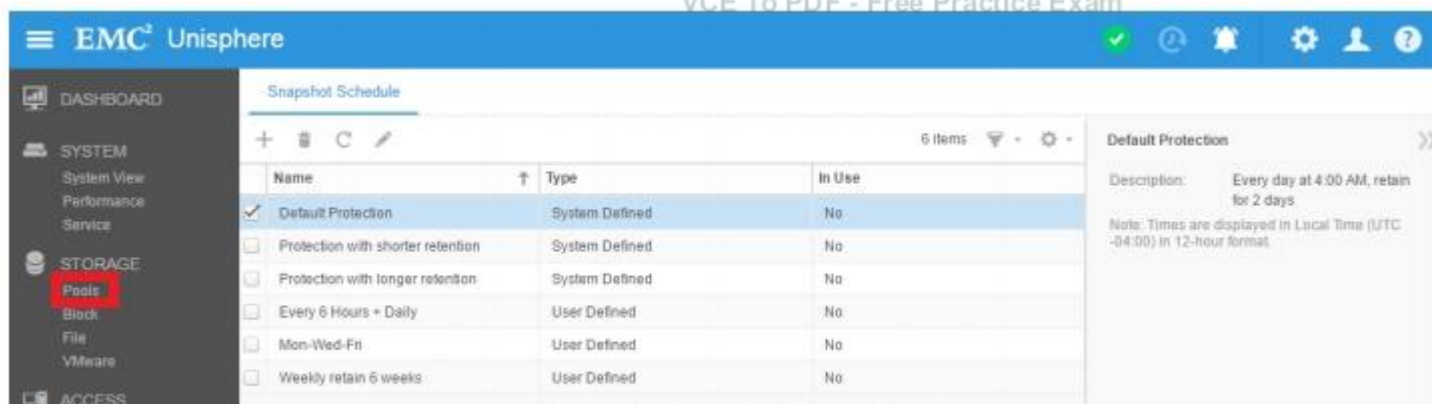


Figure 10 - Snapshot Schedules

**Incorrect Answers:**

C: In addition to being taken manually, snapshots can also be scheduled to be taken automatically at specific times or frequencies.

References: <https://www.emc.com/collateral/white-papers/h15089-emc-unity-snapshots.pdf> (page 13)

**QUESTION 40**

Which operation can be performed from the FAST VP settings section in the Unisphere Settings window?

- A. Enable scheduled data relocation at the pool level
- B. Exclude pool from the data relocation schedule
- C. Enable scheduled data relocation at the system level
- D. View the data relocation progress between tiers

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

FAST VP accelerates performance of a specific storage pool by automatically moving data within that pool to the appropriate drive technology, based on data access patterns. FAST VP is only applicable to hybrid pools.

FAST VP is most effective if data relocations occur during or immediately after normal daily processing. EMC recommends scheduling FAST VP relocations to occur before backups or nightly batch processing.

References: <https://www.emc.com/collateral/white-papers/h15093-emc-unity-best-practices-guide.pdf> (page 12)

**QUESTION 41**

Through which protocols are backend storage provisioned to the ESXi host when deploying a UnityVSA system?

- A. iSCSI, SMB, and NFS
- B. iSCSI and NFS only
- C. FC, iSCSI, and NFS
- D. FC and iSCSI only

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

UnityVSA supports SMB, NFS, and iSCSI.

References: <https://www.emc.com/collateral/TechnicalDocument/docu69362.pdf> (page 4)

**QUESTION 42**

Where do the D@RE encryption/decryption functions occur in the Unity storage system?

- A. Host I/O Modules
- B. Storage Processor Cache
- C. SAS I/O Module
- D. Self-encrypting drives

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Upon installation and activation of the feature, the following keys are generated by RSA BSAFE and persisted to the Lockbox:

- KEK Wrapping Key (KWK)
- Data Encryption Keys (DEKs) for all bound drives

A new KEK is generated each time the array boots. The KEK is wrapped with the KWK and passed to the SAS controller during the system boot process. Using the persisted KWK, the SAS controller can decrypt the KEK.

Incorrect Answers:

D: Self-Encrypting Drive (SED) technology is another variation of D@RE which is widely used and offers similar functionality as CBE. However, with SEDs, you have to pay a premium on every drive and only certain drives are offered in SED form.

References: <https://www.emc.com/collateral/white-paper/h13296-dare-wp.pdf> (page 8)

**QUESTION 43**



Based on the exhibit, which port can provide either Fibre Channel or Ethernet connectivity for host access?

- A. A
- B. B
- C. C
- D. D

**Correct Answer: D**

Section: (none)

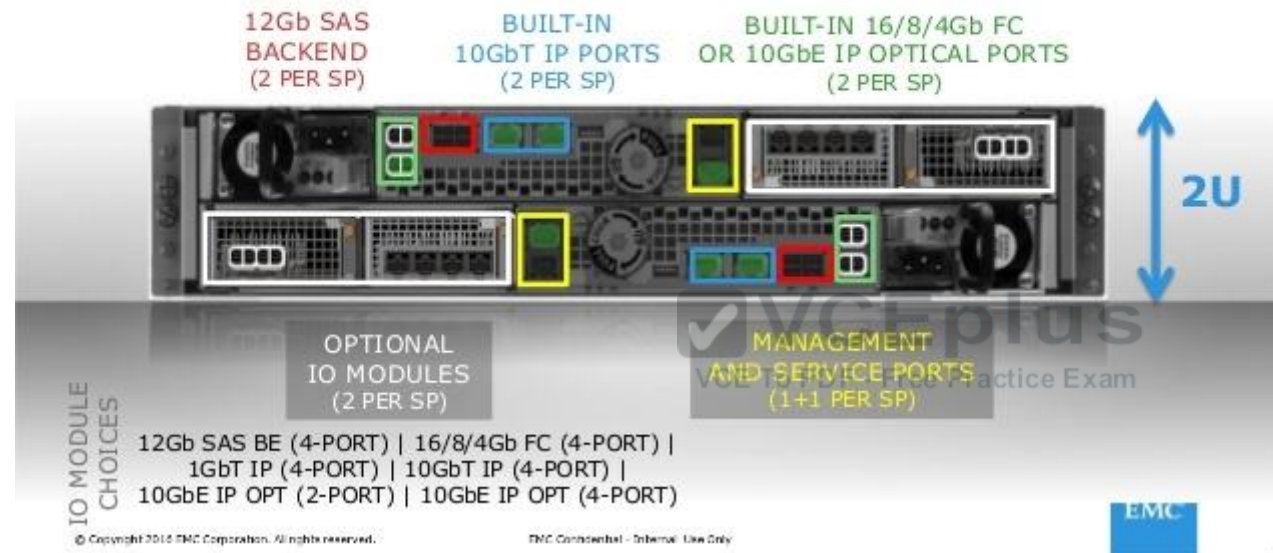
Explanation

Explanation/Reference:

Example:

## UNITY PROCESSOR ENCLOSURE (DPE)

Simple and Compact Design



References: <http://www.slideshare.net/USSCru/emc-unity-vnxvnx2-emc>

### QUESTION 44

A system administrator is browsing their local management station for a Unity license file. Which file extension is used for Unity license files?

- A. .lic
- B. .rsa
- C. .lin
- D. .cer

**Correct Answer: A**

Section: (none)

**Explanation****Explanation/Reference:**

You need to obtain the license file (.lic) from the EMC license management web site.

References: [https://www.emc.com/techpubs/vipr/license\\_vipr-1.htm](https://www.emc.com/techpubs/vipr/license_vipr-1.htm)

**QUESTION 45**

A storage administrator wants to add as asynchronous replication session to a pair of Unity systems with an existing synchronous replication session that is operating correctly. Which configuration steps are needed?

- A. Create Replication interfaces on both systems.  
Modify the Replication Connection Mode.  
Run a Replication Connection Verify and Update operation.
- B. Create Replication Interfaces on the source system.  
Modify the Mode for Replication Connection.  
Perform a manual Sync operation on the Asynchronous session.
- C. Create Replication Interfaces on destination system.  
Establish FC connectivity using the Synchronous FC Ports of each system.  
Perform a manual Sync operation on the Asynchronous session.
- D. Create Replication Interfaces on both systems.  
Establish FC connectivity using the Synchronous FC Ports of each system.  
Run a Verify and Update operation for the Replication Connection

**Correct Answer:** A

**Section:** (none)

**Explanation****Explanation/Reference:**

To fully configure asynchronous replication between systems, you must do each of following:

- Configure connectivity for the replication interfaces used by asynchronous replication
  - Configure the replication connection between systems
  - Configure replication sessions between systems

Note: To fully configure synchronous replication, you must complete each of following:

- Configure connectivity for the synchronous replication interfaces
- Create the synchronous replication management ports
- Configure the replication connection between systems
- Configure replication sessions between systems

References: <http://www.emc.com/collateral/white-papers/h15088-emc-unity-replication-technologies.pdf> (page 18)

**QUESTION 46**

Which Unity feature benefits oracle OLTP environments by improving storage utilization?

- A. 4 block formatting
- B. Increased SP Cache size
- C. Automatic storage tiering
- D. VVOLS

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

UnityVSA supports the Fully Automated Storage Tiering for Virtual Pool (FAST VP) feature for both block and file data. FAST VP optimizes storage utilization by automatically moving data between and within the storage tiers.

References: <https://www.emc.com/collateral/TechnicalDocument/docu69316.pdf> (page 11)

**QUESTION 47**

A system administrator has installed the Unity Connection Utility on a Microsoft Windows host. The Windows host is connected to the same physical subnet as a newly installed Unity storage system. When the utility is run, it does not discover any Unity storage systems.

What should be checked on the host that may be preventing the utility from discovering any Unity storage systems?

- A. Java SE version
- B. Ethernet adapter flow control
- C. Network Access Filter Driver
- D. Host firewall services

**Correct Answer: A**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Unity Connection is dependent on Java for some of the components to work.

Incorrect Answers:

- B: Ethernet flow control is a mechanism for temporarily stopping the transmission of data on Ethernet family computer networks.
- D: As the traffic is within the same physical subnet a firewall would have no effect.

References: <http://www.cisco.com/c/en/us/support/docs/unified-communications/unity-connection/117497-probsol-unity-00.html>

**QUESTION 48**

A Unity 400 system has Data at Rest Encryption licensed and enabled. Which operation(s) must be performed from the Unisphere Settings window to ensure the system is still operational after SP replacements?

- A. Download Audit Log
- B. Download Checksum
- C. Backup Keystore File
- D. Download Audit Log and Checksum

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

The keystore is tied to the storage processors, so care must be taken when performing service operations in order to preserve the encryption keys. In the event that the chassis and both storage processors need to be replaced, both storage processors should not be replaced at the same time. Instead, the chassis replacement should be followed while retaining one SP until the array is back online before replacing the second SP. In the case that storage processors have already been replaced at the same time and the keystore was lost, the keystore may be restored from an external backup.

References: <http://www.emc.com/collateral/white-papers/h15090-emc-unity-data-at-rest-encryption.pdf> (page 10)

**QUESTION 49**

When a storage resource has a snapshot taken of it, where are writes to the storage resource written?

- A. New space allocated from the storage resource parent pool
- B. New space allocated in 256 MB stripes from FAST Cache
- C. Existing space of the storage resource
- D. Existing space from the Reserves LUN Pool

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 50**

When the LUN Snapshot Attach to Host operation is performed, what does the Unity system optionally do before beginning the attach process?

- A. Creates a snapshot of the LUN

- B. Detaches the host from the snapshots of any other LUN
- C. Creates a copy of the snapshot
- D. Deletes all other existing snapshots of the LUN

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 51

Which Directory Services can be configured in the Unisphere Settings window?

- A. LDAP
- B. NIS
- C. NDS
- D. Active Directory

**Correct Answer:** A

**Section:** (none)

**Explanation**



**Explanation/Reference:**

References: <https://www.emc.com/collateral/white-papers/h15085-emc-unity-unisphere-overview.pdf> (page 26)

#### QUESTION 52

A Unity storage system is installed with 10 Gb optical SFPs in CNA ports 4 and 5 of both Storage Processors. The storage administrator has had a request from a user to connect to the storage system through Fibre Channel.

How can the administrator reconfigure the CNA ports for 16Gb Fibre Channel SFPs?

- A. Configure all CNA ports for 16Gb Fibre Channel
- B. Configure CNA port 4 of SPA and SPB as 10Gb optical  
Configure CNA port 5 of SPA and SPB as 16 Gb Fibre Channel
- C. Configure CNA port 4 and 5 of SPA as 10 Gb optical  
Configure CNA ports 4 and 5 of SPB as 16 Gb Fibre Channel
- D. CNA ports cannot be reconfigured once they are committed

**Correct Answer:** D



**Section: (none)**

**Explanation**

**Explanation/Reference:**

Once you set the network protocol on the CNA ports you cannot switch to a different network protocol.

References: <https://www.emc.com/collateral/TechnicalDocument/docu60144.pdf> (page 5)

### **QUESTION 53**

In UnityVSA, which license(s) is able to extend the storage capacity from 25 TB to 50 TB with an upgrade path license?

- A. Professional only
- B. Professional and VVOLS
- C. VVOLS only
- D. Community

**Correct Answer: A**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Professional Edition is a licensed subscription-based offering available at capacity levels of 10 TB, 25 TB, and 50 TB.

Incorrect Answers:

B, C: VVOLS is not a license for UnityVSA.

D: 4 Community licens is for 4 TB only. Community Edition is a free downloadable 4TB solution recommended for non-production use.

References: <https://www.emc.com/collateral/TechnicalDocument/docu69362.pdf> (page 3)

### **QUESTION 54**

When defining which resources on the destination system the replicated item will use for an asynchronous session, which settings must be provided?

- A. Replication Mode, RPO, and Replicate To
- B. Name, Pool, and Storage Processor
- C. Ethernet Port, Subnet/Prefix Length, and Gateway
- D. Management IP Address, User Name, and Password

**Correct Answer: B**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Create a replication session

Ensure that you have first created relevant replication interfaces and connections, and then you need the name, pool, storage provisioning, and tiering policy you want to use for the destination storage resource. The system will automatically create a destination storage resource as part of this process.

References: <https://www.emc.com/dam/uwaem/documentation/unity-p-replication-config.pdf> (page 23)

**QUESTION 55**

What is one method that is used to verify an ESRS configuration?

- A. Proxy server authentication
- B. RSA authentication
- C. Trigger an SNMP trap test
- D. Send an e-mail verification

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

References: <https://www.emc.com/collateral/software/data-sheet/h1948-secure-remote-supp-gateway-ds.pdf>

**QUESTION 56**

A file system is 1 TB in size and contains 250 GB of data. The file system is not fully allocated and only 450 GB of pool storage is in use. The user wants to reduce the file system to 300 GB.

How much space is returned to the storage pool?

- A. 150 GB
- B. 450 GB
- C. 700 GB
- D. 750 GB

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 57**

In order to replace a faulty component, a service provider has placed one of the Unity Storage Processors into Service mode. Once the component is replaced, how is the Storage Processor brought back into Normal mode?

- A. Exit the Service Mode task
- B. Reboot the Storage Processor
- C. Reboot the storage system
- D. Restart the Management software

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

If a single Storage Processor (SP) comes up in Service Mode, in Unisphere, you need to reboot the SP to return it to Normal Mode.

References: <https://www.emc.com/collateral/TechnicalDocument/docu69355.pdf> (page 4)

#### QUESTION 58

How long will a Copy Back operation take when a hot spare is invoked?

- A. Pro-Active hot spare does not use a Copy Back operation
- B. Copy Back time depends on the RAID type
- C. Copy Back time depends on the disk capacity
- D. Copy Back time depends on the disk type

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Note: Starting with Release 24, you can now use a proactive hot spare for proactive disk replacement. Before Release 24 you had to remove the physical disk to replace in order to force a rebuild. During the rebuild phase, the RAID group was "degraded" and at risk.

Resolution:

Three main benefits of using a proactive hot spare:

- Avoiding "uncorrectable errors" due to media problems during the rebuild process.
- Greatly reduce the risk of having a degraded RAID group, and the risk of having a double-faulted RAID group.
- Performance - a copy to hot spare is faster than a normal rebuild.

References: <https://community.emc.com/docs/DOC-9419>