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E20-393

Unity Solutions Specialist Exam for Implementation Engineers

Version 1.0



Exam A**QUESTION 1**

A storage administrator has requested a recommendation on upgrading their VNX5600 to a comparable Unity storage array. The solution requires a maximum capacity of 3.5 PB.

To meet the administrator's requirement without over provisioning the capacity, which Unity Hybrid storage array is recommended?

- A. Unity 300
- B. Unity 400
- C. Unity 500
- D. Unity 600

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Unity 600 delivers 1.2 TB to 3.0 PB max raw capacity.

Incorrect Answers:

- A: Unity 300 delivers 3.6 TB to 900 TB max raw capacity
- B: Unity 400 delivers 1.2 PB to 1.5 PB max raw capacity
- C: Unity 500 delivers 1.2 TB to 2.1 PB max raw capacity

Reference: <https://store.emc.com/us/Product-Family/EMC-Unity-Products/EMC-Unity-600-Hybrid-Flash-Storage/p/EMC-Unity-600-Hybrid-Storage>

QUESTION 2

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 3

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 4

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

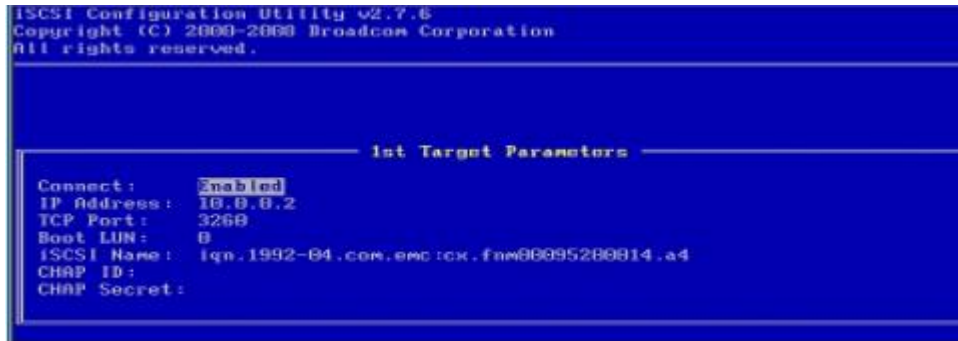
Correct Answer: D

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 5

A storage administrator is configuring a storage pool on a Unity system containing Flash disks and SAS disks. What tier will the system assign to each of the disk types?

- A. Flash: Extreme Performance
SAS: Performance
- B. Flash: Performance
SAS: Capacity
- C. Flash: Extreme Performance
SAS: Capacity
- D. Flash: Capacity
SAS: Performance



Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Hybrid pools can have up to 3 tiers (Extreme Performance, Performance, and Capacity).

For the Extreme Performance tier, use only SAS Flashdrives.

For the Capacity tier, use only SAS drives.

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

QUESTION 6

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 7

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 8

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 9

A system administrator is configuring asynchronous remote replication for an existing NAS server and its' file systems on a Unity system. What should the administrator create to ensure all data is replicated for the NAS server and the file system?

- A. Replication sessions on each file system only
- B. Replication sessions for each file system first and then the NAS server
- C. A replication session on the NAS server and then manually create replication sessions on each file system
- D. A replication session for only the NAS server

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Before File Systems or VMware NFS Datastores can be replicated, the NAS Server must be replicated.

Reference: <http://www.emc.com/collateral/white-papers/h15088-emc-unity-replication-technologies.pdf> (page 28-29)

QUESTION 10

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 11

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 12

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 13

A storage administrator is implementing FAST Cache on a Unity 500 storage array and can select from a mix of SSD drives. Which drive types can be configured to meet the administrator's requirements?

- A. 200 GB and 400 GB
- B. 400GB and 1.6 TB
- C. 1.6 TB and 3.2 TB
- D. 3.2 TB and 800 GB



Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Unity 500 FAST Cache is only supported by 200 GB and 400 GB SSD hard drives.

Reference: <http://www.emc.com/collateral/data-sheet/h14958-unity-hybrid-family-ss.pdf> (page 5)

QUESTION 14

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 15

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 16

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 17

Which UnityVSA user interface allows advanced users to create scripts for automating routine tasks?

- A. Unisphere Central
- B. UEMCLI
- C. SP Console
- D. Unisphere GUI

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Unisphere Command Line Interface (UEMCLI) is an interface that allows a user to perform tasks on the storage system by typing commands instead of using the graphical user interface.

Note: Representational State Transfer (REST) is a management API that allows clients to interact with UnityVSA using standard HTTP mechanisms and semantics. Operations that can be performed in Unisphere or UEMCLI can also be performed using REST API. Application developers can access REST API with any programming or scripting language capable of making HTTP requests, without requiring a separate client.

References: <https://www.emc.com/collateral/white-papers/h15092-emc-unity-unity-vsa.pdf> (page 17)

QUESTION 18

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 19

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 20

Which Unity service task is used to reinstall the root operating system while leaving the user's data intact?

- A. Restore the Management server
- B. Reimage the Storage Processor
- C. Restore the Management software
- D. Reinitialize the storage system

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Re-image a storage processor (SP) to safely fix problems with the system software that could not be resolved by rebooting the SP. Re-imaging analyzes the system software for errors and attempts to correct them instantly. Re-image an SP from the Service System page.

Your configuration settings and stored files will not be changed.

References: <https://community.emc.com/docs/DOC-40315>

QUESTION 21

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 22

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 23

Which step must be completed prior to performing the initial configuration of a UnityVSA system and creating the first storage pool?

- A. Create an ESXi host profile
- B. License the system for NFS and SMB support
- C. Add vDisks to the storage appliance
- D. Install license keys for thin provisioning



Correct Answer: C

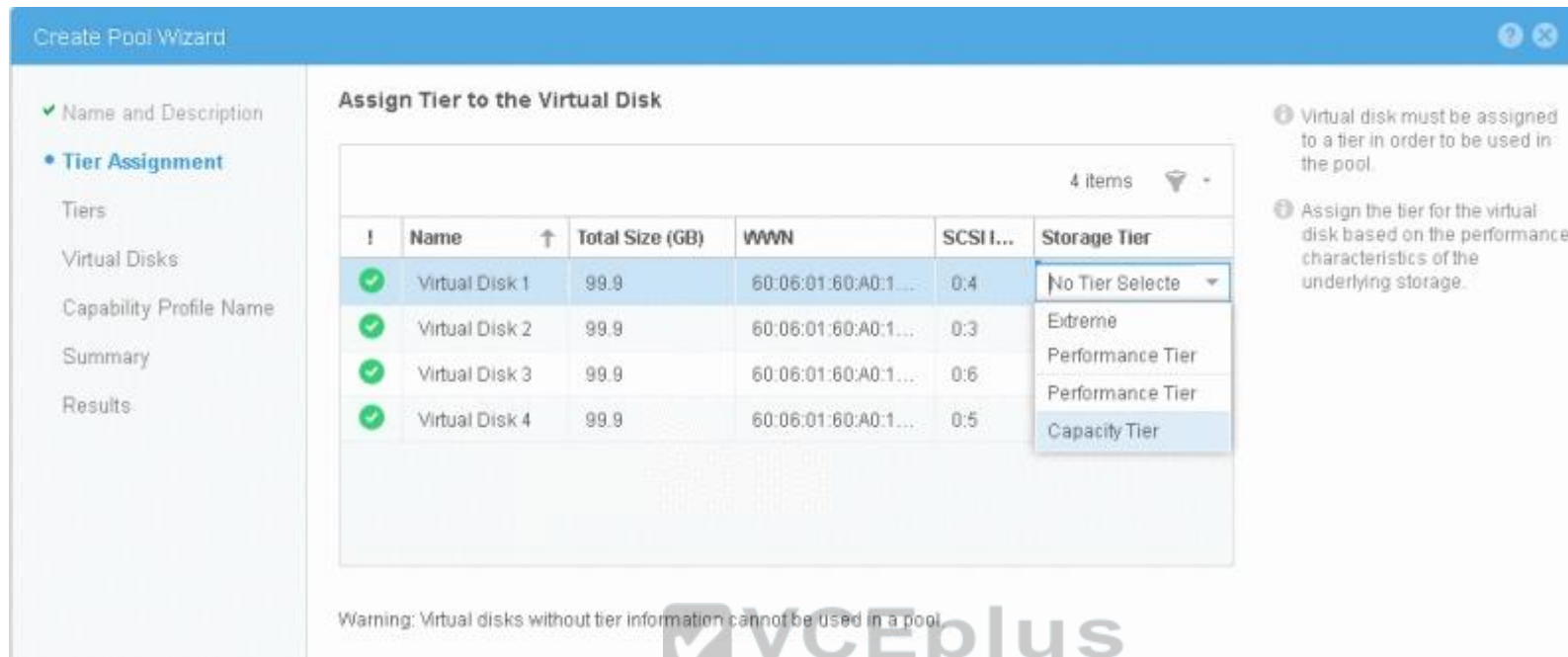
Section: (none)

Explanation

Explanation/Reference:

UNITY VSA STORAGE POOL CREATION

1. Under the Storage Pool Section go to Pools. Select the + to start the "Create Pool Wizard".
2. Name the Pool
3. Assign a Tier to each Virtual Disk attached to the VSA. You have Extreme, Performance and Capacity.



Etc.

References: <https://samshouseblog.com/2016/06/08/unity-vsa-storage-pool-creation/>

QUESTION 24

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 25

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 26

How is encryption set for a Unity storage system?

- A. Clicking the "Mode" checkbox on the Manage Encryption page
- B. Selecting "Status" on the Manage Encryption page
- C. Automatically set at the factory

D. First time the license is applied

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

D@RE is included by default on Unity arrays and included in the Unity license file unless otherwise requested during ordering. Therefore, all that is needed to activate D@RE is to install the D@RE enabled license file. The license installation process is not specific to D@RE, and is required to be performed before using the array. When logging into Unisphere for the first time, license installation appears as a step of the Unisphere Configuration Wizard, prompting the administrator to install the license file obtained from EMC. If this license file includes D@RE functionality, D@RE will be enabled once the license file is installed successfully

Note: Unity storage systems address sensitive data concerns through controller-based Data at Rest Encryption (D@RE), which encrypts stored data as it is written to disk.

D@RE is a license controlled feature available by default on Unity storage systems, and, being designed to be largely invisible to administrative end users, requires almost no effort to enable or manage. Enabling the feature or backing up the encryption keys externally takes just seconds, and redundant keystore backups stored on array ensure that user data is always as available as it is secure. W

References: <http://www.emc.com/collateral/white-papers/h15090-emc-unity-data-at-rest-encryption.pdf> (page 7)

QUESTION 27

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 28

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 29

Which task must be performed on the storage system in order to access a file system read/write snapshot?

- A. Configure Host Access to the LUN snapshots
- B. Configure the NFS/SMB share to the file system snapshot
- C. Connect to the NFS/SMB share of the snapshot
- D. Perform the snapshot "Attach to Host" operation

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Read-write snapshots can be made available to hosts as separate shares.

The Shared property is applicable to file snapshots only, and indicates whether the snapshot is currently available to clients as a share. The default value is No, and changes to Yes when the read-write file system snapshot is used to create shares. For read-only file system snapshots, this property is always set to No.

Share – A named, mountable instance of file-level storage, accessible through a file system or VMware NFS Datastore. Each share is accessible through the protocol (NFS or SMB) defined for the file system where it resides.

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

<https://www.emc.com/collateral/white-papers/h15089-emc-unity-snapshots.pdf>

QUESTION 30

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 31

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 32

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 33

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.

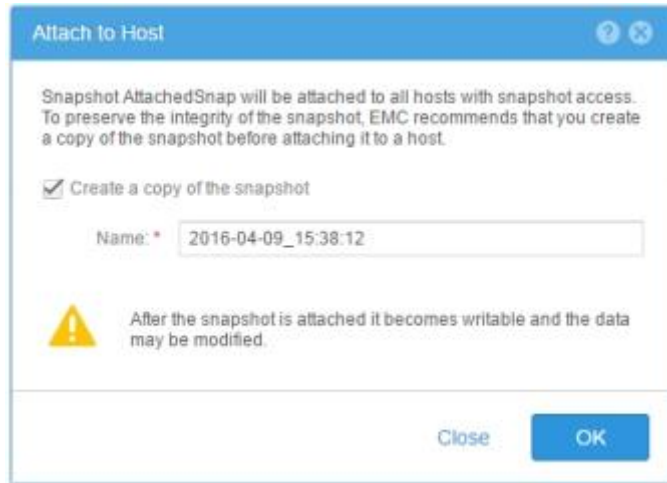
Correct Answer: D

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 34

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 35

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 36

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-syncrep.htm>

QUESTION 37

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 38

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 39

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 40

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 41

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

QUESTION 42

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 43

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:

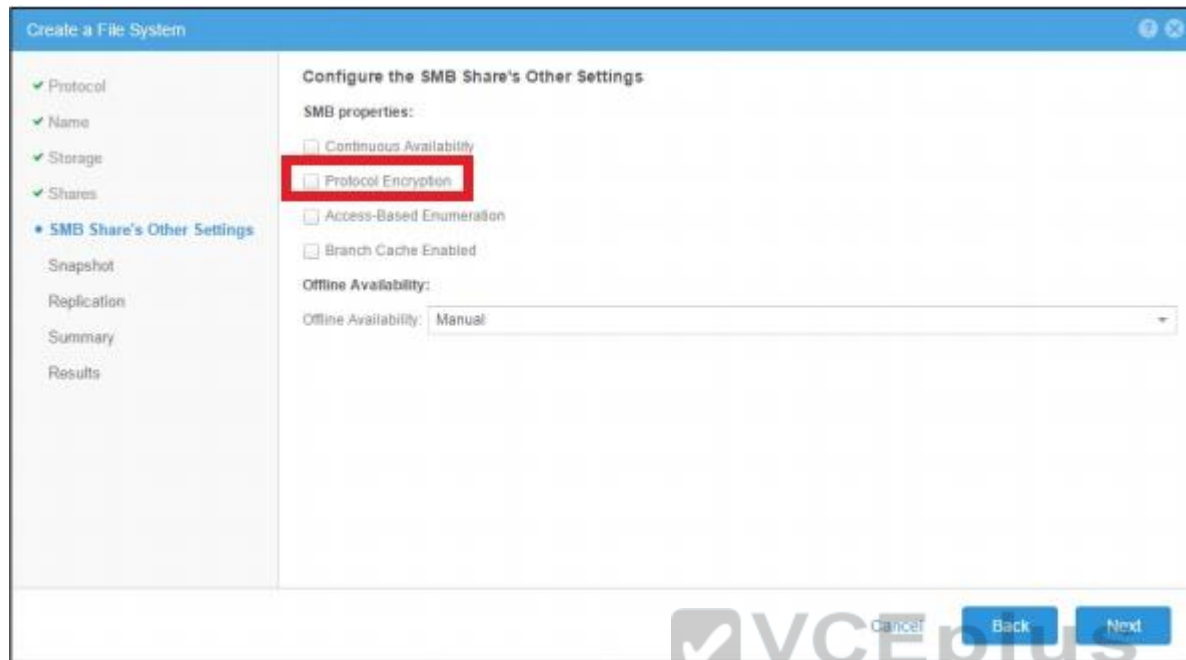


Figure 28. SMB Share Settings

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

QUESTION 44

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 45

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 46

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 47

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 48

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.

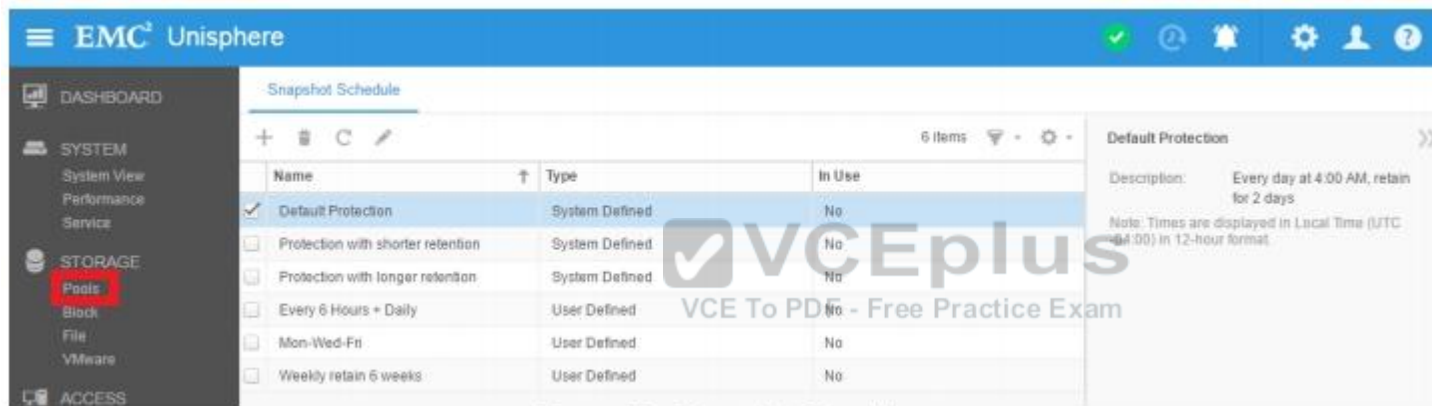


Figure 10 - Snapshot Schedules

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 49

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 50

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 51

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

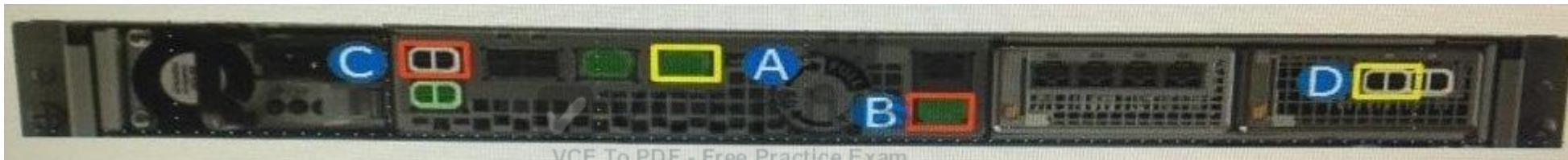
A new KEK is generated each time the array boots. The KEK is wrapped with the KWK and passed to the SAS controller during the system boot process. Using the persisted KWK, the SAS controller can decrypt the KEK.

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 52



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)

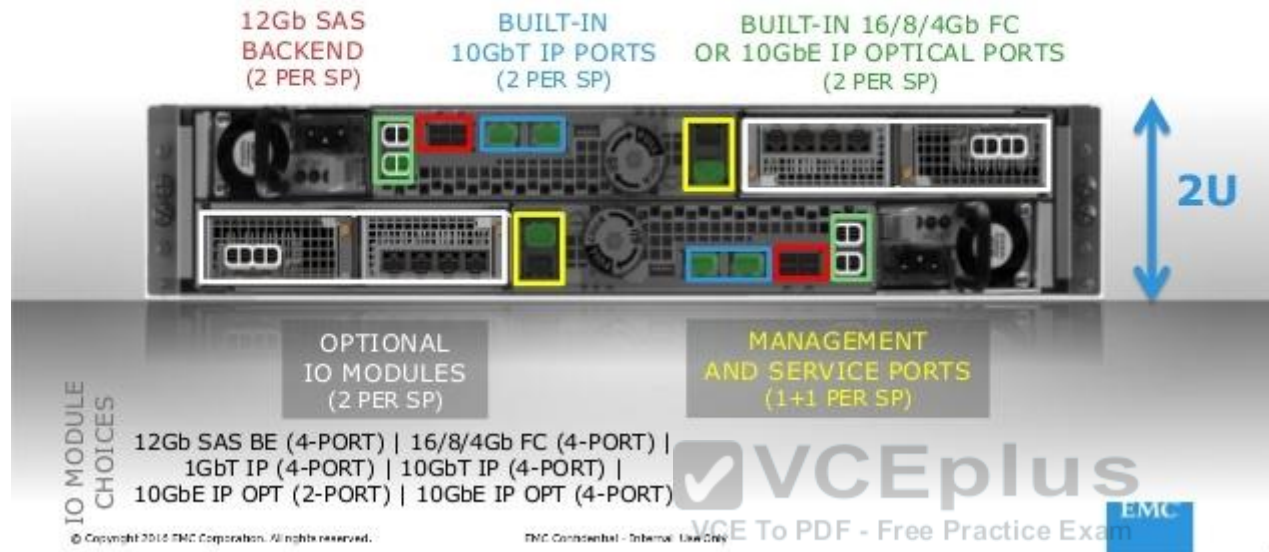
Explanation

Explanation/Reference:

Example:

UNITY PROCESSOR ENCLOSURE (DPE)

Simple and Compact Design



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

QUESTION 53

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

QUESTION 54

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 55

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 56

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 57

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 58

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 59

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 60

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 61

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 62

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 63

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 created 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 64

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-supply-gateway-ds.pdf>

QUESTION 65

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 66

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 67

A user is having difficulty troubleshooting a Unity storage system and the service provider has been contacted for assistance. The service provider needs to run some service commands on the Storage Processors to troubleshoot the issue further.

Which step must be taken to allow the service provider remote access to the storage system?

- A. Enable SSH on the storage system
- B. Set the Unisphere preferences to "Optimize" for remote access
- C. Specify the SMTP configuration
- D. Specify the Remote Logging configuration



Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

The Service Tasks tab provides tools to service the storage system, including repair and troubleshooting. You can use this page to collect system and configuration information for assisting your service provider with a service request. The service password is required to access the various service task operations.

The Technical Advisories tab displays up-to-date information about advisories specific to the system by referencing knowledge base articles. The Logs tab displays an audit log for system events. It also allows users to configure a remote host to which to send log information and lets users export logs into a CSV file for additional reporting purposes.

References: <https://www.emc.com/collateral/white-papers/h15085-emc-unity-unisphere-overview.pdf> (page 14)

QUESTION 68

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>

QUESTION 69

A storage administrator wants to configure a Unity system to join the list of arrays remotely monitored for activity and system status using Unisphere Central. The security policy on the Unisphere server was set to "automatic".

What additional security information must be specified in the Unisphere Settings window to enable communication with Unisphere Central?

- A. Unisphere Central IP address and login credentials
- B. Unisphere Central IP address and Central Hash
- C. Unisphere Central Hash and login credentials
- D. Unisphere Central Hash and challenge phrase

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Configure the security policy to specify how storage systems are verified when connecting to Unisphere Central. Automatic verification automatically verifies storage systems when they connect to Unisphere Central using a preconfigured security certificate hash and passphrase.

References: <http://www.emc.com/collateral/white-papers/h13827-unisphere-central-v4-wp.pdf> (page 21)