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**Vendor:**IBM

**Exam Code:**C9020-562

**Exam Name:**IBM Storwize Family Technical Solutions  
V4

**Version:**Demo

### QUESTION 1

Which GUI option forces arrays to use only the preset number of drives when adding or editing arrays in Capacity Magic?

- A. Optimize for performance
- B. Use child pools
- C. Optimize for capacity
- D. Use RtC

Correct Answer: C

The GUI storage configuration wizard does not know that this storage is mapped to another SAN Volume Controller/Storwize, it can create unbalanced arrays (when optimize for capacity is chosen) or it can leave some drives unconfigured (if optimize for performance is chosen). References: IBM System Storage SAN Volume Controller and Storwize V7000 Best Practices and Performance Guidelines (4 Aug 2016), page 88

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### QUESTION 2

A company just completed an acquisition and now has FC attached storage from multiple vendors. The environments are isolated and storage administrators are unable to share resources across these environments.

Which IBM Storwize solution feature helps improve this situation?

- A. Real-time Compression
- B. Encryption
- C. Tiered Storage Optimizer
- D. External Virtualization

Correct Answer: D

By using external virtualization, you can consolidate FC SAN-attached disk controllers from various vendors into pools of storage. In this way, the storage administrator can manage and provision storage to applications from a single user interface and use a common set of advanced functions across all of the storage systems under the control of the IBM Storwize.

References: Implementing the IBM Storwize V5000 Gen2 (including the Storwize V5010, V5020, and V5030), page 51 <http://www.redbooks.ibm.com/redbooks/pdfs/sg248162.pdf>

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### QUESTION 3

Which component of the IBM Spectrum family helps a customer manage application-aware point-in-time copies on EMC, HDS, and the IBM Storwize family?

- A. IBM Spectrum Protect Snapshot

- B. IBM Copy Services Manager
- C. IBM Spectrum Control with External Virtualization
- D. IBM Spectrum Protect for SAN

Correct Answer: A

IBM Spectrum Protect Snapshot (formerly known as IBM Tivoli FlashCopy Manager) uses advanced snapshot capabilities of disk subsystems to create application, database, and VM-aware point-in-time snapshots.

References: IBM SpectrumFamily, IBM Spectrum Control Standard Edition, page 237 <http://www.redbooks.ibm.com/redbooks/pdfs/sg248321.pdf>

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#### QUESTION 4

A customer with excessive annual growth is looking at a storage refresh. Which benefit does the IBM Storwize V7000 offer this customer?

- A. It supports in-place fork-lift system upgrades.
- B. It can virtualize other vendors' storage for unlimited time and size.
- C. It can scale up and scale out through clustering.
- D. It can perform a software transfer when moving to the next model.

Correct Answer: C

v6.2 Storwize V7000 offers both Scale-Up and Scale-Out possibilities for ultimate flexibility.

Control enclosures support attachment of up to nine expansion enclosures with configurations up to 360 TB physical internal storage capacities (for Storwize V7000, up to 1.44 PB in clustered systems) Flex System V7000 can scale up to 240 (2.5" disks) per control enclosure; 960 (2.5" disks) per clustered

system. References: [https://en.wikipedia.org/wiki/IBM\\_Storwize\\_family#Storwize\\_V7000](https://en.wikipedia.org/wiki/IBM_Storwize_family#Storwize_V7000)

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#### QUESTION 5

A customer has an Oracle RAC environment that requires high availability and disaster recovery in one solution.

Which feature of IBM Spectrum Virtualize addresses these needs?

- A. FlashCopy
- B. HyperScale
- C. HyperSwap
- D. Volume Migration

Correct Answer: A

IBM Spectrum Protect Snapshot uses the FlashCopy or snapshot function of the storage solutions for database cloning. This method eliminates downtime and minimizes the impact on the production database.

After you share the FlashCopy repository, configuration and binary files, an Oracle RAC database clone can be created from every node of the Oracle RAC cluster. IBM Spectrum Protect Snapshot can operate on the clone from all RAC nodes, so that a clone created on one RAC node can be inquired, refreshed, or deleted from any other node within the RAC cluster.

References:[http://www.ibm.com/support/knowledgecenter/SSERFV\\_8.1.0/fcm.unx/c\\_fcmu\\_orc\\_cloning.html](http://www.ibm.com/support/knowledgecenter/SSERFV_8.1.0/fcm.unx/c_fcmu_orc_cloning.html)

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## QUESTION 6

A local credit union is installing a new Power Linux Spectrum Protect server with container storage pools and needs more bulk storage. It has a business requirement for encryption at rest. Cost is a consideration.

Which solution meets the customer requirements?

- A. IBM Storwize V5030
- B. IBM Storwize V5010
- C. IBM Storwize V5020
- D. IBM Storwize V9000

Correct Answer: C

Storwize V5020 control enclosure models offer mid-level performance, scalability, and functionality with:

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Two 2-core, four-thread processors and up to 32 GB of cache

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Support for up to 392 drives per system with the attachment of Storwize V5000 expansion enclosures

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Encryption of data at rest stored within the Storwize V5000 system

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## QUESTION 7

A customer wants to create file shares for its Windows clients. The customer is interested in an IBM Storwize V7000 Unified.

Which protocol should the customer use for file-sharing?

- A. SMB
- B. NFS
- C. SNMP

D. iSCSI

Correct Answer: B

Using the NFS protocol, you can transfer files between computers running Windows and other non-Windows operating systems, such as Linux or UNIX.

Note: Shares and exports can be managed through the GUI or CLI by Storwize V7000 Unified administrative users that have a user role definition that is authorized to perform share and export management functions.

A share or export results from making a disk space accessible through the protocols specified during its creation. HTTP, SCP, FTP, CIFS and NFS shares and exports can be created, provided that the corresponding protocol is enabled for the system. Shares and exports can only be created for data that is stored in the GPFS file system of the Storwize V7000 Unified system. Non-GPFS file system content cannot be shared or exported.

References: [https://technet.microsoft.com/en-us/library/jj592688\(v=ws.11\).aspx](https://technet.microsoft.com/en-us/library/jj592688(v=ws.11).aspx) [http://www.ibm.com/support/knowledgecenter/ST5Q4U/com.ibm.storwize.v7000.unified.14.3.doc/mng\\_exports\\_topic\\_welcome.html](http://www.ibm.com/support/knowledgecenter/ST5Q4U/com.ibm.storwize.v7000.unified.14.3.doc/mng_exports_topic_welcome.html)

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### QUESTION 8

A customer has acquired a new business and wants to bring its systems and storage under corporate systems. The company has an IBM SVC in the environment to manage all storage.

What must the customer do with the volumes from the new businesses storage to bring them under IBM Spectrum Virtualize management?

- A. Import the volumes using Volume Mirror
- B. Import the volumes using Managed mode
- C. Import the volumes in Image Mode
- D. Import the volumes as a storage pool

Correct Answer: C

Image mode volumes are used to migrate LUNs that were previously mapped directly to host servers over to the control of the IBM Spectrum Virtualize system.

Note: `mkimagevolume` Create a new image mode volume. This command can be used to import a volume, preserving existing data.

References: Implementing the IBM Storwize V7000 and IBM Spectrum Virtualize V7.8, page 215  
<http://www.redbooks.ibm.com/redpieces/pdfs/sg247938.pdf>

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### QUESTION 9

A cloud solution is being planned using the IBM Storwize family to provide storage for multiple clients on IBM Power and Intel hosts.

Which solution provides the necessary storage for the primary site and a disaster recovery location at a data center 1500 kilometers away?

- A. Create a four node IBM Storwize V7000 cluster with one I/O Group at the primary data center and the other at the disaster recovery location. Use FlashCopy to copy the volumes from the primary I/O Group to the disaster recovery I/O Group.
- B. Create volumes on IBM Storwize V7000 storage at the primary data center and use Global Mirror to create copies on an IBM Storwize V7000 at the disaster recovery location.
- C. Create volume mirrors on IBM Storwize V7000 storage at the primary data center with virtualized external IBM Storwize V3700 storage at the disaster recovery location.
- D. Create volumes on IBM Storwize V7000 Storage at the primary data center and use Metro to create asynchronous copies on an IBM Storwize V5030 at the disaster recovery location.

Correct Answer: B

Metro Mirror and Global Mirror are technologies that enable you to keep a real-time copy of a disk at a remote site that contains another SVC Cluster or Storwize V7000 system.

Incorrect Answers

A: FlashCopy is a function that allows you to create a point-in-time copy of one of your SVC disks. This might be helpful when performing backups or application testing. These copies may be cascaded upon one another, read from, written to, and even reversed. These copies are able to conserve storage, if needed, by being space-efficient copies that only record items that have changed from the originals instead of full copies.

C: Volume Mirroring is a function designed to increase high availability of the storage infrastructure. It provides the ability to create up to two local copies of a volume.

References: IBM System Storage SAN Volume Controller and Storwize V7000 Replication Family Services, page 22  
<http://www.redbooks.ibm.com/redbooks/pdfs/sg247574.pdf>

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## QUESTION 10

A customer is installing a new IBM Storwize V7000 model 524.

What should the customer do to access the management GUI for the first time?

- A. Use the USB drive to configure the system
- B. Connect to the technician port and use the initialization wizard
- C. Connect to the 10 Gb Ethernet port to create the cluster
- D. Download and use the Inittool

Correct Answer: A

You can use the management GUI to manage your system as soon as you have completed the USB flash drive initialization.

Note: Accessing the Storwize V7000 Unified management GUI Procedure

References: [http://www.ibm.com/support/knowledgecenter/ST5Q4U/com.ibm.storwize.v7000.unified.142.doc/ifs\\_accessmgmtgui\\_3422yu.html](http://www.ibm.com/support/knowledgecenter/ST5Q4U/com.ibm.storwize.v7000.unified.142.doc/ifs_accessmgmtgui_3422yu.html)

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### QUESTION 11

A customer is interested in replacing a NetApp E-series disk array with one that supports auto-tiering between NL-SAS, SAS, and SSD disk technologies.

Which advantage does the IBM Storwize V7000 model 524 have over the competition?

- A. The V7000 relocates data based on current usage.
- B. The V7000 predictively relocates data
- C. The V7000 uses SSDs for quorum disks.
- D. The V7000 relocates the DACstor metadata to SSDs.

Correct Answer: A

Flex System V7000 Storage Node includes IBM System Storage Easy Tier, a function that responds to the presence of flash drives in a storage pool that also contains hard disk drives (HDDs). The system automatically and nondisruptively moves frequently accessed data from HDD MDisks to SSD MDisks, thus placing such data in a faster tier of storage.

EasyTier eliminates manual intervention when assigning highly active data on volumes to faster responding storage. In this dynamically tiered environment, data movement is seamless to the host application regardless of the storage tier in which the data resides.

References:[https://publib.boulder.ibm.com/infocenter/flexsys/information/index.jsp?topic=\\_Fcom.ibm.acc.4939.doc\\_Fsvc\\_easy\\_tier.html](https://publib.boulder.ibm.com/infocenter/flexsys/information/index.jsp?topic=_Fcom.ibm.acc.4939.doc_Fsvc_easy_tier.html)

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### QUESTION 12

In addition to pre-sale, what is the other type of Technical and Delivery Assessment (TDA)?

- A. Post-sale
- B. Pre-install
- C. Pre-delivery
- D. Post-warranty

Correct Answer: B

TDA's can be performed pre-sale, pre-installation, or post-installation.

References:<http://joehertvik.com/an-ibm-technical-delivery-assessment-primer/>