

## IBM Storwize V7000 Technical Solutions V1

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IBM Storwize V7000 Technical Solutions V1

Version: 4.0

IBM 000-956 Exam

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## Exam A

### QUESTION 1

A customer is experiencing poor response times on certain volumes. Which feature would directly address that challenge?

- A. Thin Provisioning
- B. Volume Mirroring
- C. Easy Tier
- D. Snapshot

**Answer: C**

### QUESTION 2

A customer has a requirement for their Storwize V7000 to create transactionally consistent snapshots of their SAP database. What would the technical specialist recommend?

- A. Tivoli Storage FlashCopy Manager
- B. Tivoli Storage Manager
- C. Tivoli Storage Productivity Center
- D. IBM Systems Director

**Answer: D**

### QUESTION 3

What are Consistency Groups created to protect?

- A. RAID arrays
- B. order of dependent writes
- C. remote copy relationships
- D. local volume mirrors

**Answer: B**

### QUESTION 4

What is the maximum number of paths from an I/O group to a host in a Storwize V7000?

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

**Answer: C**

#### QUESTION 5

A customer needs a single application to help manage its server and network infrastructure, and provide basic storage information. Which tool would enable this capability?

- A. Operations Manager
- B. IBM Systems Director
- C. Tivoli Storage Productivity Center for Disk
- D. Tivoli Storage Productivity Center Standard Edition

**Answer: B**

#### QUESTION 6

On the Storwize V7000, which of the following troubleshooting methods should be used FIRST to resolve login issues?

- A. recycle power on the system
- B. call Techline / Partnerline
- C. call IBM Support
- D. log into the Service Management Port

**Answer: D**

#### QUESTION 7

Easy Tier is appropriately used to improve performance in what conditions?

- A. Large Block (greater than 64 KB), Random I/O
- B. Large Block (greater than 64 KB), Sequential I/O
- C. Small Block (less than 64 KB) Sequential I/O

D. Small Block (less than 64 KB), Random I/O

**Answer: D**

#### **QUESTION 8**

Which product would allow a customer to virtualize their existing storage infrastructure?

- A. XIV system
- B. DS8000
- C. SAN Volume Controller
- D. DS5000

**Answer: A**

#### **QUESTION 9**

Which product can be used with IBM Total Storage Productivity Center to provide the ability to create a new LUN on a virtualized external disk system and assign it to a host port on the Storwize V7000?

- A. Tivoli Provisioning Manager
- B. Storage Optimizer
- C. Systems Director
- D. TPC for Disk

**Answer: A**

#### **QUESTION 10**

What is the maximum distance for a Metro Mirror relationship in the Storwize V7000?

- A. 10 kilometers
- B. 100 kilometers
- C. 300 kilometers
- D. 800 kilometers

**Answer: A**

#### QUESTION 11

On a Storwize V7000 what is the benefit of the quorum disk?

- A. It verifies every read and write I/O sent to the cluster.
- B. It breaks a tie when exactly half the nodes in the cluster remain after a SAN failure.
- C. It determines which controller accesses a specific MDisk
- D. It limits LUN thrashing

**Answer: D**

#### QUESTION 12

What competitive advantage does Easy Tier have over Compellent Data Progression?

- A. Easy Tier automatically moves data between HDD and SSD
- B. Easy Tier analyzes and moves data across all defined performance tiers
- C. Easy Tier improves performance of all storage pools
- D. Easy Tier is a no-charge feature

**Answer: A**

#### QUESTION 13

When connecting the Storwize V7000 to legacy storage using external virtualization, which of the following connection choices are acceptable?

- A. iSCSI or Fibre Channel
- B. Fibre Channel
- C. FCoE or iSCSI
- D. iSCSI

**Answer: B**

#### QUESTION 14

Which of the following System z operating systems are supported on the Storwize V7000?

- A. Linux on z
- B. z/OS
- C. z/MVS
- D. z/TPF

**Answer: A**

#### QUESTION 15

In the Storwize V7000 a multi-tiered storage pool is used to \_\_\_\_\_.

- A. enable automatic migration of extents between disk tiers
- B. allow different extent sizes in the same MDisk
- C. allow SAS and nearline SAS drives in the same MDisk
- D. enable multiple RAID types

**Answer: D**

#### QUESTION 16

Which tool is recommended to check the compatibility of host, storage, switches, and multipathing drivers?

- A. System Storage Product Guide
- B. Storwize V7000 Information Center
- C. System Storage Interoperation Center (SSIC)
- D. Standalone Solution Configuration Tool (SSCT)

**Answer: C**

#### QUESTION 17

What is the best method to restore a source volume to a previous snapshot?

- A. create a FlashCopy mapping from snapshot to source and execute the FlashCopy command
- B. mount the snapshot to the host
- C. use Volume Mirroring to convert the snapshot to a fully provisioned volume and mount the new volume
- D. issue a FlashCopy command on the source volume

**Answer: C**

#### QUESTION 18

Which of the following is an advantage of a virtualized storage infrastructure?

- A. a single advanced storage management interface
- B. the ability to use other manufacturer's tools on IBM storage
- C. increases the amount of available physical storage
- D. supports the intermix of SATA and SAS drives in a single enclosure

**Answer: A**

#### QUESTION 19

A customer is evaluating EMC Advanced FAST technology. Which IBM technology would the technical specialist propose?

- A. Thin Provisioning
- B. Easy Tier
- C. Volume Mirroring
- D. Migration

**Answer: D**

#### QUESTION 20

On the Storwize V7000 the Node Canister processors are based on what technology?

- A. PowerPC
- B. POWER7

- C. Intel
- D. AMD

**Answer: C**

#### QUESTION 21

What host connection type used by the Storwize V7000 uses a fully routable protocol allowing wide area connectivity?

- A. SONET
- B. Fibre Channel
- C. InfiniBand
- D. iSCSI

**Answer: B**

#### QUESTION 22

An executive deletes an important email. On the Storwize V7000, what tool would be recommended to recover the email from a previous backup?

- A. Reverse FlashCopy
- B. Tivoli Storage FlashCopy Manager
- C. SnapManager for Exchange
- D. Volume Mirroring

**Answer: B**

#### QUESTION 23

If a customer requires enhanced data security for the back-up disk pools located on an Storwize V7000, what would the technical specialist recommend?

- A. Tivoli Storage FlashCopy Manager
- B. Tivoli Storage Manager
- C. Tivoli Productivity Center
- D. Tivoli Storage Manager FastBack



**Answer: B**

#### **QUESTION 24**

What competitive product is comparable to Easy Tier?

- A. Compellent Data Progression
- B. Hitachi Universal Replicator
- C. Dell EqualLogic Group Manager
- D. EMC Symmetrix SRDF

**Answer: C**

#### **QUESTION 25**

Which IBM source contains all of the information that is required to set up the Storwize V7000 hardware and to manage the system using the Web-based management GUI or the command-line interface (CLI)?

- A. IBM System Storage Product Guide
- B. IBM PartnerWorld website
- C. IBM Storage Solutions Handbook
- D. IBM Storwize V7000 Information Center

**Answer: D**

#### **QUESTION 26**

A customer requires that internal MDisks be available to expand existing pools. Which mode should the MDisk be in?

- A. Image
- B. Managed
- C. Unmanaged
- D. Array

**Answer: C**

#### QUESTION 27

On the Storwize V7000 what profile type has permission to create a new user?

- A. Monitor
- B. Service
- C. Administrator
- D. SecurityAdmin

**Answer: D**

#### QUESTION 28

The Storwize V7000 Rapid Application Storage Manager Solution includes all of the following EXCEPT:

- A. Tivoli Storage Manager
- B. 3 year Maintenance on hardware/software
- C. Tivoli Storage Productivity Center
- D. Tivoli FlashCopy Manager

**Answer: A**

#### QUESTION 29

A customer would like to virtualize an existing DS5300 system with EXP5060 drawers. What is the maximum number of MDisks from the DS5300 that can be imported into a single Storwize V7000 storage pool?

- A. 64
- B. 128
- C. 512
- D. 1024

**Answer: B**

### QUESTION 30

On the Storwize V7000, which of the following is the SAN zoning recommendation for remote copy planning?

- A. For each node canister, all of the Fibre Channel ports should be zoned to exactly two Fibre Channel ports from each node canister in the partner cluster.
- B. For each node canister, one Fibre Channel port should be zoned to one Fibre Channel port from each node canister in the partner cluster.
- C. For each node canister, exactly two Fibre Channel ports should be zoned to exactly two Fibre Channel ports from each node canister in the partner cluster.
- D. For each node canister, all Fibre Channel ports should be zoned to all of the Fibre Channel ports from each node canister in the partner cluster.

Answer: C

### QUESTION 31

On the Storwize V7000 which of the following operating systems are supported?

- A. z/OS
- B. i5/OS V5R4
- C. i/OS V6.1.1
- D. z/VSE

Answer: B

### QUESTION 32

What application should the technical specialist recommend if the customer needs to have IP replication for their Storwize V7000?

- A. Tivoli Storage FlashCopy Manager
- B. Tivoli Storage Manager FastBack
- C. Tivoli Storage Productivity Center
- D. Tivoli Storage Manager

Answer: B

### QUESTION 33

A bandwidth study is needed by a customer. Which IBM resource would conduct an expert level analysis?

- A. Techline
- B. Competeline
- C. Product Support
- D. Advanced Technical Skills (ATS)

**Answer: D**

### QUESTION 34

A customer wants to automate the configuration of the advanced copy services for their Storwize V7000. Which of the following would give them this ability?

- A. Tivoli Storage Productivity Center for Disk
- B. Tivoli Storage Productivity Center for Replication
- C. Tivoli Storage Manager for Advanced Copy Services
- D. Tivoli Provisioning Manager

**Answer: D**

### QUESTION 35

What object name does the Storwize V7000 assign to an external LUN?

- A. Volume
- B. Extent
- C. Pool
- D. MDisk

**Answer: D**

### QUESTION 36

A customer has an existing HP EVA4400 and is looking to leverage thin provisioning and Easy Tier on their existing storage. What IBM product best fulfills that requirement?

- A. N series gateway with performance acceleration modules
- B. Storwize V7000 with external virtualization license
- C. Storwize V7000 with remote mirroring license
- D. DS8800 with Easy Tier

**Answer: B**

### QUESTION 37

When looking for a monitoring tool that provides performance statistics for the Storwize V7000 and requires an interval longer than five minutes, what software package should be suggested to meet this requirement?

- A. The Storwize V7000 GUI
- B. Tivoli Storage Productivity Center for Data
- C. Tivoli Storage Productivity Center for Disk Midrange Edition
- D. Tivoli NetCool

**Answer: C**

### QUESTION 38

What information would IBM Support need to assist the customer in troubleshooting the Storwize V7000?

- A. Download Support Package
- B. System Configuration File
- C. Software Version Number
- D. Host Hardware and OS levels

**Answer: A**

### QUESTION 39

A customer has a requirement for 2 TB usable capacity of low-end storage with SAS host connectivity. Which of the following IBM storage products best suits the customer requirement?

- A. XIV system
- B. Storwize V7000
- C. DS3500
- D. DS8800

**Answer: C**

#### QUESTION 40

In order to enable Easy Tier, which RAID type would be recommended to utilize the fewest solid-state drives?

- A. RAID 6
- B. RAID 5
- C. RAID 4
- D. RAID 10

**Answer: D**

#### QUESTION 41

What is the maximum number of expansion enclosures that can be attached to Port 2 of the node canister for the Storwize V7000?

- A. 2
- B. 3
- C. 4
- D. 5

**Answer: C**

#### QUESTION 42

A customer has multiple workloads on a Storwize V7000 and would like to isolate a given application on a pair of node canisters. Which solution best addresses the requirement?

- A. use Thin Provisioning on volumes
- B. add Solid State Drives to the pool
- C. use Volume Mirroring across nodes
- D. use two Storwize V7000 control enclosures

**Answer: D**

#### QUESTION 43

In Storwize V7000 performance optimized setup, which of the following configurations will be created by default?

- A. RAID 6 uses 12 disk drives per MDisk
- B. RAID 5 uses 10 disk drives per MDisk
- C. RAID 10 uses 6 disk drives per MDisk
- D. RAID 6 uses 6 disk drives per MDisk

**Answer: A**

#### QUESTION 44

The customer has an application that involves concurrent parallel I/Os. What Storwize V7000 hardware component benefits their application?

- A. Parallel Access Volumes
- B. Top down bottom up cabling
- C. SAS 2.0 ports delivering 24 Gb/s throughput
- D. Fibre Channel-Arbitrated Loop (FC-AL)

**Answer: C**

#### QUESTION 45

On the Storwize V7000, which of the following is a difference between the control enclosure and expansion enclosure?

- A. dual power connections
- B. number of drives

- C. battery
- D. SAS ports

**Answer: C**

#### QUESTION 46

What type of connection to the disk system does the Storwize V7000 external virtualization capability support?

- A. iSCSI
- B. FCP
- C. SAS
- D. SATA

**Answer: B**

#### QUESTION 47

Easy Tier and solid-state drives are a good choice for all of the following workloads EXCEPT:

- A. sequential write intensive workloads
- B. sequential read intensive workloads
- C. random read intensive workloads
- D. workloads with high cache hit rate

**Answer: A**

#### QUESTION 48

A customer is looking to contain costs on their business continuity infrastructure. Their primary site Storwize V7000 using 146 GB 15000 rpm SAS drives. In their secondary site they have a Storwize V7000 with no internal disks, and external virtualization on an aging CLARiiON with 1 TB SATA drives. Why should the customer be warned to avoid this technique?

- A. The speed difference between the drives is too large and could result in the auxiliary site being unable to write out its data fast enough to keep up with the primary site.



- B. Mirroring between volumes composed of SAS drives with large SATA drives is not possible.
- C. The Metro Mirror/Global Mirror license specifically prohibits using externally virtualized disk to present auxiliary volumes.
- D. This recommendation is acceptable. The customer will be able to maximize their return on investment and minimize their footprint.

**Answer: D**

#### QUESTION 49

Where is the IBM Storwize V7000 GUI stored?

- A. the system's master console
- B. the DS Storage Manager software which is installed on the user's PC
- C. the IBM Storwize V7000 GUI software which is installed on the user's PC
- D. the system's node canisters

**Answer: B**

#### QUESTION 50

An online retailer recently purchased a new Storwize V7000 with 20 TB of internal disk to be their primary storage. While the system met their overall performance requirements, they are now struggling to keep up with the shifting transactional workload spikes brought on by the demand for new and popular products. Which of the following proposals would directly address this issue and still be cost effective?

- A. increase the cache in the Storwize V7000 system
- B. upgrade the drives in the primary storage pools to solid state
- C. add enough solid state drives to accommodate the "hot" data and implement Easy Tier
- D. use Tivoli Storage Productivity Center for Disk to monitor system disk usage

**Answer: D**

#### QUESTION 51

The IBM Storwize V7000 makes use of which drive interface internally?

- A. SATA
- B. Fibre Channel
- C. SCSI
- D. SAS

**Answer: D**

#### QUESTION 52

What is required to allow CLI access to the Storwize V7000?

- A. the master console must be configured for CLI access connections
- B. public and private keys must be generated by a tool like PUTTYGEN
- C. Storage Manager must be updated to a version that supports Storwize V7000 CLI
- D. V7000CLI application needs to be loaded on all hosts that will communicate to Storwize V7000 via CLI

**Answer: B**

#### QUESTION 53

A customer currently has a thin provisioned volume and has determined that their application needs to have a thick provisioned volume. Which of the following functions would permit a change from thin to thick without impact to the application?

- A. FlashCopy
- B. Intra-Cluster Metro Mirror
- C. Volume Mirroring
- D. Easy Tier

**Answer: C**

#### QUESTION 54

A customer has performance issues with a pool in the Storwize V7000 but wants to know the benefits of purchasing solid-state drives (SSDs) before using it with Easy Tier. What can a technical specialist do?

- A. Enable Easy Tier evaluation mode.
- B. Assign a Tier 1 disk inside the pool so the reporting function for Easy Tier is enabled.
- C. Assure the customer that they will greatly benefit from the purchase of SSD drives.
- D. Assign another MDisk to the pool to enable the reporting function for Easy Tier.

**Answer: A**

#### QUESTION 55

What tool will allow a user to determine whether or not the CPU utilization of the Storwize V7000 is trending upward?

- A. Systems Director
- B. Tivoli Storage Productivity Center for Disk
- C. Tivoli Storage Productivity Center for Data
- D. Storwize V7000 GUI

**Answer: C**

#### QUESTION 56

Which error code is described as follows: This error might be caused by a problem on the primary cluster, a problem on the secondary cluster, or a problem on the inter-cluster link. The problem might be a failure of a component, a component becoming unavailable or having reduced performance due to a service action or it might be that the performance of a component has dropped to a level where the Metro Mirror or Global Mirror relationship cannot be maintained.

- A. 1630
- B. 1097
- C. 1720
- D. 1920

**Answer: B**

#### QUESTION 57

What does an image mode volume provide?

- A. a direct block-for-block translation from the existing storage pool to the volume with no virtualization
- B. a direct block-for-block translation from the MDisk to the volume with no virtualization
- C. a direct byte-for-byte translation from the existing storage pool to the volume with no virtualization
- D. a direct block-for-block translation from the MDisk to the volume with virtualization

**Answer: B**

#### QUESTION 58

Which tool would be used on the Storwize V7000 to create a transactionally consistent clone of a volume for SAP with DB2?

- A. Consistency Group FlashCopy
- B. Tivoli Storage FlashCopy Manager
- C. Tivoli Storage Productivity Center for Replication
- D. SnapManager for SAP

**Answer: B**

#### QUESTION 59

In the Storwize V7000, what is the total combined number of snapshots, clones and backups that can be created from a single volume using FlashCopy?

- A. 128
- B. 256
- C. 512
- D. 1024

**Answer: B**

#### QUESTION 60

All of the following are valid FlashCopy Source:Target relationships EXCEPT:

- A. 10 TB Generic Volume consuming 100 GB of space: 5 TB Thin Provisioned volume with 500 GB of space allocated
- B. 5 TB Generic Volume consuming 100 GB of space: 5 TB Thin Provisioned volume consuming 100 GB of space
- C. 100 TB Thin Volume with 1 TB of space allocated: 100 TB Generic Volume with 30 MB consumed
- D. 1 GB Generic Volume consuming 1 GB of space: 1 GB Thin Provisioned volume with 500 MB allocated

Answer: A

#### QUESTION 61

A customer has data that resides on an existing storage system and is interested in virtualizing it with the Storwize V7000. Which mode does the Storwize V7000 assign to the volumes on the external system in order to keep the data intact?

- A. Managed
- B. Unmanaged
- C. Array
- D. Image

Answer: D

#### QUESTION 62

A customer wants to create multiple snapshots for a development/test scenario. Which feature of the Storwize V7000 can be leveraged to accomplish this?

- A. FlashCopy
- B. Volume Mirroring
- C. Global Mirror
- D. Easy Tier

**Answer: A**

#### QUESTION 63

A customer currently has an EMC CLARiiON. They are very impressed with the ease of use of the Storwize V7000 management interface, and are very interested in the external virtualization capability. However, they do not have any immediate need for additional capacity. What is the minimum internal disk drive requirement necessary for the customer to derive value from a new Storwize V7000?

- A. 12 drives
- B. 24 drives
- C. 0 drives
- D. 2 drives

**Answer: C**

#### QUESTION 64

What is an advantage of the Storwize V7000 Easy Tier over EMC FAST technology?

- A. granularity of Sub-LUN Tiering
- B. compression of Volumes
- C. number of supported Sub-LUN slices
- D. integration with thin provisioning

**Answer: B**

#### QUESTION 65

If a Microsoft Exchange database is corrupted, which Tivoli Storage FlashCopy Manager feature would allow the fastest recovery?

- A. SnapManager For Exchange
- B. Instant Restore
- C. Restore Database
- D. Mailbox Recovery

**Answer: B**

#### QUESTION 66

A host at a remote site needs to connect to a Storwize V7000, and requires minimal bandwidth. What transport protocol should be used to connect the host to the Storwize V7000?

- A. EtherChannel
- B. Fibre Channel
- C. iSCSI
- D. SAS

**Answer: C**

#### QUESTION 67

A customer is interested in an IBM Storwize V7000 with 2 tiers of 30 TB usable with 2 TB nearline SAS drives, and 10 TB usable with 300 GB 10000 rpm SAS drives. The customer also wants to utilize eight SSD drives in the high performance storage pool. What is the recommended first step to create the system configuration?

- A. run Workload Estimator
- B. run eConfig
- C. run TCONow!
- D. run Capacity Magic

**Answer: C**

#### QUESTION 68

How many 1 Gb iSCSI connections can be assigned to one control enclosure on the Storwize V7000?

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

**Answer: D**

#### QUESTION 69

A customer has an existing environment including HP EVA, EMC CLARiiON, and EMC VMAX with sufficient capacity for all user and application data. Some of their applications are very active and tend to have a high cache miss rate. They are interested in converting their data center to a fully virtualized infrastructure while maintaining their investment in the existing storage with as little disruption as possible. Based on their current install base, which two of the following IBM storage products would fit their requirements? (Choose two)

- A. N series 6270 Gateway
- B. Storwize V7000
- C. SAN Volume Controller
- D. XIV system
- E. DS8800 with Easy Tier

**Answer:** BC

#### QUESTION 70

Which of the following forms of remote copy does Tivoli Storage Productivity Center for Replication support on the IBM Storwize V7000?

- A. Metro Mirror
- B. Logical Volume Mirroring
- C. SnapMirror
- D. Global Copy

**Answer:** C