

### C9020-668.exam

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**IBM** 

C9020-668

**IBM Storage Technical V1** 

Version 1.0

#### Exam A

#### **QUESTION 1**

A customer needs to import and export volumes between IBM Spectrum Virtualize clusters that are geographically separated.



How can this be accomplished?

- A. Create image mode volumes
- B. Snapshots with Transparent Cloud Tiering
- C. Implement IBM Spectrum Archive
- D. Utilize tiering-to-tape media

Correct Answer: B Section: (none) **Explanation** 

# **Explanation/Reference:**

Transparent cloud tiering is a licensed function that enables volume data to be copied and transferred to cloud storage. The system supports creating connections to cloud service providers to store copies of volume data in private or public cloud storage.

With transparent cloud tiering, administrators can move older data to cloud storage to free up capacity on the system. Point-in-time snapshots of data can be created on the system and then copied and stored on the cloud storage.

References: https://www.ibm.com/support/knowledgecenter/en/STVLF4 7.8.1/spectrum.virtualize.781.doc/svc\_icoverviewtranparentcltier.html

#### **QUESTION 2**

VCE To PDF - Free Practice Exam Which component of IBM Spectrum Scale enables data to be imported from several servers at the same time?



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- A. HDFS Transparency connector
- B. IBM Spectrum Protect integration
- C. Cloud Object Storage support
- D. Multi-Cluster feature

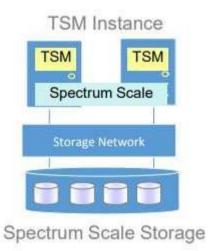
Correct Answer: B Section: (none) **Explanation** 



## **Explanation/Reference:**

With Spectrum Scale multiple Spectrum Protect instances use the same storage • Capacity and performance management is seamless within a global name space

- Scalability is seamless and transparent
- File system replication is integrated with Spectrum Scale for different platforms Central administration of TSM storage





Note: Multiple Spectrum Protect (TSM) instances store DB and storage pools in a Spectrum Scale file system (GPFS) • Spectrum Scale provides global name space for all Spectrum Protect instances

- Instances share all file system resources
  - Spectrum Protect instances run on cluster nodes accessing the file system and disk directly
  - Spectrum Scale file systems balances the workload and capacity for all TSM instances on disk
  - Provides standardized, scalable and easy to use storage infrastructure for the multiple instances

#### **Incorrect Answers:**

A: IBM Spectrum Scale HDFS transparency offers a set of interfaces that allows applications to use HDFS Client to access IBM Spectrum Scale through HDFS RPC requests.

References: <a href="https://www-03.ibm.com/support/techdocs/atsmastr.nsf/5cb5ed706d254a8186256c71006d2e0a/3264fd1e3716c13586257f460072493d/\$FILE/SpectrumProtect on Spectrum%20Scale Intro v6.3.pdf">https://www-03.ibm.com/support/techdocs/atsmastr.nsf/5cb5ed706d254a8186256c71006d2e0a/3264fd1e3716c13586257f460072493d/\$FILE/SpectrumProtect on Spectrum%20Scale Intro v6.3.pdf</a>

#### **QUESTION 3**

A customer asks about the implication of replacing a current tape library with a single disk-only IBM TS7760.



Which key point should the technical specialist address?

- A. Validate that the new virtual library emulates the correct drive type.
- B. Confirm the compression ratio on the tapes to calculate the disk space needed.
- C. Identify the current provision for tape vaulting and disaster recovery.
- D. Check whether current tape media is encrypted.

Correct Answer: A Section: (none) **Explanation** 

# **Explanation/Reference:**

The TS7700 is a member of the TS line of products and builds upon previous implementations of tape storage virtualization.

For example, the TS1155 Tape drive is not compatible with IBM TS7700 or Enterprise Tape Control Unit environments.

References: http://www.redbooks.ibm.com/redbooks/pdfs/sg245946.pdf, IBM Tape Library Guide for Open Systems (August 2017), page 127

## **QUESTION 4**

A customer wants to replace an existing HDS system connected to an IBM z/OS mainframe with a storage solution to reduce cooling requirements and potential of mechanical failure. VCE To PDF - Free Practice Exam

Which storage solution should the technical specialist recommend?

- A. IBM FlashSystem 900
- B. IBM FlashSystem V9000
- C. IBM DS8886 HPFE
- D. IBM DS8884 with SAS drives

Correct Answer: D Section: (none) **Explanation** 

# **Explanation/Reference:**

IBM invented the z Systems I/O architecture. Systems, SAN and DS8880 are jointly developed.

## **QUESTION 5**

A customer has existing SAP HANA production nodes connected to an IBM Elastic Storage Server (ESS). The customer needs to scale out additional ESS nodes to maintain the high I/O throughput requirement.



Which type of nodes should be proposed?

- A. Storage nodes with SAS drives
- B. Storage nodes with SSD drives
- C. Protocol nodes with SAS drives
- D. Protocol nodes with SSD drives

Correct Answer: B Section: (none) Explanation

# **Explanation/Reference:**

A scale-out NAS system is comprised of multiple NAS storage nodes with internal or external storage. Each NAS storage node represents the same file systems to user applications. Data is stored across all NAS storage nodes, and adding capacity can be achieved by adding more storage nodes.

References: <a href="https://www-03.ibm.com/systems/storage/spectrum/scale/scale-out-nas.html">https://www-03.ibm.com/systems/storage/spectrum/scale/scale-out-nas.html</a>

#### **QUESTION 6**

An IBM DS8886 customer wishes to replicate data from the primary data center to a new secondary data center 310 miles (500km) away while maintaining a low recovery point objective.

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Which offering should the technical specialist recommend?

- A. SnapMirror
- B. Metro Mirror
- C. Global Mirror
- D. FlashCopy

Correct Answer: C Section: (none) Explanation

# Explanation/Reference:

Global Mirror is a long-distance remote copy function across two sites using asynchronous technology. Global Mirror processing is designed to provide support for virtually unlimited distance between the local and remote sites, with the distance typically limited only by the capabilities of the network and the channel extension technology.

Incorrect Answers:

B: Metro Mirror provides real-time mirroring of logical volumes between two DS8000 storage units that can be located up to 300 km from each other.



References: https://www.ibm.com/support/knowledgecenter/en/HW213 7.1.0/com.ibm.storage.ssic.help.doc/f2c copysgintro 1xiohg.html

#### **QUESTION 7**

A customer has existing fiber attached storage that has reached the end of life. The customer wants a scalable solution that is easy to manage and integrates with VMware. The customer prefers an IBM A9000R based solution, but is concerned about migrating the virtual machines and ESX boot volumes.

Which explanation addresses the customer's concern?

- A. Use VMware Storage vMotion to migrate virtual machines and boot volumes.
- B. IBM A9000R has both a vCenter and VAAI plug in.
- C. Use IBM Spectrum Control to virtualize and move existing storage to the new IBM A9000R.
- D. IBM A9000R has a built in capability to copy the existing data.

Correct Answer: A Section: (none) Explanation

## **Explanation/Reference:**

VMware VMotion: Allows the live migration of running VMs from one physical server to another, one data store to another, or both. This migration has zero downtime, continuous service availability, and complete transaction integrity.

References: http://www.redbooks.ibm.com/redpapers/pdfs/redp5425.pdf
Using the IBM Spectrum Accelerate Family in VMware Environments, page 15

#### **QUESTION 8**

A customer is purchasing an IBM 3952 Tape Frame for an IBM TS3500 Tape Library.

In which resource can you find the customer's detailed worksheets to complete the installation?



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- A. IBM 3952 Tape System SAPR Guide
- B. IBM TS3500 Tape Library with System z Attachment Guide



C. IBM 3952 Introduction and Planning Guide

D. IBM TS3500 Introduction and Planning Guide

Correct Answer: A Section: (none) Explanation

**Explanation/Reference:** 

#### **QUESTION 9**

IBM has proposed Easy Tier as part of a storage solution to address less-active data on flash in a storage environment.

How does Easy Tier Address this problem?

- A. It moves data to the appropriate tier.
- B. It moves data to cloud storageC. It creates space-efficient flash copies.
- D. It archives data to tape.

Correct Answer: A Section: (none) Explanation



# **Explanation/Reference:**

The system includes IBM Easy Tier, which is a function that responds to the presence of 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 flash storage MDisks, thus placing such data in a faster tier of storage.

The system supports these tiers: •

Tier 0 flash

Tier 0 flash tier exists when the pool contains high-cost, high performance flash drives.

Tier 1 flash

Tier 1 flash tier exists when the pool contains tier 1 flash drives. Tier 1 flash drives are lower-cost flash drives, typically with larger capacities, but slightly lower performance and write endurance characteristics. • Enterprise tier

Enterprise tier exists when the pool contains enterprise-class MDisks, which are disk drives that are optimized for performance.

Nearline tier

Nearline tier exists when the pool contains nearline-class MDisks, which are disk drives that are optimized for capacity.

References: <a href="https://www.ibm.com/support/knowledgecenter/STVLF4">https://www.ibm.com/support/knowledgecenter/STVLF4</a> 7.8.0/spectrum.virtualize.780.doc/svc easy tier.html



#### **QUESTION 10**

A customer is considering a storage consolidation project. The IBM technical specialist wants to show how the IBM solution will be more cost-effective than the competitors.

Which tool should the technical specialist use?

- A. IBM Compresimator
- B. IBM TCOnow!
- C. IBM Disk Magic
- D. IBM Spectrum Scale Discovery Checklist

Correct Answer: B Section: (none) **Explanation** 

# **Explanation/Reference:**

TCOnow! for Disk is designed for storage architects to compare the initial costs and TCO of the most popular arrays from EMC, IBM, HPE, NetApp and Hitachi.

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Incorrect Answers:

Incorrect Answers:

A: Comprestimator is a command line host-based utility that can be used to estimate an expected compression rate for block devices.

References: http://cioview.com/disk.html

## **QUESTION 11**

A customer needs to bridge two Fibre Channel SANs that are 100 miles (161 km) apart.

Which device is needed at both sites?

- A. Multiprotocol router
- B. 16 Gb Fibre Channel switch
- C. PEX extender
- D. 10 Gb Ethernet Layer 2 switch

**Correct Answer:** A Section: (none) **Explanation** 

**Explanation/Reference:** 



For example, The IBM System Storage SAN06B-R multiprotocol router entry-level multiprotocol extension router designed to connect two SANs over a wide distance using the Internet as the interconnection fabric (upgrades to enterprise-level functions are available). References:

## **QUESTION 12**

What should a technical specialist request to provide latency analysis for an Oracle DB system and help predict performance impact of IBM Flash Systems?

- A. DB Trace report
- B. nmon analyzer report

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- C. Perfrep report
- D. AWR report

Correct Answer: D Section: (none) Explanation

## **Explanation/Reference:**

IBM FlashSystem offers customers the ability to speed up databases to rates that may not be possible even by over provisioning the fastest spinning disk arrays. You can use native Oracle Database tools to determine the effects that flash storage can have on Oracle Database environments.

Oracle utilities—Statspack and now Automatic Workload Repository (AWR) reports—provide database administrators with detailed information concerning a snapshot of database execution time. This snapshot provides statistics on wait events, latches, storage input and output volumes, and timings as well as various views of memory and SQL activities.

References: https://www-01.ibm.com/common/ssi/cgi-bin/ssialias?htmlfid=ORW03038USEN

## **QUESTION 13**

A customer has a requirement to add high availability to all systems in the data center. It has an IBM TS4500 tape Library in use.

What must be added to the library to meet the high availability requirement?

- A. Additional convenience I/O stations
- B. Redundant Library Managers
- C. Dual accessors
- D. Dual grippers

Correct Answer: C Section: (none)



## **Explanation**

# **Explanation/Reference:**

When an optional second accessor is installed, the TS4500 tape library features high availability (HA) which enhances the library performance.

References: https://www.ibm.com/support/knowledgecenter/en/STQRQ9/com.ibm.storage.ts4500.doc/ts4500 ipg dual accessors.html

## **QUESTION 14**

A solution architect has determined the amount of spindles needed to satisfy performance and Raid level requirements for an IBM DS8886.

Which tool provides information on the number of spare drives included in the system?



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- A. STAT
- B. Capacity Magic
- C. Disk Magic
- D. e-config

Correct Answer: B Section: (none) Explanation



# Explanation/Reference:

Capacity Magic is an easy-to-use tool to help with capacity planning for physical and usable capacities based on installation drive capacities and quantities in intended RAID configurations.

References: IBM DS8880 Architecture and Implementation (Release 8.2.1), page 82

### **QUESTION 15**

A customer has multiple data types and is looking for space savings on the storage environment.

Which data type can benefit from Real-time Compression?



- A. Media files
- B. Virtual servers
- C. Compressed database files





Encrypted user documents

Correct Answer: B Section: (none) Explanation

## **Explanation/Reference:**

References: IBM Real-time Compression in IBM SAN Volume Controller and IBM ..., Volume 7000, page 4

#### **QUESTION 16**

A customer with a block storage from a competitor desires an OpenStack ready platform for storage management.

Which solution should the technical specialist recommend?

- A. IBM Spectrum Control
- B. IBM Spectrum Scale
- C. IBM Spectrum protect Suite
- D. IBM PowerVM NovaLink

Correct Answer: B Section: (none) Explanation



# Explanation/Reference:

Using IBM Spectrum Scale in an OpenStack cloud environment offers many benefits, including the enterprise features of IBM Spectrum Scale and consolidated storage options.

OpenStack include the Cinder component, which Provides virtualized block storage for virtual machines.

## Incorrect Answers:

A: IBM Spectrum Control is a comprehensive solution that can significantly improve monitoring, automation and analytics capabilities in multi-vendor storage environments.

References: https://www.ibm.com/support/knowledgecenter/en/STXKQY 4.2.3/com.ibm.spectrum.scale.v4r23.doc/bl1ins openstackusecase.htm

#### **QUESTION 17**

Which IBM FlashSystem A9000 function enables the division of storage system administration tasks into logical domains?

A. Storage-based permissions



B. Access-based permissions

C. Role-based permissions interface-based permissions

Correct Answer: C Section: (none) Explanation

## **Explanation/Reference:**

IBM FlashSystem A9000 enables a secure isolation of logical domains of storage resources among numerous tenants, with the ability to set different QoS levels for each domain. Multi-tenancy enables the division of storage system administration tasks into logical domains by using role-based permissions.

References: IBM FlashSystem A9000 Product Guide, page 2 <a href="http://www.redbooks.ibm.com/redpapers/pdfs/redp5325.pdf">http://www.redbooks.ibm.com/redpapers/pdfs/redp5325.pdf</a>

#### **QUESTION 18**

A customer has a fully licensed single frame IBM TS4500 with four 3592 drives installed, using about 200 storage slots, and a small IBM TS3310 library with two LTO-6 drives and 60 LTO-6 cartridges. The customer wants to consolidate the two libraries and move the LTO cartridges into the IBM TS4500.

Which upgrade to the IBM TS4500 achieves this goal?

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- A. Upgrade the LTO-6 drive models and move them into the existing frame.
- B. Use the existing frame, and add two new LTO-6 drives.
- C. Add a new drive frame, with two new LTO-7 drives.
- D. Move the two LTO-6 drives into a new IBM TS4500 drive frame.

Correct Answer: B Section: (none) Explanation

# **Explanation/Reference:**

TS4500 tape library frame models: Frame Position 1 capacity: Up to 12 tape drives and 550 storage slots

References: <a href="https://www.ibm.com/support/knowledgecenter/en/STQRQ9/com.ibm.storage.ts4500.doc/ts4500\_library\_structure.html">https://www.ibm.com/support/knowledgecenter/en/STQRQ9/com.ibm.storage.ts4500.doc/ts4500\_library\_structure.html</a>

#### **QUESTION 19**

Which non-concurrent capacity upgrade is possible for a customer with an IBM FlashSystem 900?



- A. Systems purchased with eight 2.9 TB flash modules can be expanded to twelve 2.9 TB flash modules.
- B. Systems purchased with eight 5.7 TB flash modules can be expanded to twelve 2.9 TB flash modules.
- C. Systems purchased with eight 1.2 TB flash modules can be expanded to twelve 2.9 TB flash modules. Systems purchased with eight 1.2 TB flash modules can be expanded to twelve 5.7 TB flash modules.

Correct Answer: A Section: (none) Explanation

## **Explanation/Reference:**

FlashSystem 900 can be populated with up to 12 x 1.2 TB IBM MicroLatency modules in increments of 4, 6, 8, 10, or 12; or up to 12 x 2.9 TB or 5.7 TB IBM MicroLatency modules in increments of 6, 8, 10, or 12.

These modules of either 1.2 TB, 2.9 TB, or 5.7 TB cannot be intermixed. Capacity can be upgraded by purchasing the AF23 (1.2 TB), AF24 (2.9 TB)) or AF25 (5.7 TB) IBM MicroLatency module feature codes as MES upgrades. Here are the upgrade paths: Using AF23 (1.2 TB)

Start with 2.4 TB and grow to 4.8 TB 7.2 TB 9.6 TB, or 12 TB

Using AF24 (2.9 TB)

Start with 5.8 TB and grow to 11.6 TB, 17.4 TB, 23.2 TB, or 29 TB

Using AF25 (5.7 TB)

Start with 11.4 TB and grow to 22.8 TB, 34.2 TB, 45.6 TB, or 57 TB

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References: http://www.redbooks.ibm.com/technotes/tips1261.pdf

#### **QUESTION 20**

A customer issued an RFP to replace EMC Disks. Vendors are being asked to provide the best competitive advantage in their proposals.

What should the IBM proposal on an IBM FlashSystem A9000 include in the bid?

- A. All software features included in base price
- B. Flash cache
- C. HyperSwap migration
- D. Fully-automated software tiering

Correct Answer: B Section: (none) Explanation

Explanation/Reference:



# **QUESTION 21**

IBM has proposed IBM Spectrum Control for a customer who is currently using multiple vendor tools to manage a complex heterogenous storage environment.

How does IBM Spectrum Control do this?





- A. Simplifies single-pane of glass management
- B. Large-scale single name space
- C. Enables cloud-based management
- D. Heterogeneous data migration

Correct Answer: A Section: (none) Explanation

## **Explanation/Reference:**

IBM Spectrum Control offers a single pane of glass to monitor the performance of all your IBM Spectrum Scale clusters.

References: https://www.ibm.com/developerworks/community/blogs/869bac74-5fc2-4b94-81a2-6153890e029a/entry/test?lang=en

#### **QUESTION 22**

A customer has released a RFP for a cloud solution to monitor and analyze storage usage on IBM Spectrum Virtualize and EMC disk. The proposed solution will replace on-site monitoring software.

Which product should the technical specialist recommend?



- A. IBM Spectrum Control Storage Insights
- B. IBM Electronic Service Agent
- C. IBM Storage Alert Manager
- D. IBM Spectrum Scale

Correct Answer: A Section: (none) Explanation

# **Explanation/Reference:**

IBM Spectrum Control Storage Insights optimizes your on-premises storage infrastructure and data placement using predictive analytics in this cloud-based solution.

### Incorrect Answers:

B: IBM Electronic Service Agent is a no-charge software tool that resides on your system to automatically and continuously monitor, collect, and submit hardware problem information to the IBM Electronic Support website. IBM Electronic Service Agent can also routinely collect and submit hardware, software, performance, and system configuration information, which might help IBM Support in diagnosing problems.



D: IBM Spectrum Scale, based on IBM General Parallel File System (GPFS™), is a proven, scalable, high-performance file management system that is being used extensively across multiple industries worldwide. IBM Spectrum Scale provides simplified data management and integrated information lifecycle tools capable of managing petabytes of data and billions of files, in order to address the growing cost of managing ever growing amounts of data.

References: https://www.ibm.com/ms-en/marketplace/analytics-driven-data-management

#### **QUESTION 23**

Which statement correctly applies to PRO and Copy Data Services?



## https://vceplus.com/

- A. RPO is the minimum time interval that a mirrored volume or consistency group lag behind the source volume
- B. Volumes backed up from clones do not affect RPO.
- C. RPO is a pre-defined parameter based on the type of replication selected.
- D. Multiple consistency groups can be supported with asynchronous mirroring for different RPOs.

Correct Answer: D Section: (none) Explanation

# **Explanation/Reference:**

Consistency groups creates a consistent point-in-time copy of multiple volumes, with negligible host impact. You can enable FlashCopy consistency groups from the DS CLI.

Note: Recovery Point Objective (RPO) describes the interval of time that might pass during a disruption before the quantity of data lost during that period exceeds the Business Continuity Plan's maximum allowable threshold or "tolerance."

References: <a href="https://www.druva.com/blog/understanding-rpo-and-rto/">https://www.druva.com/blog/understanding-rpo-and-rto/</a>

#### **QUESTION 24**

A customer is interested in purchasing an IBM TS7650G ProtecTIER Gateway for its production site and one for replication at its DR site. The DR site is a target only site.

How is the cost of the solution affected by the replication?



- A. ProtecTIER replication is included with base license.
- B. ProtecTIER replication is included with hardware and no license is required.
- C. ProtecTIER replication licensing is required at both sites.
- D. ProtecTIER replication licensing is required at the primary site only.

Correct Answer: C Section: (none)

## **Explanation**

## **Explanation/Reference:**

You must have a license for the replication feature for each ProtecTIER server in the replication grid.

References: https://www.ibm.com/support/knowledgecenter/en/STVRB7 3.2.0/ts7650ipg replication.html

#### **QUESTION 25**

A mainframe customer us considering moving from a native tape environment to a virtualized environment across two sites. A study has shown that it needs more than one IBM TS7700 at each site for performance and capacity reasons.

What is the benefit of using IBM TS7700 hybrid grid?



- A. It allows the customer to write data to the optimal storage hardware for each workload type.
- B. It allows clusters to connect using both FC and IP networks.
- C. It provides double the number of logical volumes.
- D. It permits a combination of IBM TS1130 and IBM TS1140 drives in one cluster.

Correct Answer: A Section: (none) Explanation

# Explanation/Reference:

All TS7700 models can coexist in a grid. If only a disk and a tape-attached model are combined, that configuration is called a hybrid grid.

#### **QUESTION 26**

A cloud service provider is looking to provide a scalable solution that provides quality of service capabilities, ease of management, deduplication, and integration with OpenStack and VMware while providing sub-millisecond response time.

Which solution should the technical specialist recommend?



- A IBM Storwize V5010
- B. IBM FlashSystem 900
- C. IBM FlashSystem A9000R
- D. IBM Spectrum Scale

Correct Answer: C Section: (none) **Explanation** 

# **Explanation/Reference:**

IBM FlashSystem A9000 can use the well-established IBM code base for OpenStack and REST API support.

IBM Spectrum Control Base V3.0 allows a simplified deployment and efficient integration of IBM FlashSystem A9000 with the VMware vCloud suite.

The FlashSystem A9000R data reduction node implements data deduplication and compression functions.

A9000 provides consistent and predictable microsecond response times and simplicity that you need.

References: http://www.redbooks.ibm.com/redpapers/pdfs/redp5325.pdf

IBM FlashSystem A9000 Product Guide

QUESTION 27
A customer's compliance department requires that data is kept for ten years. The data must be available as needed, and the customer must ensure that the data VCE To PDF - Free Practice Exam cannot be modified.

Which technology should the specialist recommend?

- A. NVMe flash
- B. SED drives
- C. NL-SAS drives
- D. WORM tape cartridges

Correct Answer: D Section: (none)

# **Explanation**

# **Explanation/Reference:**

Write-once, read-many (WORM) tape cartridge characteristic. WORM format pervades the entirety of every WORM cartridge. The WORM tape media is formatted to give every block on a WORM cartridge write-once, read-many protection. Additionally, the cartridge memory (CM) has a WORM indicator byte in the cartridge type field.



#### Incorrect Answers:

A: NVM Express (NVMe) or Non-Volatile Memory Host Controller Interface Specification (NVMHCI) is a logical device interface specification for accessing nonvolatile storage media attached via a PCI Express (PCIe) bus. The acronym NVM stands for non-volatile memory, which is commonly flash memory that comes in the form of solid-state drives (SSDs).

B: An SED is a self-encrypting hard drive with a circuit built into the disk drive controller chip that encrypts all data to the magnetic media and decrypts all the data from the media automatically. All SEDs encrypt all the time from the factory onwards, performing like any other hard drive, with the encryption being completely transparent or invisible to the user.

References: https://www.ibm.com/support/knowledgecenter/en/STPRH6/com.ibm.storage.drives.doc/con\_3592ipg\_worm\_characteristics.html

#### **QUESTION 28**

A customer has an existing IBM XIV Gen3 solution with 3 TB drives and nine modules. While performance is acceptable, the customer wants to increase the performance of small-block reads. The current nine modules are running at 60% of capacity.

Which solution should the technical specialist recommend?

- A. Add the SSD caching option on five modules.
- B. Add the SSD caching option on all nine modules.
- C. Add IBM Spectrum Control Software with an IBM FlashSystem 900.
- D. Add three mode data modules to improve performance.

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Correct Answer: A Section: (none) **Explanation** 

# **Explanation/Reference:**

SSD Caching improves small-block random read performance. SSD Caching in the XIV system can improve performance of any workload that is suffering from high latency due to a high amount of small-block random read misses.

Consider a situation where you do not have an XIV system yet, but you want to know whether you might benefit from by extending the XIV with SSD Caching. On most storage systems, you can inspect I/O statistics and determine whether a workload can benefit from SSD Caching. If the storage system has granular reporting, you can take the following steps:

Sort your workload by read and write percentages.

The read portion of the workload can potentially benefit from the SSD Caching. A typical candidate workload for SSD Caching consists of 80% reads and 20% writes.

Etc.



References: http://www.redbooks.ibm.com/redpapers/pdfs/redp4842.pdf

Solid-State Drive Caching in the IBM XIV Storage System (May 2012), page 20

#### **QUESTION 29**

When implementing disk encryption on an existing IBM TS7700, which action does a client need to take for the existing virtual volumes to be encrypted after the encryption feature is enabled?

- A. No additional customer action is required once encryption is enabled.
- B. The copy refresh command must be issued for each of the existing volumes.
- C. Any existing volumes will have to expire and be reused before being encrypted.
- D. The customer must assign existing virtual volumes with a new encryption policy.

Correct Answer: D Section: (none) Explanation

## **Explanation/Reference:**

An encryption policy configuration is the set of rules, or policies, that specify which volumes are to be encrypted.

References: https://www-01.ibm.com/support/docview.wss?uid=ssg1S7005315&aid=1

IBM TS7700 Version 4 Release 1, Introduction and Planning Guide, page 123 Free Practice Exam

## **QUESTION 30**

How does an IBM XIV System provide a guarantee of consistent performance even under the most dynamically changing elastic cloud workload environments?

- A. Built in performance monitoring of key resources
- B. Support for multiple versions of OpenStack software
- C. Use of a distributed grid architecture
- D. Capacity on Demand addition of useable storage

Correct Answer: C Section: (none) Explanation

# **Explanation/Reference:**

IBM XIV Cloud Storage for Service Providers, or client hosted cloud solutions require elastic, rapid response, and dynamic demand that is captured within XIV's 485 TB linear scalability, and the immediate and automatic redistribution, without interruption, of added capacity. The grid design stripes data across all modules and disks, incorporating data redundancy for consistent and predictable I/O performance that is always load balanced.



#### Incorrect Answers:

D: With Capacity on Demand (CoD) you effectively buy a certain amount of capacity up front but also get up to 3 more modules shipped with the machine. You can start using this extra capacity when your business requirements demand it, at which point you will be asked by IBM to purchase it. The advantage here is that you physically get a bigger machine up front with all the performance benefits that bestows, plus you don't have to contact IBM to start using that extra capacity. References: <a href="http://www.redbooks.ibm.com/abstracts/tips1238.html?Open">http://www.redbooks.ibm.com/abstracts/tips1238.html?Open</a>

#### **QUESTION 31**

A customer with a minimum IBM XIV configuration is upgrading to a full rack and plans to add SSDs for performance. How many SSDs would be added during this upgrade?

A. 12

B. 9

C. 6

D. 15

Correct Answer: B Section: (none) Explanation



## **Explanation/Reference:**

A minimally populated rack for models 281x-114 and 281x-214 contains three data modules and three interface modules, for a total of six modules. A fully populated rack contains nine data modules and six interface modules, for a total of 15 modules.

References: https://www.ibm.com/support/knowledgecenter/en/STJTAG/com.ibm.help.xivgen3.doc/Gen3/PG/xiv\_pln3rackconfigurations.html

#### **QUESTION 32**

A customer has locations in Singapore, London, and Denver and is considering IBM Spectrum Scale for its unstructured data.

How does IBM Spectrum Scale benefit this customer?

- A. It provides enterprise grade encryption.
- B. It is a cloud-only offering.
- C. It is a product with native CIFS support.
- D. It offers a global namespace.

**Correct Answer:** D



Section: (none) Explanation

## **Explanation/Reference:**

IBM Spectrum Scale provides a global namespace.

References: https://www.ibm.com/support/knowledgecenter/en/STXKQY 4.2.1/com.ibm.spectrum.scale.v4r21.doc/bl1ins intro.htm

#### **QUESTION 33**

Which solution meets a customer's requirements for 100,000 IOPS, lowest latency, and maximum of 30 TB of raw capacity for an Oracle database?

A. IBM FlashSystem A9000 B.

IBM Storwize V7000F

C. IBM FlashSystem V9000

D. IBM FlashSystem 900

Correct Answer: D Section: (none) Explanation



# Explanation/Reference:

IBM FlashSystem 900 is designed to accelerate the applications that drive business—like those using an Oracle Database. IBM FlashSystem 900 can scale usable capacity from as low as 2 TB to as much as 57 TB in a single system.

FlashSystem 900 delivers Tier 0 top application performance with up to 1.1 million 100% random read IOPS and 600,000 100% random write IOPS.

#### Incorrect Answers:

C: IBM FlashSystem V9000 is designed to accelerate all types of applications and infrastructures, but it is most often deployed to support high-performance database applications such as those based on Oracle Database

Up to 32 PB of external storage can be managed by a single IBM FlashSystem V9000 array.

References: <a href="https://www.ibm.com/us-en/marketplace/flash-storage">https://www.ibm.com/us-en/marketplace/flash-storage</a>





https://vceplus.com/

