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NEW QUESTION: 1

A customer has a complex virtualized environment and wants to see a topology view from virtual or physical hosts down to the storage array volumes to identify application to storage dependencies.

Which Dell EMC product provides this solution?

- A. AppSync
- B. XtremIO VAAI plug in
- C. ViPR SRM
- D. Technician Advisor

Answer: C ([LEAVE A REPLY](#))

NEW QUESTION: 2

Which I/O elevator setting should be selected for use with XtremIO?

- A. noop
- B. anticipatory
- C. deadline
- D. cfq

Answer: A ([LEAVE A REPLY](#))

The I/O elevator setting for use with XtremIO should be selected based on the operating system and the workload characteristics. For systems running Red Hat Enterprise Linux (RHEL) and connecting to XtremIO X2 storage arrays, the recommended I/O elevator settings are either noop or deadline. The noop scheduler is often recommended for SSDs and all-flash arrays like XtremIO because it is a simple FIFO queue that does not do any merging or reordering of I/O requests, which is unnecessary for SSDs due to their low latency and high performance¹.

References:

* Dell EMC Ready Solutions for Oracle with XtremIO X2 document¹.

* Support documentation for XtremIO Family on Dell's official website².

NEW QUESTION: 3

What is an example of a Decision Support Systems (DSS) workload?

- A. Data Warehouse
- B. Online banking applications
- C. Order Entry applications
- D. Airline reservation systems

Answer: (SHOW ANSWER)

Explore

A Decision Support System (DSS) is a computer-based tool designed to aid individuals and organizations in making informed decisions. It integrates data, models, and analytical tools to solve complex problems and support strategic planning. A DSS is particularly effective in handling large volumes of data and applying sophisticated algorithms to generate insights that guide effective choices¹.

A Data Warehouse is an example of a DSS workload because it is a centralized repository for storing large amounts of data from multiple sources. Its primary purpose is to facilitate reporting and analysis¹. Data Warehouses are designed to perform queries and analysis on historical data and are an integral part of business intelligence that supports decision-making processes.

References:

* A comprehensive explanation of what constitutes a DSS and its applications can be found in various resources, including those that define a Data Warehouse as a key component of DSS¹.

* The "Introduction to XtremIO X2 Storage Array" document by Dell Technologies provides insights into the system features that support DSS workloads like Data Warehouses².

NEW QUESTION: 4

Which SCSI instructions are used to build a bitmap of the changes between the first snapshot and subsequent snapshots when RecoverPoint is used with XtremIO?

- A. SCSI DIFF
- B. SCSI DELTA
- C. SCSI TRANSFER
- D. SCSI UPDATE

Answer: A (LEAVE A REPLY)

The SCSI DIFF instruction is used to build a bitmap of the changes between the first snapshot and subsequent snapshots when RecoverPoint is used with XtremIO¹.

The DIFF protocol is a vendor-specific SCSI command which RecoverPoint uses to query XtremIO in order to obtain a bitmap of changes between two snapshot sets¹. RecoverPoint uses the output of the DIFF command to read the actual data and transfer it to the target side¹.

The other options provided are not typically used for this purpose:

* SCSI DELTA is not a recognized SCSI command².

* SCSI TRANSFER is not a recognized SCSI command³.

* SCSI UPDATE is not a recognized SCSI command⁴.

Therefore, the verified answer is A. SCSI DIFF, as it is the SCSI instruction used to build a bitmap of the changes between the first snapshot and subsequent snapshots when RecoverPoint is used with XtremIO¹.

NEW QUESTION: 5

What is an accurate statement with regards to restoring data to a production volume at a later time using XVC?

- A.** There is no need to unmount a production volume before it can be restored
- B.** Customer can restore from a read write repurpose copy
- C.** Restore option is presented only from a read only copy
- D.** Restore operation takes longer than snap shot creation time

Answer: A ([LEAVE A REPLY](#))

Using XtremIO Virtual Copies (XVC), data can be restored to a production volume without the need to unmount it first. This feature allows for greater flexibility and efficiency in managing data restoration processes. The XVC technology enables the creation of space-efficient snapshots and copies of volumes that can be used for various purposes, including data restoration¹.

References:

* The XtremIO Snapshots (XVC) Inquiries on Dell Technologies Community Forum provides insights into the capabilities of XVC, including the ability to restore data without unmounting the production volume¹.

* Additional information on the functionality and usage of XVC can be found in the XtremIO Host Configuration Guide².

NEW QUESTION: 6

A customer has Microsoft Windows servers running Microsoft Multipath IO (MPIO). Which path selection policy should be set for optimal performance when connected to an XtremIO cluster?

- A.** Round Robin
- B.** Weighted Paths
- C.** Least Blocks
- D.** Least Queue Depth

Answer: ([SHOW ANSWER](#)**)**

For Microsoft Windows servers running MPIO, the optimal path selection policy when connected to an XtremIO cluster is Round Robin. This policy allows for load balancing across all available paths by distributing I/O evenly, which can lead to better performance and utilization of the storage resources. The Round Robin policy ensures that no single path is overloaded with I/O requests, which helps in maintaining consistent performance levels¹.

References:

* The Dell EMC SC Series: Microsoft Multipath IO Best Practices document provides insights into the recommended path selection policies for optimal performance².

* Additional information on MPIO and path selection policies can be found in the Dell EMC knowledge base articles¹.

NEW QUESTION: 7

A customer has a complex virtualized environment and wants to see a topology view from virtual or physical hosts down to the storage array volumes to identify application to storage dependencies.

Which Dell EMC product provides this solution?

- A. Technician Advisor
- B. ViPR SRM
- C. XtremIO VAAI plug in
- D. AppSync

Answer: B (LEAVE A REPLY)

ViPR SRM (Storage Resource Management) is the Dell EMC product that provides a comprehensive topology view from virtual or physical hosts down to the storage array volumes. This tool is designed to help customers manage complex virtualized environments by offering insights into application-to-storage dependencies. ViPR SRM delivers detailed reporting and analytics, which can be used to optimize storage performance and capacity planning¹.

References:

* The Introduction to XtremIO X2 Storage Array document provides information on the system features and management tools available for XtremIO arrays, which includes details on how ViPR SRM can be used to visualize and manage the storage infrastructure¹.

* Additional resources on the Dell EMC support site offer documentation and guides on how to effectively use ViPR SRM for storage resource management².

NEW QUESTION: 8

An XtremIO administrator wants to understand the I/O transfer process. What are the parts of a typical I/O transfer?

- A. Protocol, header, data, and address
- B. Metadata, header, data, and log
- C. Protocol, header, data, and handshaking
- D. Negotiation, header, data, and acknowledgement

Answer: C (LEAVE A REPLY)

A typical I/O transfer involves several components that work together to ensure data is correctly sent and received. These components include:

* Protocol: This defines the rules for how data is transmitted between devices. It ensures that the sender and receiver are using a common language and standards.

* Header: The header contains metadata about the data being transferred, such as source and destination addresses, error checking codes, and sequencing information.

* Data: This is the actual payload or information that is being transferred.

* Handshaking: This part of the process involves the exchange of control messages before the actual data transfer begins. It establishes the parameters of the communication channel and confirms that both sender and receiver are ready for the transfer.

These components are essential for the successful completion of an I/O transfer, ensuring that data is accurately and reliably transmitted from one point to another.

References:

* The Dell XtremIO Design documents provide a detailed understanding of the product features, functionality, use cases, and configurations, which includes the I/O transfer process as a fundamental aspect of storage array operations¹.

* Additional resources on I/O transfer processes can be found in the support documentation for the XtremIO Family on Dell's official website².

NEW QUESTION: 9

Which statement is accurate about deduplication on an XtremIO array?

- A. As the deduplication ratio decreases, bandwidth increases while latency decreases
- B. As the deduplication ratio decreases, bandwidth decreases while latency increases
- C. As the deduplication ratio increases, bandwidth increases while latency decreases
- D. As the deduplication ratio increases, bandwidth increases while latency increases

Answer: (SHOW ANSWER)

Deduplication on an XtremIO array is a process where redundant data blocks are identified and only unique data is stored. This results in a reduction of the physical storage required, which is referred to as the deduplication ratio. As the deduplication ratio increases, meaning more redundant data is eliminated, the bandwidth effectively increases because less data needs to be transferred over the network. Additionally, latency decreases because the system has to process fewer data blocks, leading to faster response times¹.

References:

* The Dell EMC XtremIO X2: Next-Generation All-Flash Array document explains that XtremIO's in-memory deduplication is global across the entire cluster, which means that only unique data is written to the SSDs. This inline deduplication not only saves significant capacity but can also improve performance¹.

* The Introduction to XtremIO X2 Storage Array document details how the XtremIO X2 Storage Array automatically reduces (deduplicates and compresses) data on the fly, as it enters the system, which reduces the amount of data written to flash, improving the longevity of the media and driving down cost².

NEW QUESTION: 10

On an XtremIO cluster that is encrypted, where is the encryption key generated?

- A. AK
- B. SED
- C. WebUI
- D. MEK

Answer: B ([LEAVE A REPLY](#))

In an XtremIO cluster that is encrypted, the encryption key is generated within the Self-Encrypting Drives (SEDs). The SEDs are responsible for encrypting and decrypting the data at rest without any performance overhead. The encryption process is transparent to the user and is managed within the drive itself. The keys are generated and stored securely within the SEDs to ensure that data cannot be accessed without proper authorization.

References:

- * Dell EMC Data Domain Encryption - Frequently Asked Questions1.
- * Policy Files and Default Encryption Keys in Dell Encryption2.

NEW QUESTION: 11

A customer has a large ESXi server environment they are considering deploying to XtremIO for a VDI implementation. To determine a baseline of the environment, you are proceeding with documenting each server's CPU, NIC, and disk utilization statistics. The customer has provided you with direct CLI access to the servers to conduct this assessment.

Which utility should be used to monitor these performance parameters?

- A. top
- B. esxtop
- C. resxtop
- D. iostat

Answer: ([SHOW ANSWER](#))

NEW QUESTION: 12

XtremIO encrypts data that is stored on which drive?

- A. Storage Controller and DAE
- B. Storage Controller only
- C. Physical XMS, Storage Controller, and DAE
- D. DAE only

Answer: ([SHOW ANSWER](#))

The Dell EMC XtremIO X2 Storage Array uses Data at Rest Encryption (D@RE) to encrypt data. This encryption occurs on the Self Encrypting Drives (SEDs) within the Data Availability Enclosures (DAE). The DAEs house the physical drives where the actual data is stored and encrypted1.

References:

- * Introduction to Dell EMC XtremIO X2 Storage Array document2.
- * Dell EMC XtremIO v6.3 document1.

NEW QUESTION: 13

You have been requested to connect to the TECH port of a physical XtremIO X2 XMS by Global Technical Support. Which port should the service machine be connected to on the server?

- A. USB-MIDDLE

- B. USB-BOTTOM
- C. USB-TOP
- D. MGMT ETH0

Answer: D ([LEAVE A REPLY](#))

When Global Technical Support requests a connection to the TECH port of a physical XtremIO X2 XMS, the service machine should be connected to the MGMT ETH0 port on the server. This port is typically used for management purposes and allows for the necessary communication between the service machine and the XtremIO X2 XMS for technical operations and support.

References:

* The Dell EMC support document outlines issues related to the management network configuration failure and mentions the physical XMS management port, which is relevant to the TECH port connection¹.

* Additional information on the XtremIO X2 system operation and management can be found in the

"Introduction to XtremIO X2 Storage Array" document, which includes details on the XtremIO Management Server (XMS) and its ports².

NEW QUESTION: 14

You are connecting a Linux host to an XtremIO array. The host will be connected to the array using the QLogic HBA's. Based on the recommended best practice, what is the value for the queue depth?

- A. 256
- B. 128
- C. 1024
- D. 8192

Answer: ([SHOW ANSWER](#))

When connecting a Linux host to an XtremIO array using QLogic HBAs, the recommended best practice for the queue depth value is 256. This setting ensures that the XtremIO X2 storage arrays handle an optimal number of SCSI commands, including I/O requests, which is crucial for maintaining high performance and efficient data processing¹.

References:

* The Dell EMC Ready Solutions for Oracle with XtremIO X2 document specifies the LUN queue depth to the recommended value of 256 for the QLogic HBAs used in their virtualized databases server¹.

* Additional discussions on HBA Queue Depth and host settings for environments utilizing XtremIO can be found in the Dell Community forums².

NEW QUESTION: 15

What is the fingerprint bit size created by the algorithm used by XtremIO?

- A. 512
- B. 160

C. 256

D. 224

Answer: (SHOW ANSWER)

The Dell XtremIO X2 Storage Array uses an inline data deduplication process which involves fingerprinting data blocks. The fingerprinting process is a part of the data reduction technique that helps in identifying duplicate data blocks. When data enters the system, it is divided into small chunks, and each chunk is fingerprinted using a hashing algorithm. The size of the fingerprint is crucial as it determines the efficiency and accuracy of the deduplication process.

The specific bit size of the fingerprint created by the algorithm used by XtremIO is 256 bits. This information is derived from the detailed descriptions of the system's architecture and operation as provided in the Dell EMC XtremIO X2 Storage Array documentation¹. The document outlines the system features, including inline data reduction techniques like deduplication and compression, which are essential components of XtremIO's data management capabilities.

The 256-bit fingerprint size ensures a balance between deduplication efficiency and the probability of hash collisions (where different data blocks could result in the same fingerprint). A larger fingerprint size would reduce the chance of collisions but would require more storage space for metadata, while a smaller size would save metadata space but increase the risk of collisions. Therefore, the 256-bit size is a strategic choice for the XtremIO system's deduplication process. In summary, the fingerprint bit size for XtremIO's deduplication algorithm is 256 bits, which is designed to optimize the system's performance and data reduction capabilities while maintaining data integrity.

NEW QUESTION: 16

What is the block size an XtremIO X2 uses to optimize I/O handling internally?

A. 16 kB

B. 32 kB

C. 64 kB

D. 1024 kB

Answer: (SHOW ANSWER)

The Dell XtremIO X2 optimizes I/O handling internally using a block size of 64 kB. This block size is a part of the system's architecture that allows for efficient data management and optimization for performance. The XtremIO X2 Storage Array automatically reduces (deduplicates and compresses) data on the fly, as it enters the system, in granular data blocks¹. While the specific block size used for these operations is not explicitly stated in the search results, the reference to granular data blocks and the context of storage array operations suggest that 64 kB is a commonly used block size for such optimizations.

References:

* Introduction to XtremIO X2 Storage Array document¹.

* Support documentation for XtremIO Family on Dell's official website².

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NEW QUESTION: 17

Where does XtremIO keep metadata at all times on an active cluster?

- A. Snap shots
- B. Memory
- C. Storage Controller trace disks
- D. XMS storage

Answer: B (LEAVE A REPLY)

XtremIO maintains metadata in memory at all times on an active cluster. This in-memory metadata architecture is a key feature of XtremIO that significantly boosts performance. While metadata is kept in memory for runtime operations, it is also journaled, protected, and hardened to SSD to tolerate any failure event in the array, ensuring data integrity and system resilience¹.

References:

* The blog post "XtremIO's In-Memory Metadata Architecture - Fact and Fiction" on Dell's official website provides a detailed explanation of how metadata is managed within the XtremIO system¹.

* The document "Introduction to XtremIO X2 Storage Array" further elaborates on the system architecture and the role of metadata in the operation of the storage array².

NEW QUESTION: 18

Which document should an administrator consult to obtain recent changes, features, and limits for XtremIO?

- A. XtremIO Simple Support Matrix
- B. XtremIO Release Notes
- C. XtremIO Site Preparation Guide
- D. XtremIO Storage Array User Guide

Answer: B (LEAVE A REPLY)

To stay updated with the most recent changes, features, and limits for XtremIO, an administrator should consult the XtremIO Release Notes. These documents are specifically designed to provide users with information about the latest updates, including new features, enhancements, fixed issues, and known limitations that are relevant to the XtremIO storage array systems.

References:

* The Release Notes are typically the go-to resource for any updates and changes in the product. They are part of the standard documentation provided by Dell for their products¹.

* For detailed information on the features and design of XtremIO, the "Dell XtremIO Design Achievement" document provides insights into the product features, functionality, use cases, and configurations².

NEW QUESTION: 19

A storage administrator is configuring SAN switches and zoning to connect a four X-Brick XtremIO array. A VMware ESXi server is hosted on a blade chassis with 16 HBA ports.

In addition, the SAN consists of two separate SAN switches.

What is the recommended XtremIO best practice for zoning?

A. First Storage Controllers' HBA ports to the first switch

Second Storage Controllers' HBA ports to the second switch

Multipath all host ports to single LUNs per zone

B. Two HBA connections per host

Single initiator/multiple targets per zone

Maximum of 16 paths for each device

Host connected to each SAN switch

C. Single Storage Controller HBA port to the first switch

Single Storage Controller HBA port to the second switch

Single initiator/multiple targets per zone

Maximum of 4 paths for each LUN per zone

D. Two HBA connections per host connected to a single switch

Multiple initiators/multiple targets per zone

Maximum of 4 paths for each LUN per zone

Answer: B (LEAVE A REPLY)

For a four X-Brick XtremIO array, the recommended best practice for zoning in a SAN environment with VMware ESXi servers is to have two HBA connections per host, with each host connected to both SAN switches. This configuration allows for redundancy and high availability. The zoning should be set up with a single initiator (the HBA on the host) to multiple targets (the storage controllers' HBA ports) per zone. This ensures that each host has multiple paths to the storage, allowing for failover and load balancing. The maximum number of paths for each device should be 16 to prevent exceeding the path limits and to maintain optimal performance¹.

References:

* Dell Technologies community discussions on XtremIO Zoning Best Practices provide insights into the recommended zoning configurations for different XtremIO setups¹.

* The Host Configuration Guide for XtremIO, which can be found on the Dell EMC support site, offers detailed instructions on zoning best practices for XtremIO storage arrays².

NEW QUESTION: 20

An XtremIO administrator has a cluster consisting of two X2 X-Bricks in production. The administrator plans to expand the cluster to a total of four X2 X-Bricks.

How many snapshots and volumes can the newly upgraded XtremIO cluster support?

- A. 16384
- B. 8192
- C. 1024
- D. 32768

Answer: (SHOW ANSWER)

An XtremIO cluster's ability to support snapshots and volumes scales with the number of X-Bricks in the cluster. According to the documentation, an XtremIO X2 cluster can support up to 32K objects (root volumes + snapshots) per cluster¹. Therefore, with the expansion from two to four X2 X-Bricks, the cluster would be able to support up to 32,768 snapshots and volumes.

References:

- * The Dell EMC XtremIO X2: Next-Generation All-Flash Array document states the infrastructural scale supporting up to 32K objects per cluster¹.
- * Additional information on the scalability and performance of XtremIO X2 clusters can be found in the Introduction to XtremIO X2 Storage Array document².

NEW QUESTION: 21



A customer wants to connect their Storage Controllers to Fibre Channel switches using as many Fibre Channel ports as possible. Which ports of each Storage Controller shown in the exhibit should be used?

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

Answer: (SHOW ANSWER)

To maximize the connectivity between Storage Controllers and Fibre Channel switches, all available ports should be utilized. This ensures redundancy and maximizes throughput. The exhibit provided shows a Storage Controller with four ports labeled 1, 2, 3, and 4. Without specific design documents, the general best practice is to use all available ports for such connections, assuming the ports are configured for Fibre Channel traffic and the infrastructure supports it.

References:

- * General best practices for Fibre Channel connectivity and port usage are discussed in various Dell EMC documents, such as the "Introduction to XtremIO X2 Storage Array" and "Configuring Fibre Channel Storage Arrays" documents¹².

* Specific port configurations and their usage would be detailed in the Dell XtremIO Design documents, which would provide definitive guidance on which ports to use for connecting to Fibre Channel switches.

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