

HP Storage Migration

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ExamA

QUESTION 1

A customer is preparing to migrate data between their data centers. They need to perform deduplication at the data creation point and eliminate the need for specialized deduplication hardware in their data centers. How does HP StoreOnce Catalyst enable the customer to achieve this goal?

- A. by performing source-side deduplication
- B. by performing switch-side deduplication
- C. by performing server-side deduplication
- D. by performing target-side deduplication

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Explanation:

By enabling source-side deduplication (Dedupe 2.0), HP has the advantage of performing deduplication at the data creation point. Source-side deduplication eliminates the need for specialist deduplication hardware at remote and branch office sites. StoreOnce Catalyst allows customers to align backup with data protection needs, such as minimizing bandwidth utilization when moving data between sites or data centers.

Reference: Dedupe 2.0: What HP Has In Store(Once)

QUESTION 2

A customer is planning to migrate a database to a new site. They need to create an extended SAN in a single fabric namespace by using a dedicated link over a distance of 200 km. Which network protocol should they use to achieve this goal?

- A. FCIP
- B. iFC
- C. FCoE
- D. iSCSI

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Explanation:

FCIP connects Fibre Channel fabrics over IP-based networks to form a unified SAN in a single fabric. FCIP relies on IP-based network services to provide connectivity between fabrics over LANs, MANs, or WANs.

Note:

HP SAN extension technologies include:

- * FCIP
(greater than 10 km to 20,000 km)
- * FC-ATM
- * FC-SONET
- * WDM
(greater than 35 km to 100500 km)
- * Fibre Channel using long-wave transceivers
(10 km35 km)

QUESTION 3

A customer is extending a SAN by using wavelength division multiplexing (WDM) to migrate their master database to a new data center. They need to ensure that there is adequate line speed to perform the migration in the event of a primary path failure. What should the customer do to achieve this goal?

- A. Ensure that all SAN devices use the same Fibre Channel speed.
- B. Ensure that all SAN switches have the same core PID number.
- C. Ensure that there are separate WDM paths for transmitting and receiving packets
- D. Ensure that a secondary path with sufficient buffer-to-buffer credits is available

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Explanation:

WDM devices extend the distance between two FICON directors. The devices are transparent to the directors and do not count as an additional hop.

To accommodate WDM devices, you must have enough Fibre Channel BB_credits to maintain line- speed performance. WDM supports Fibre Channel speeds of 10 Gb/s, 8 Gb/s, 4 Gb/s, 2 Gb/s, and 1 Gb/s. When planning for SAN extension, BB_credits are an important consideration in WDM network configurations. Typical WDM implementations for storage replication include a primary and secondary path. You must have enough BB_credits to cover the distances for both the primary path and secondary path so that performance is not affected if the primary path fails.

Reference: HP Mainframe Connectivity Design Guide

QUESTION 4

A customer plans to migrate data from a third-party storage system to an HP 3PAR solution. The customer has leased data center space. Which HP 3PAR Storage solution must be integrated into an HP 3PAR rack?

- A. HP 3PAR StoreServ 10800
- B. HP 3PAR StoreServ 10400
- C. HP 3PAR StoreServ F200
- D. HP 3PAR StoreServ 7400

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Choose Racking Options

The HP 3PAR StoreServ 7000 is compatible with most industry standard 4-post EIA 19 inch racks with square mounting holes, including the HP Intelligent Series Rack and the HP 10000 G2 Series Rack. The HP 3PAR StoreServ 7000 can be factory configured and shipped in a rack or shipped without a rack for field integration into an existing rack. The rack used for factory integration is the HP Intelligent Series Rack.

QUESTION 5

A company needs to migrate from a third-party storage system to an environment that can grow by scaling out. The solution must also allow use of a server for downloading upgrades. Which solution meets the company's requirements?

- A. HP 3PAR StoreServ 7000
- B. HP StoreOnce 6200
- C. HP StoreVirtual 4000
- D. HP 3PAR StoreServ 10000

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

HP StoreVirtual 4000 Storage, based on the LeftHand operating system, is a **scale-out storage platform** that is designed to meet the fluctuating needs of virtualized environments.

QUESTION 6

A storage administrator needs to perform a gradual migration of large backup volumes and jobs to a remote D2D system over time. Because this data is being replicated for the first time, the administrator needs to populate the target device with all the relevant hash codes. Which method should the administrator use to achieve this goal?

- A. using co-location
- B. using removable media
- C. seeding data over the WAN link
- D. setting initializer to migration

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

Explanation:

* prior to being able to replicate only unique data between source and target D2D, we must first ensure that each site has the same hash codes or "bulk data" loaded on it this can be thought of as the reference data against which future backups are compared to see if the hash codes exist already on either source or target. The process of getting the same bulk data or reference data loaded on the D2D source and D2D target is known as "seeding".

* Seeding is generally is a one-time operation which must take place before steady-state, low bandwidth replication can commence. Seeding can take place in a number of ways:

1. Over the WAN link although this can take some time for large volumes of data
2. Using co-location where two devices are physically in the same location and can use a GbE replication link for seeding. After seeding is complete, one unit is physically shipped to its permanent destination.
3. Using a form of removable media (physical tape or portable USB disks) to "ship data" between sites.

QUESTION 7

A small-business customer needs to implement a high IOPS storage system for an application that uses approximately 7 TB of space. Because the customer does not expect a large amount of data growth in the next few years, they need to minimize costs. Which storage system should the customer implement?

- A. HP 3PAR StoreServ 7400
- B. HP 3PAR StoreServ 10000
- C. HP 3PAR StoreServ F200
- D. HP 3PAR StoreServ 7200

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

Explanation:

HP 3PAR F200 9.6TB capacity

Incorrect:

Not A: 432 TB RAW

Not B: 2.2 TB capacity

Not D: 250 TB RAW

QUESTION 8

A customer wants a new HP 3PAR StoreServ 7200 Storage System to maximize storage performance. What should the customer implement?

- A. quad controllers
- B. Adaptive Optimization

- C. 120 SSDs
- D. Dynamic Optimization

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

The HP 3PAR Adaptive Optimization (AO) software takes optimization a step further into sub-LUN tiering. AO migrates sub-LUN data across CPGs based on user-defined policies. Two or three CPG tiers can be specified per policy; all volumes inside a CPG are subject of an AO policy. AO policies usually operate on an FC and NL tier or on an SSD, FC, and NL tier. This tool can improve system response and reduce disk acquisition cost by storing frequently accessed data in the faster tier while moving infrequently accessed data to the slower and cheaper slower tier.

Incorrect:

Not D: Related to online migration:

P 3PAR's Dynamic Optimization (DO) software offers the functionality of EVA's Dynamic LUN Migration: volumes are migrated online to another CPG with a different RAID level, set size, drive media type , etc.

QUESTION 9

Your customer has an existing HP StoreServ 7400 with four controllers. The array has only SSD drives installed. What should you consider when sizing a solution which includes Adaptive Optimization?

- A. Ensure that 3% of the capacity and 30% of the performance can be delivered by the SAS disks.
- B. Include SAS 10/15K disks in the configuration.
- C. Add SSDs or nearline disks to a single node pair.
- D. Size the nearline tier for 30% of the performance requirement.

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Note:

* SAS stands for Serial Attached SCSI. Basically, a SAS drive utilizes the same form factor as a SATA drive but has several high performance advantages. First of all, there's the platter speed. While typical SATA drives operate at 7200RPM, a SAS drive operates at 10K or 15K. Although the platter speed is double that of SATA, the MTBF (Mean Time Before Failure) remains at the industry standard of 1.2 million hours.

* Make sure to define tier 0 to be on a higher performance level than tier 1, which in turn should be higher performance than tier 2. For example, you may choose RAID 1 with SSDs for tier 0, RAID 5 with FC drives for tier 1 and RAID 6 with NL or SATA drives for tier 2.

* Best practices encourage you to begin your Adaptive Optimization configurations with your application CPG starting with tier 1. For example, tier 1 could be CPG using your FC or SAS physical disks. This allows you to add both higher and lower tier capabilities at a later date. If you don't have higher or lower tier, you can add either or both at a later date by using a new CPG, such as tier 0 using SSDs or tier 2 using NL. Or, you could have CPG tiers

with RAID 1 or RAID 5 and RAID 6. The main point is that you should begin with middle CPG tier 1 when configuring Adaptive Optimization with your application.

* Example:

HP 3PAR Adaptive Optimization moved ~33 percent of the IOPS workload to the SSD drives even though that involved moving only 1 percent of the space. Performance improved in two ways: the 33 percent of the IOPS that were serviced by SSD drives got very good latencies (~2 ms), and the latencies for the NL drives also improved (from ~40 ms to ~15 ms). Moreover, the investment in the 16 SSD drives permitted them to add even more NL drives in the future, because the SSD drives have both space and performance headroom remaining.

Reference; Adaptive Optimization for HP 3PAR StoreServ Storage

QUESTION 10

A company needs a storage solution that provides four host bus adapter (HBA) slots and 64 GB of cache. Which HP storage solution meets these requirements?

- A. HP 3PAR StoreServ 7400
- B. HP StoreOnce 6200
- C. HP 3PAR StoreServ 7200
- D. HP StoreVirtual 4000

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Explanation:

HP 3PAR StoreServ 7400 4-node base with two 2U enclosures, four controller nodes, 64 GB cache, eight 8Gb/sec FC ports, four adapter slots, and 48 SFF drive bays.

Incorrect:

Not C: 3PAR StoreServ 7200 only has 32 GB cache.

QUESTION 11

A storage administrator needs highly available connectivity from a Microsoft Windows host to an iSCSI storage array. The administrator needs to ensure that the data is still available in the event of a network port failure. What must the administrator enable on the Windows host?

- A. MPIO
- B. NIC teaming
- C. storage cluster services
- D. iSCSI initiator failover

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Explanation:

QUESTION 12

In which HP rack is the factory Integration of an HP StoreServ 7000 supported?

- A. HP 5642 rack
- B. HP G3 rack
- C. HP 10000 rack
- D. HPV142 rack

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

The HP 3PAR StoreServ 7000 is compatible with most industry standard 4-post EIA 19 inch racks with square mounting holes, including the HP Intelligent Series Rack and the HP 10000 G2 Series Rack. The HP 3PAR StoreServ 7000 can be factory configured and shipped in a rack or shipped without a rack for field integration into an existing rack. The rack used for factory integration is the HP Intelligent Series Rack G3

QUESTION 13

You are meeting with a customer that has a small business with an unpredictable workload in a virtualized environment. Which product family from the HP array portfolio do you lead your discussion with?

- A. P2000
- B. P4000
- C. X3000
- D. P6000

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Virtualized loads (of Small Business) are handled well by -- P4000

QUESTION 14

A customer needs to replicate data from a remote location to an HP StoreOnce B6200 Backup. What should the customer consider when planning the replication?

- A. The HP D2D sizing tool should be used to size link speed and understand concurrency restraints.
- B. Concurrency control should be used if the replication is not run at the same times as backups and housekeeping jobs.
- C. Separate replication jobs should be created for each data type.
- D. Backups and housekeeping jobs should be run in the replication window.

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Explanation:

The replication best practices that apply to HP StoreOnce D2D Backup Systems are equally as valid for the HP B6200 StoreOnce Backup System.

Best practices include:

* Use the Sizing tool to size replication link speed and understand replication concurrency restraints. Reference; HP B6200 Backup System, Recommended Configuration Guidelines

QUESTION 15

A customer requests a storage and server environment assessment prior to the installation of additional SAN components. Which HP software utility provides a quick and accurate view of the customers SAN topology?

- A. Storage Security Self-Assessment Tool
- B. SAN Visibility
- C. Storage Product Selector
- D. SAN Designer

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

SAN Visibility is a complementary software utility for HP customers that helps with SAN Analysis, SAN Diagnostics and SAN Optimization. SAN Visibility saves you considerable time, money, and effort by automating inventory activities and providing a quick and accurate view of your SAN topology. SAN Visibility has an automated report generation feature that produces recommendations, topology diagrams, and informative SAN element reports for switches, host bus adapters and storage array connectivity. SAN Visibility runs on any Windows desktop or laptop which has network connectivity to a switch within your SAN.

Incorrect:

Not A: HP's storage security self-assessment tool helps you gauge your storage privacy vulnerabilities online and free of charge--and gain valuable insight on how to better manage risk, protect sensitive data and comply with data privacy regulations.

QUESTION 16

A large enterprise is experiencing exponential growth of data but shrinking backup windows. They need to design, plan, and integrate a comprehensive disaster recovery solution for all their data centers. Part of their disaster recovery solution must include data migration to a remote site. How does the HP StoreOnce 6200 Backup System respond to this customer's requirements?

- A. by supporting more than 32 concurrent data streams to a single VTL or NAS share device
- B. by supporting a single fabric with dual switches where the drives are presented to a single port for no single point of failure
- C. by requiring a smaller volume of seeding data to be sent over a WAN link than previous StoreOnce D2D models
- D. by providing built-in low-bandwidth replication for cost-effective copies of data offsite

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Challenges in Enterprise Data Protection

Requirements for a modern Enterprise Data Protection solution have many drivers:-

- * Exponential growth of data Shrinking backup windows
- * The need to design, plan and integrate a comprehensive Disaster Recovery capability
- * The need for backup devices to be more available than ever before The HP B6200 StoreOnce Backup System responds to all these requirements by providing:
 - * Deduplication to drive more efficient storage of data
 - * Large device scalability to ensure every backup has access to devices and, so, reduce queuing time
 - * (D) In-built low bandwidth replication for cost-effective copies of data offsite as part of a Disaster Recovery plan
 - * HP Autonomic failover (with appropriate ISV software) to allow backups to continue, even if a node in an HP B6200 StoreOnce Backup System fails.
 - * High scalability in terms of capacity, performance and replication to ensure the system grows as your business grows.

Reference; HP B6200 Backup System, Recommended Configuration Guidelines

QUESTION 17

Which tool does the HP StoreVirtual 4000 solution provide to help customers monitor array health?

- A. Command View
- B. Centralized Management Console
- C. FCTool
- D. SAN Toolbox

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

HP LeftHand P4000 Centralized Management Console (CMC) includes possibilities to:

* monitoring arrays

Incorrect:

: The SAN toolbox is used to provide a simple and effective way to represent the various components of a SAN configuration.

: Want to reduce IT costs and management complexity for your arrays and SANs? Need to be ready for the next set of changes?

HP Command View EVA Software provides you with a powerfully simple storage management experience, automates and aggregates storage management to reduce complexity and increase productivity. Quickly and easily automate tasks such as configuring RAID groups. Provisioning capacity is simple, and you can dynamically expand LUNs and add drives online without downtime to quickly meet changing business needs. HP Command View EVA Software is a comprehensive software suite designed to simplify array provisioning and management of all HP EVA family of storage array products.

You can easily create Vdisks and grow or shrink LUNs, all without downtime. Command View EVA Software allows you to replicate data with snapshots for immediate use. And you can feel secure about your data with the industry-leading security features.

QUESTION 18

A company with a first-generation deduplication appliance is migrating to an HP StoreOnce 6200 Backup System. After migration, what will be the size of the deduplication block?

- A. 4 kb
- B. 8 kb
- C. 16 kb
- D. 32 kb

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Deduplication Optimization

HP created a highly-optimized deduplication approach that introduces time- and space-saving techniques. With the goal of eliminating the maximum amount of redundancy in its data inspection, while also maintaining a small index to deliver the fastest performance, the company focused on two components of its deduplication approach: an average variable chunk size of 4K, and a sparse index. HP's Adaptive Micro-Chunking uses variable-length data segments or chunks. The backup stream is broken down into approximately 4K variable-length segments that are examined for redundancy versus previously stored information. Smaller segments means there are more chunks and index comparisons, which also means a higher potential to locate and eliminate redundancy (and produce higher reduction ratios). Comparative solutions use block sizes that range from 8K to 32K. The tradeoff with small chunk sizes is a greater number of index look-ups--which could mean slower deduplication performance. However, HP Labs developed HP Predictive Acceleration technology to maintain performance and reduce RAM requirements. By using a subset of key values stored in memory, StoreOnce determines a small number of sequences already stored on disk that are similar to any given input sequence--what HP refers to as sparse indexing. Then each input sequence is only deduplicated against those few sequences. This minimizes disk IO and uses less disk and little memory, creating more efficiency and enabling faster ingest and, importantly, restoration of data. HP's approach accelerates reads/writes, and delivers rapid ingest rates of up to 28 TB/hour. Predictive Acceleration has enabled HP to require up to 50% less RAM than comparable solutions.

QUESTION 19

A customer plans to migrate data from an HP EVA4400 to an HP 3PAR StoreServ 7000. The customer has VMware vSphere 5 that uses the HP EVA4400. How can the customer migrate the VMware storage without disruption?

- A. by configuring load-balancing between storage systems
- B. by verifying the EVA is running a supported firmware
- C. by upgrading the VMware vSphere version
- D. by configuring multipathing between storage systems

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Explanation:

The concept of a storage profile, introduced in vSphere 5, extends the base VASA functionality. These profiles are used in conjunction with the capabilities of the LUN to determine which LUNs meet the needs of a VM. vSphere 5 can use this information to migrate virtual machines between LUNs for load balancing using Storage Distributed Resource Scheduler (DRS) while maintaining the storage performance and availability needs (RAID level, etc.) of the virtual machine. These profiles also allow vSphere to make placement decisions automatically based on the needs of the VM and the available datastores, further reducing the administration impact. Reference: HP 3PAR StoreServ Storage and VMware vSphere 5 best practices

QUESTION 20

A large enterprise currently has an HP Virtual Library System (VLS) and plans to migrate to an HP StoreOnce 6200 Backup System. Which best practice must the enterprise consider during this migration?

- A. The HP VLS should be connected to a Fibre Channel switch.
- B. No more than 16 data streams should be run to a single VLS device concurrently.
- C. They should use NPIV to connect the HP StoreOnce 6200 Backup to the nodes as different devices.
- D. Multiplexing is not recommended for the HP StoreOnce 6200 Backup

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Do not send multiplexed data to StoreOnce B6200/D2D Backup Systems. "Multiplexing" data streams from different sources into a single stream in order to get higher throughput used to be a common best practice when using physical tape drives. This was a necessity in order to make the physical tape drive run in streaming mode, especially if the individual hosts could not supply data fast enough. But multiplexing is not required and is in fact a BAD practice when it comes to D2D or B6200 deduplication devices.

Note:

* Users familiar with the HP VLS System should be aware that the HP StoreOnce B6200 Backup System does not behave in the same way and needs a completely different approach when architecting and tuning for best performance. Do not assume that an HP B6200 Backup System can replace an HP VLS System without major re-evaluation of requirements and alignment with HP B200 best practices.

Reference; HP B6200 Backup System, Recommended Configuration Guidelines

QUESTION 21

A company is experiencing performance problems on a third-party storage system with a large VMware environment. The company plans to migrate to an HP 3PAR StoreServ 7000. Which benefit will the company realize from this migration?

- A. ability to handle demand spikes
- B. automated operating system deployment
- C. support for VMware VAAI
- D. built-in virtual machine management

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

Explanation:

HP 3PAR Application Software Suite for VMware

The HP 3PAR Application Software Suite for VMware provides everything you need to make your VMware environment more agile and efficient-including Recovery Manager for VMware, Host Explorer for VMware, VASA support, and three essential plug-ins: the VMware Site Replication Manager (SRM) Adapter, the 3PAR VAAI plug-in, and the 3PAR management plug-in for VMware View. Application Software Suite for VMware uses system-based licensing.

Reference; Quickspecs, HP 3PAR StoreServ 7000

QUESTION 22

A customer has implemented an HP 3PAR StoreServ 7200 and needs to non-disruptively change the RAID characteristic of a virtual volume. The customer must also change the disk tier where the virtual volume resides. Which HP 3PAR command or software feature should the customer use to accomplish this task?

- A. tunevv
- B. Adaptive Optimization
- C. Dynamic Optimization
- D. tunesys

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Explanation:

tunevv - Change the layout of a virtual volume.

SYNTAX

The tunevv command uses one of the following syntax conventions:

tunevv usr_cpg <cpg> [options] <VV_name>

tunevv snp_cpg <cpg> [options] <VV_name>

tunevv restart [options] <VV_name>

tunevv rollback [options] <VV_name>

SUBCOMMANDS

usr_cpg <cpg>

Moves the logical disks being used for user space to the specified CPG.

snp_cpg <cpg>

Moves the logical disks being used for snapshot space to the specified CPG.

restart

Restarts a tunevv command call that was previously interrupted because of component failure, or because of user initiated cancellation. This cannot be used on thinly provisioned virtual volumes.

rollback

Returns to a previously issued tunevv operation call that was interrupted. The canceltask command needs to run before the rollback.

This cannot be used on thinly provisioned virtual volumes.

DESCRIPTION

The tunevv command is used to change the properties of a virtual volume that was created with either the createvv or createtpvv command by associating it with a different CPG.

Incorrect:

: The HP 3PAR Data Optimization Software Suite v2 combines capabilities that provide autonomic storage tiering and dynamic data mobility with assured quality of service . Adaptive Optimization provides highly reliable, non-disruptive, cost-optimized storage tiering at the sub-volume level to deliver the right QoS to the right data at the right time on a large scale and Dynamic Optimization delivers it at the volume level. : Best practice is to run Autonomic Rebalance (also known as tunesys) after adding drives.

QUESTION 23

A customer using high-speed parallel operations needs to encrypt data in 128-bit blocks with a key size of up to 256 bits. Which security standard should the customer use?

- A. RC5
- B. DES
- C. AES
- D. SHA

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

Explanation:

The key size used for an AES cipher specifies the number of repetitions of transformation rounds that convert the input, called the plaintext, into the final output, called the ciphertext. The number of cycles of repetition are as follows:

- 10 cycles of repetition for 128-bit keys.
- 12 cycles of repetition for 192-bit keys.
- 14 cycles of repetition for 256-bit keys.

Incorrect:

: RC5 has a variable block size (32, 64 or 128 bits), key size. : DES is now considered to be insecure for many applications. This is chiefly due to the 56-bit key size being too small.

QUESTION 24

A flower distribution company is planning to redesign their web site and offer additional products and delivery services. They expect a significant increase in web traffic and sales. They want to ensure a quick response time and in some cases, provide same day delivery of an order. This will put an increased demand on their existing IT environment. This environment consists of a small SAN, two C7000 blade chassis and a storage array. Which change to their environment is recommended?

- A. upgrade to larger disks in the storage array
- B. install additional disks in the storage array
- C. set up replication between the storage blades and the storage array
- D. install additional SAN switches

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

QUESTION 25

A customer is planning to implement an HP StoreVirtual 4330FC Storage System. Which type of cable do they need to connect the storage system to the fabric?

- A. SC Fibre Channel
- B. LC Fibre Channel
- C. iSCSI
- D. SAS

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 26

A customer uses HP 3PAK System Reporter and Adaptive Optimization with an HP 3PAR StoreServ 10000 Storage System that runs HP 3PAR OS 3.1.1. The customer is planning to upgrade the storage system to HP 3PAR OS 3.1.2. The customer needs to use System Reporter and Adaptive Optimization on the storage system after the upgrade. Which complications will the customer encounter after performing the upgrade? (Select two)

- A. System Reporter backups must be reconfigured
- B. System Reporter data does not migrate
- C. Adaptive Optimization is disabled
- D. System Reporter databases become corrupt
- E. Adaptive Optimization must be reconfigured.

Correct Answer: BC

Section: (none)

Explanation

Explanation/Reference:

Explanation:

B: Recreation of the AO configuration on the nodes is a manual process. There is no automated means of transferring AO configurations from System Reporter onto the HP 3PAR OS 3.1.2 system.

C: AO behavior continues unchanged for HP 3PAR OS 3.1.1 and earlier. For HP 3PAR OS 3.1.2 systems, Adaptive Optimization behaves as follows:

* AO configurations for HP 3PAR OS systems are allowed insofar as they are not deleted following an upgrade from HP 3PAR OS 3.1.1. However, these AO configurations are not executed by regionmover and are marked as inactive.

* Following an upgrade from HP 3PAR OS 3.1.1, AO configurations remain and can be used by administrators as a reference to recreate the AO configurations on the nodes.

Reference; 3PAR System Reporter 3.1 Software Release Notes

QUESTION 27

A customer's network environment contains a third-party storage system and an HP BladeSystem with ProLiant server blades. The customer plans to migrate data to an HP StoreVirtual Storage System. The storage system must contain at least 20 TB of raw capacity. Which HP StoreVirtual Storage System should the customer deploy?

- A. HP StoreVirtual 4630
- B. HP StoreVirtual 4530
- C. HP StoreVirtual 4330
- D. HP StoreVirtual 4130

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Explanation:

4630 Capacity:

· 22.5TB Starting

· 720TB Maximum

Incorrect:

Not B: 4530 Capacity:

7.2TB Starting

230.4TB Maximum

QUESTION 28

A customer plans to migrate data from a third-party storage system to an HP 3PAR StoreServ 7200 Storage System. The new storage system must provide up to 128 disk drives. How many additional drive chassis does the customer need?

- A. Three
- B. Four
- C. Five
- D. Six

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

Explanation:

$128/24 = 5.33333$ rounded to 6.

Note:

* The 10000 system drive chassis holds up to 10 drive magazines offering 40 disk drives in a 4U enclosure. On 7000, every drive magazine holds a single disk. Drive chassis come in a 2U enclosure with 24 2½ disks and in a 4U enclosure with 24 3½ units.

QUESTION 29

A customer plans to migrate data from a third-party storage system to an HP StoreVirtual 4330FC Storage System. The new storage system must contain 7.2 TB of usable space after network RAID 10 and hardware RAID 10 are configured. How many nodes does the customer need?

- A. Three
- B. Four
- C. Six

D. Eight

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Network Raid : RAID-10

Network RAID-10 data is striped and mirrored across two storage systems. Network RAID-10 is the default data protection level assigned when creating a volume, as long as there are two or more storage systems in the cluster. Data in a volume configured with Network RAID-10 is available and preserved in the event that one storage system becomes unavailable.

Network RAID-10 is generally the best choice for applications that write to the volume frequently and don't need to tolerate multiple storage system failures. Such applications include databases, email, and server virtualization. Network RAID-10 is also good for Multi-Site SANs. Using Network RAID-10 in a Multi-Site SAN ensures that data remains available in the event that one site becomes unavailable. However, if one site does go down, the Network RAID-10 volumes are then not protected from complete system failure or reboot.

Basic Set-up : A Multi-Site SAN, with 4 HP P4330 FC nodes of 8x900 GB= 7200

Raw Capacity : 4x8x900GB = 28,8TB

Local RAID10 : 7,2 Usable

QUESTION 30

Which type of deduplication method is performed by HP StoreOnce D2D devices?

- A. object-level differencing
- B. pre-hash data encrypting
- C. metadata compressing
- D. hash-based chunking

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Explanation:

HP D2D (Disk to Disk) Backup Systems use Dynamic deduplication(hash-based chunking) technology that provides a significant price advantage over our competitors.

Note:

* HP offers two complementary deduplication technologies that meet very different customer needs:

/ Accelerated deduplication (object-level differencing) for the high-end enterprise customer who requires:

Fastest possible backup performance

Fastest restores

Most scalable solution possible in terms of performance and capacity Multi-node low-bandwidth replication

High deduplication ratios

Wide range of replication models

/ Dynamic deduplication (hash-based chunking) for the mid size enterprise and remote office customers who require:

Lower cost device through smaller RAM footprint and optimized disk usage A fully integrated deduplication appliance with lights-out operation Backup application and data type independence for maximum flexibility Wide range of replication models

Reference: Understanding the HP Data Deduplication Strategy

QUESTION 31

A customer needs to be able to recover their data in the event of a site failure. They have a strict recovery point objective for their business-critical applications. Which technique should the customer use?

- A. snapshots
- B. backups to tape
- C. backups to disk
- D. remote replication

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Need replication to get the data to a backup site.

Note:

* Recovery Point Objective (RPO) refers to the required point-in-time to which a DR solution can restore the state of data for a particular service, for example, how much data loss is acceptable following a disaster. These requirements can range from "close to zero" data loss (for high-value financial transactions, for example) to some small number of minutes of the most recent data, to loss of the past 1-2 days of data, depending on the criticality of the data to the enterprise.

QUESTION 32

A customer needs to balance storage high availability and cost to meet various service level agreements, depending on the application requirement. Which storage methodology should the customer use?

- A. storage RAID
- B. storage federation
- C. storage tiering
- D. deduplicated storage

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Tiered storage is the assignment of different categories of data to different types of storage media in order to reduce total storage cost. Categories may be based on levels of protection needed, performance requirements, frequency of use, and other considerations. Since assigning data to particular media may be an ongoing and complex activity, some vendors provide software for automatically managing the process based on a company-defined policy. As an example of tiered storage, tier 1 data (such as mission-critical, recently accessed, or top secret files) might be stored on expensive and high-quality media such as double-parity RAID5 (redundant arrays of independent disks). Tier 2 data (such as financial, seldom-used, or classified files) might be stored on less expensive media in conventional storage area networks (SANs). As the tier number increased, cheaper media could be used. Thus, tier 3 in a 3-tier system might contain event-driven, rarely used, or unclassified files on recordable compact discs (CD-Rs) or tapes.

Incorrect:

Not:

Much like vMotion in VMware environments, storage federation goes beyond the capabilities of storage virtualization. Storage federation from HP enables the online non-disruptive movement of storage volumes between arrays in a metro area. Unlike external storage virtualization appliances that add cost, complexity and downtime, storage federation from HP creates a persistent pool of capacity using native communication between system controllers.

QUESTION 33

A customer is planning to migrate data from an HP 3PAR F-200 to an HP 3PAR StoreServ 7000 Storage System. What should the customer use to migrate the data?

- A. Peer Motion
- B. Recovery Manager
- C. Online Import
- D. Remote Copy

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Explanation:

HP 3PAR Peer Motion Software is the first non-disruptive, do-it-yourself data migration tool for enterprise block storage. With Peer Motion, HP 3PAR Storage System customers can load balance I/O workloads across systems at will, perform technology refresh seamlessly, cost-optimize asset lifecycle management, and lower technology refresh capital expenditure. Unlike traditional block migration approaches, Peer Motion enables customers to migrate storage volumes between any HP 3PAR Storage Systems online, non-disruptively, and without complex planning or dependency on extra tools. Peer Motion leverages HP 3PAR Thin Built In™ technology to power the simple and rapid inline conversion of inefficient, "fat" volumes on source arrays to more efficient, higher-utilization "thin" volumes on the destination 3PAR Storage System. Peer Motion Manager is an add-on application that orchestrates all stages of the data migration lifecycle to ensure data migration is simple and fool-proof.

QUESTION 34

A customer plans to implement an HP StoreOnce B6200 Backup System. The customer has two subnets that the backup system must utilize to

communicate. What should be used to meet these requirements?

- A. DHCP for both subnets
- B. DHCP for one subnet and a static IP for the other
- C. a single network gateway for both subnets
- D. an IP address for each subnet

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

Explanation:

The HP B6200 Backup System supports only one gateway for the whole cluster. Reference; HP B6200 Backup System Recommended Configuration Guidelines

QUESTION 35

What are the benefits of migrating to an HP 3PAR StoreServ 7000?

- A. Virtualization of homogenous storage devices
- B. increased efficiency through reduced capacity requirements
- C. multi-tier storage availability in hyperscale enterprise platform
- D. federated non-disruptive data mobility between third-party systems

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 36

A customer needs a grid-based storage solution that provides Fibre Channel/iSCSI mixed volumes. Which storage system should the customer implement?

- A. HP StoreVirtual 4330 FC
- B. HP StoreVirtual 4830 FC
- C. HP StoreVirtual 4330
- D. HP StoreVirtual 4130

Correct Answer: A
Section: (none)
Explanation

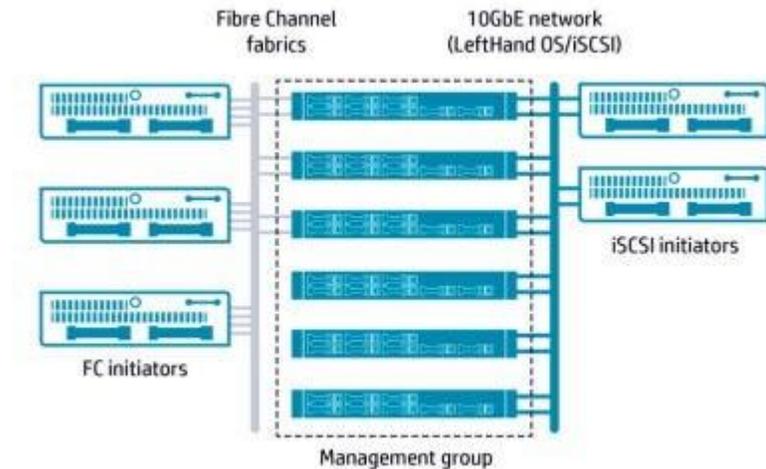
Explanation/Reference:

Explanation:

Fibre Channel connectivity is only available on HP StoreVirtual 4330 FC Storage.

Note:

* Figure 2. HP StoreVirtual 4030 FC Storage with iSCSI and Fibre Channel connectivity



QUESTION 37

A company is planning a large client Virtualization environment featuring an HP BladeSystem with ProLiant servers, HP Virtual Connect Flex-10, and HP StoreVirtual 4800 Storage Systems. Which storage advantage does this architecture provide over competitors' client Virtualization solutions?

- A. Storage traffic that enters the Virtual Connect module is prioritized automatically.
- B. Storage traffic remains within the Virtual Connect domain for better Performance.
- C. Each SAN provides dedicated storage for each hypervisor.
- D. Each SAN is its own cluster, eliminating data segmentation across multiple clusters.

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

Explanation:

HP Virtual Connect FlexFabric interconnects pair with HP FlexFabric 10Gb 2-port onboard or mezzanine based adapters and provide FlexNIC functionality with Converged Network Adapters (CNAs) capable of either iSCSI, FCoE or native Fibre Channel storage protocols. With Virtual Connect 4.00, this flexible bandwidth capability is extended further with minimum and maximum bandwidth settings configurable from within the Virtual Connect management interface. This allows you to prioritize certain types of traffic over other types if contention occurs as well as insuring that certain networks have guaranteed bandwidth.

QUESTION 38

A customer with a Fibre Channel SAN needs to ensure that in-transit data is secure through the use of device authentication and encrypted secure key exchange. Which Fibre Channel standard enables them to meet this goal?

- A. FC-PH
- B. FC-OE
- C. FC-CHAP
- D. FC-SP

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Fibre Channel Security Protocol (FC-SP) capabilities provide switch-switch and host-switch authentication to overcome security challenges for enterprise-wide fabrics.

Incorrect:

Not: FCoE (Fibre Channel over Ethernet) is a storage protocol that enable Fibre Channel communications to run directly over Ethernet. FCoE makes it possible to move Fibre Channel traffic across existing high-speed Ethernet infrastructure and converges storage and IP protocols onto a single cable transport and interface.

QUESTION 39

A customer is planning to maximize the capacity of a new HP 3PAR StoreServ 7400 Storage System. Including the base controller enclosures, what is the maximum number of disk enclosures that are supported?

- A. 5
- B. 10
- C. 20
- D. 26

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 40

A storage administrator plans to migrate data from an HP EVA4400 to an HP 3PAR StoreServ 7000 Storage System. The administrator needs to ensure that after the upgrade, in the event of a failure, hosts can access data replicated to another HP 3PAR without disruption. Which licensed option of the HP 3PAR StoreServ 7000 Storage System provides this capability?

- A. SmartStart
- B. Peer Persistence
- C. Virtual Service Processor (VSP)
- D. N_Port ID Virtualization (NPIV)

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

HP 3PAR Peer Persistence Software allows you to break the boundaries of storage, enabling your hosts, and data to move freely across data centers without impacting your business applications. It helps you in implementing a true cloud solution, where storage resources are shared across data centers, and are not constrained by their physical boundaries. Peer Persistence enables 3PAR systems located at metropolitan distances to act as peers to each other, presenting a nearly continuous storage system to hosts and servers connected to them. This capability allows customers to configure a high-availability solution between two sites or data centers where switchover and switchback remains transparent to the hosts and applications running on those hosts. This secures business continuity without impacting performance and enables load balancing putting investments at both the data centers to optimal use.

Incorrect:

Not A:

* SmartStart assisted with Windows OS installation process and integrated and optimized HP ProLiant server support software drivers, utilities and management agents, known as ProLiant Support Packs (PSPs).

* SmartStart was a single-server deployment tool that simplified HP ProLiant G7 server (and earlier) setup, providing a repeatable way to deploy consistent configurations. It was included in the HP Insight Foundation suite for ProLiant. Insight Foundation suite and SmartStart products are end-of-life (EOL) and the last servers they ship with are ProLiant G7 servers. ProLiant Gen8 servers and beyond use Intelligent Provisioning which is initiated by pressing during the server boot (POST) process.

Not C: HP 3PAR Service Processor functions as the communication interface between the customer's IP network and HP 3PAR Central by managing all service-related communications in both directions.

Not D: N_Port ID Virtualisation (NPIV) is an industry-standard Fibre Channel (FC) protocol that provides a means to assign multiple FC addresses on the same physical link.

QUESTION 41

A customer is migrating data from a third-party storage system to an HP 3PAR StoreServ 7000 Storage System. They want the new storage system to

contain 480 disk drives at minimal cost. What should the customer use?

- A. two HP 3PAR StoreServ 7200 storage systems
- B. one HP 3PAR StoreServ 7400 two-node storage system
- C. one HP 3PAR StoreServ 7400 four-node storage system
- D. one HP 3PAR StoreServ 7200 storage system

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

ARRAY MODEL ▲	MAX CONT. NODES ◆	MAX RAW CAPACITY ◆	MAX DRIVES ◆	MAX PORTS ◆	MAX DATA CACHE ◆
7200	2	250TB	144	Up to 12x8Gbps FC OR 4x8Gbps FC AND 4x10Gbps iSCSI	24GB
7400	4	864TB	480	Up to 24x8Gbps FC OR 8x8Gbps FC AND 8x10Gbps iSCSI	64GB
10400	4	800TB	960	Up to 96x8Gbps FC ports Up to 16x10Gbps iSCSI	128GB
10800	8	1600TB	1920	Up to 192x8Gbps FC ports Up to 32x10Gbps iSCSI	512GB

QUESTION 42

A company has a first-generation deduplication appliance and is considering adding an HP StoreOnce 6200 Backup System to its environment. Which benefits can this company realize by deploying an HP StoreOnce 6200 Backup System? (Select two.)

- A. can scale up to 784 TB of usable storage
- B. federated non-disruptive data mobility between third-party systems
- C. deduplicates data anywhere without the need for rehydration
- D. performance throughput of 200 TB/hour
- E. automatic failover on complet failure

Correct Answer: CE

Section: (none)

Explanation

Explanation/Reference:

Explanation:

The HP B6200 StoreOnce Backup System provides:

- * Deduplication to drive more efficient storage of data
- * Large device scalability to ensure every backup has access to devices and, so, reduce queuing time
- * In-built low bandwidth replication for cost-effective copies of data offsite as part of a Disaster Recovery plan
- * HP Autonomic failover (with appropriate ISV software) to allow backups to continue, even if a node in an HP B6200 StoreOnce Backup System fails.
- * High scalability in terms of capacity, performance and replication to ensure the system grows as your business grows.

Incorrect:

Not A: Capacity:

48TB Raw

32TB Useable

Scalable to 192 TB Raw

128 TB Useable

Not C:

* HP StoreOnce Catalyst delivers industry-leading backup speeds of up to 100TB/hour to meet shrinking backup windows.

* Transfer rate

100 TB/hr; Maximum, depending on model

QUESTION 43

A customer needs to be able to perform an instant recovery of database data files. The recovery point is one hour to enable them to have a specified point time to restore the data if the data migration fails. Which form of data replication enables the customer to achieve this goal?

- A. volume clones
- B. backups to disk
- C. asynchronous replication
- D. snapshots

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

QUESTION 44

A customer network environment has the following components:

- HP ProLiant rack-mounted servers
- Microsoft Hyper-V virtualization
- a third-party storage system

The customer plans to implement an HP 3PAR StoreServ 7000 Storage System. Which additional component does the customer need to install in order to implement this system?

- A. SmartStart server
- B. physical Service Processor
- C. Windows Server 2012
- D. virtual Service Processor

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

[QuickSpecs](#)

The HP 3PAR Service Processor monitors the HP 3PAR StoreServ 7000 and enables remote monitoring and remote servicing of the array. The key capabilities of the Service Processor is to:

- Enable rapid, proactive response to issues
- Provide a secure communication channel between the customer's data center and HP 3PAR Central for:
- Remote Online Software Upgrade; upgrade software with no application disruption
- Remote Diagnostics; key diagnostic information maintained centrally on a historical basis
- Remote Serviceability; provides fast predictive response and remediation

Each HP 3PAR StoreServ 7000 requires its own Service Processor. The Service Processor functions as the communication interface between a customer's IP network and HP 3PAR Central by managing all service-related communications. The Service Processor leverages the industry-standard HTTP over Secure Sockets Layer (HTTPS) protocol to secure and encrypt data communication.

The Service Processor can be deployed either as a virtual Service processor or a physical Service Processor. A virtual Service Processor is included free with the 3PAR Base Operating System

.If a VMware server is not available to run the virtual Service Processor, the **physical Service Processor** is the alternative choice for remote monitoring and

QUESTION 45

A customer plans to migrate data from a third-party storage system to an HP 3PAR StoreServ 7000. They have an ISP connection between two offices. The new storage system must replicate data between the offices. What should the customer implement?

- A. IP-based Remote Copy with Synchronous Replication
- B. FC-based Remote Copy with Synchronous Replication
- C. FC-based Remote Copy with Asynchronous Replication
- D. IP-based Remote Copy with Asynchronous Replication

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Reference; HP 3PAR Remote Copy 3.1.1 Software User's Guide

QUESTION 46

A customer has and HP 3PAR StoreServ 7000 that uses HP 3PAR System Reporter and Adaptive Optimization with HP 3PAR OS 3.1.1. The customer is planning an upgrade to HP 3PAR OS 3.1.2. What benefit will the customer receive after upgrading?

- A. Databases are compacted each day.
- B. System Reporter increases read performance
- C. Data samples are retrieved every hour
- D. Adaptive Optimization operations can be scheduled.

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Explanation:

What's New in the OS

HP 3PAR OS 3.1.2 enables customers to increase multi-tenant consolidation on shared infrastructure and increase agility and efficiency with several new features and enhancements. HP 3PAR OS 3.1.2 supports the new HP 3PAR StoreServ 7000 Storage.

HP 3PAR OS 3.1.2 features include the following benefits:

* Enhanced multi-tenancy and several scalability and resiliency features

* (D) Autonomic management for agility and ease of use with enhancements to Autonomic System Rebalance, Adaptive Optimization and other enhanced capabilities

* Thin Technologies for efficiency and capacity reduction with tighter integration with Windows Server 2012.

* Federated Technologies for providing online data migration with Online Import between EVA Storage and 3PAR storage.

Reference; HP 3PAR Operating System 3.1.2 GA/MU1/MU2, Release Notes

QUESTION 47

A customer needs to migrate data from a legacy storage system to an HP StoreVirtual 4000. They also need to improve their patch management policies for storage management. How can the HP StoreVirtual 4000 enhance the patch management process for this customer? (Select two.)

- A. by logging applied patch information
- B. by displaying automatic patch alert notifications
- C. by slipstreaming all patches for easy deployment
- D. by displaying all pre-qualification failures
- E. by automatically downloading and applying patches

Correct Answer: BD

Section: (none)

Explanation

Explanation/Reference:

Explanation:

HP P4000 SAN Solutions - SAN/iQ software 9.5 Patch Set 02 include:

Enhanced the Online Upgrades feature to:

- * (B) Display a notifications window in the CMC, which ensures you are notified of any updates to the system, such as patches, customer advisories, or updated release notes. The Notifications window displays automatically when the CMC is first opened.

- * Identify the type of patch (urgent, recommended, informational) in the notifications window so you can quickly determine the importance of the patch.

- * Patch availability messages on the upgrades tab, menu bar, and package selection window indicate the type of patch (urgent, recommended, optional).

- * Improve download capability by fixing the limitation of concurrent FTP connections. Increasing the number of concurrent FTP connections ensures that you can obtain updates in a timely manner and avoid connectivity issues.

D: HP P4000/StoreVirtual Patch set 04 include:

Added a check to 9.0 CMC online upgrades for any existing hardware problems in a pre-9.0 storage system during the upgrade pre-qualification tests, and ensures that the hardware passes the required tests before proceeding with the upgrade. If a hardware problem is detected, the upgrade fails with an appropriate error message and can be retried after resolving the problem.

QUESTION 48

A customer plans to implement an HP B6200 Backup System. Which benefit does mapping data types to different backup devices provide?

- A. decreased installation cost
- B. decreased recovery time
- C. increased deduplication ratio
- D. increased media utilization

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Mapping the same data type to the same device improves deduplication ratios, even if it comes from multiple media servers.

Reference; HP B6200 Backup System, Recommended Configuration Guidelines

QUESTION 49

A customer's storage environment contains the following storage systems:

- HP EVA6400 with 10 TB of storage
- HP EVA4400 with 5 TB of storage

The customer uses fully provisioned volumes on the existing storage systems. They plan to migrate data to an HP 3PAR StoreServ 7000 Storage System.

What ensures that the volumes migrated from the EVA to the StoreServ 7000 are thinly provisioned?

- A. Remote Copy
- B. Online Import
- C. Recovery Manager
- D. Peer Motion

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

EVA to 3PAR Online Import manages the migration of data from a source EVA storage system to a destination 3PAR storage system. Using EVA to 3PAR Online Import, you can migrate EVA virtual disks and host configuration information to a 3PAR destination storage system without changing host configurations or interrupting data access.

QUESTION 50

A company needs to migrate from their existing legacy storage system to a new multi-site cluster with Fibre Channel support and 10GbE ports. Which HP solution meets these requirements?

- A. HP StoreAll 9300 IB
- B. HP EVA P6500 FC/iSCSI
- C. HP StoreSure 2000
- D. HP StoreVirtual 4330 FC

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Explanation:

HP StoreVirtual 4330 FC

Host interface

- * 1 GbE iSCSI (4) Ports and
- * 10 GbE iSCSI (2) Ports and
- * 8 Gb Fibre Channel (2) Ports

QUESTION 51

A customer has several servers that use local physical storage and needs to design a solution to aggregate the storage into a single logical pool. The customer also needs to reduce complexity without investing in physical hardware. What should the customer include in the solution?

- A. HP Matrix Storage Provisioning Manager
- B. HP 3PAR StoreServ VSA
- C. HP Virtual Connect Enterprise Manager
- D. HP StoreVirtual VSA

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Combine the power of HP StoreVirtual VSA with Microsoft or VMware virtualization and get much more out of your virtualized environment. Turn a set of heterogeneous and disconnected physical disk drives in your servers and storage devices into a single pool of logical storage capacity.

Incorrect:

Not C: HP Virtual Connect Enterprise Manager (VCEM) centralizes connection management and workload mobility for HP BladeSystem servers that use Virtual Connect to access LANs, SANs and converged network infrastructures. VCEM helps organizations increase productivity, respond faster to workload and configuration changes, and reduce operating costs.

QUESTION 52

A small-business customer is planning to implement an HP 3PAR StoreServ 7000 Storage System. The customer needs to perform the installation of the new system without external assistance. Which product does HP provide to facilitate customer self-installation of the new HP 3PAR StoreServ 7000 Storage System?

- A. HP 3PAR SmartStart
- B. Windows Server 2008 R2
- C. physical Service Processor
- D. virtual Service Processor

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Explanation:

SmartStart guides you through:

- Setting up the HP 3PAR Service Processor
- Initializing the HP 3PAR StoreServ 7000 Storage system
- Configuring application hosts
- Creating basic storage
- Installing the HP 3PAR Management Console

QUESTION 53

A customer is planning to migrate their master database to a remote location. Their network uses GbE for FCIP tunneling. Which Fibre Channel switch port interface must they use?

- A. EX_Port
- B. E_Port
- C. VEX_Port
- D. VE_Port

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Explanation:

* VE_Port--Virtual E_Port used with a GbE port for FCIP tunneling

* You can configure a Fibre Channel port as an F_Port, FL_Port, E_Port, or EX_Port (Fibre Channel routing), and configure a GbE port as a VE_Port (FCIP) or VEX_Port (FCIP with Fibre Channel routing).

QUESTION 54

What is an interconnected network of independent fabric for B-Series switches?

- A. Converged storage area network (CSAN)
- B. Logical storage area network (LSAN)
- C. Virtual storage area network (VSAN)
- D. Transparent storage area network (TSAN)

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

<http://www.emcstorageinfo.com/2008/09/lsan-zonng-logical-san.html>

An LSAN is a Logical Storage Area Network that spans multiple Physical fabrics and allows specified devices from these autonomous fabrics to communicate with each other without merging the physical fabrics. In other word, A logical network that spans multiple physical fabrics. It allows specified devices from the autonomous fabric to communicate with each other using a FC router without merging the physical fabrics.

QUESTION 55

What is a main benefit of HP StoreOnce deduplication?

- A. It enables snapshots of deduplicated data to be made easily.

- B. It encrypts data to prevent corruption during the backup cycle.
- C. It optimizes storage capacity to retain more data within a disk backup device.
- D. It allows the devices that contain the data to be thinly provisioned.

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Note: Data deduplication is a specialized data compression technique for eliminating duplicate copies of repeating data.

QUESTION 56

A customer needs to migrate data to a new database environment. They need to make a physical copy of their data that can be presented to the new environment with the highest level of availability. Which form of replication should the customer use?

- A. backups to disk
- B. snapshots
- C. clones
- D. asynchronous replication

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Incorrect:

Not B: A storage snapshot is a set of reference markers, or pointers, to data stored on a disk drive, on a tape, or in a storage area network (SAN). A snapshot is something like a detailed table of contents, but it is treated by the computer as a complete data backup. Snapshots streamline access to stored data and can speed up the process of data recovery. There are two main types of storage snapshot, called the copy-on-write (or low-capacity) snapshot and the split-mirror snapshot. Utilities are available that can automatically generate either type.

QUESTION 57

A customer plans to migrate data from an HP EVA8400 Storage System to two HP 3PAR StoreServ 7400 Storage Systems. The new storage systems must be configured to support connection redundancy. How many Service Processors must the customer deploy to support the solution?

- A. One
- B. Two
- C. Three

D. Four

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 58

A company plans to migrate from a third-party storage system to an HP clustered storage solution that supports 8 Gb/s Fibre Channel ports. Which HP storage solution meets this requirement?

- A. HP StoreVirtual 4000
- B. HP 3PAR StoreServ 7000
- C. HP StoreOnce 6200
- D. HP 3PAR StoreServ 10000

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

<http://h20195.www2.hp.com/v2/GetPDF.aspx%2F4AA4-4517ENW.pdf>

Architectural considerations

HP StoreVirtual 4000 Storage offers a clustered and scale-out storage architecture at an unmatched level of high availability and management simplicity.

For mixed installations of iSCSI and Fibre Channel, and pure Fibre Channel installations, a 10Gb/s Ethernet (10GbE) network has to be in place to facilitate cluster communication. Fibre Channel ports (8Gb/s Fibre Channel) on the individual storage nodes are used for host connectivity.

QUESTION 59

A storage administrator is migrating data from a third-party storage system to an HP 3PAR StoreServ 7000 Storage System. The administrator needs to ensure that certain hosts will be managed by only specific user accounts. What should be included in the designed solution?

- A. virtual domains
- B. logical volumes
- C. common provisioning groups
- D. Active Directory integration

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Note:

* When used together with HP 3PAR Virtual Domains, Autonomic Groups allows multiple independent virtual domains to be grouped as a single logical entity to simplify storage administration while maintaining the integrity of individual virtual domains. For example, backing up an autonomic domain group actually backs up all virtual domains in the group to a single backup server while still maintaining the security and isolation associated with each individual domain.

Incorrect:

Not C: The common provisioning group (CPG) is fundamental to administration and reporting of HP 3PAR StoreServ. It allows virtual volumes to share the CPG's resources and allocate space on demand. A CPG can automatically grow its space through mapping the logical disk space.

CPGs pre-define many of the attributes a virtual volume will have when it is created. Some of these attributes include:

- RAID level (for example, RAID5, RAID6, etc.)
- RAID set size
- Physical drive type
- Drive speed
- Availability (the level of hardware fault tolerance) · Other attributes

QUESTION 60

As part of an upgrade of their existing infrastructure, a customer is considering replacing their Fibre Channel host bus adapters (HBAs) and Ethernet converged network adapters (CNAs). How can they expect to improve efficiency through this upgrade?

- A. 3:1 port consolidation
- B. path failover redundancy
- C. greater aggregate throughput
- D. cable reduction up to 75%

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Explanation:

The HP Dual Port Converged Network Adapters (CNAs) are dual port adapters that provide Ethernet, iSCSI, and Fibre Channel (FC) connectivity over 10GbE using both Fibre Channel over Ethernet (FCoE) and Converged Enhanced Ethernet (CEE) standards. By consolidating Ethernet, iSCSI, and Fibre Channel onto a converged network adapter, HP CNAs reduce the number of separate adapters and cables required for your datacenter and also reduce operational, power and cooling costs while preserving existing Ethernet and

Fibre Channel infrastructure.

QUESTION 61

A customer with multiple HP 3PAR P10000 Storage Systems needs to move data between the arrays. They need to ensure that the migration will not disrupt their applications, users, or services. Which storage method should the customer use to achieve this goal?

- A. point-in-time copies
- B. backups to disk
- C. storage federation
- D. deduplication

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Storage federation from HP enables the online non-disruptive movement of storage volumes between arrays in a metro area. Unlike external storage virtualization appliances that add cost, complexity and downtime, storage federation from HP creates a persistent pool of capacity using native communication between system controllers.

QUESTION 62

A customer plans to migrate data from an HP EVA 4400 to an HP 3PAR StoreServ 7400 Storage System. They have the following requirements:

- The new solution must enable them to perform non-disruptive software upgrades.
- The new solution must not rely on multipathing.

Which feature of the HP 3PAR StoreServ 7400 Storage System fulfills these requirements?

- A. SmartStart
- B. Virtual Service Processor (VSP)
- C. Peer Persistence
- D. Port Persistence

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

HP 3PAR Persistent Ports

Persistent Ports makes software upgrades on HP 3PAR StoreServ 7000 Storage systems and attached HBAs nondisruptive, allowing them to take place online without reliance on multipathing software and without the need to initiate failover. HP 3PAR StoreServ 7000 is the first storage array to offer this Tier 1 resiliency feature for the entire midrange.

QUESTION 63

A storage administrator manages an HP StoreVirtual 4000 Storage System that runs LeftHand OS 9.5. The administrator plans to integrate the LeftHand OS authentication by using Active Directory. What does the administrator need to do before integrating Active Directory authentication?

- A. Connect to a System Center Configuration Manager (ConfigMgr) server
- B. Configure Credential Cache
- C. Connect to a System Center Operations Manager (OpsMgr) server
- D. Upgrade to LeftHand OS 10.0.

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Whats new:

* Support for Microsoft Windows Server 2012 with LeftHand OS v10.0

* Enhanced Integration for Windows environments with Active Directory and StoreVirtual Recovery Manager. SAN administrator logins will be authenticated against Active Directory. New StoreVirtual Recovery Manager simplifies recovery of Windows files and folders, automates snapshot mounting for fast and easy recovery of data, and enables quick searching of data within snapshots.

Reference; QuickSpecs, HP StoreVirtual 4000 Storage

QUESTION 64

A company's storage infrastructure has grown dynamically, heterogeneously, and larger in scale As a result, the infrastructure is more difficult to manage. The company needs to eliminate manual, repetitive, and error-prone administrative tasks. What should the company use to achieve this goal?

- A. hierarchical storage management
- B. autonomic management
- C. storage tiering
- D. thin provisioning

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

With autonomic management, you can:

* Meet service level changes without dropping what you're doing. Policy-driven, autonomic storage tiering balances cost and performance automatically, intelligently and without manual intervention.

* Make tedious administration tasks a thing of the past. Eliminate up to 90% of the time that you currently spend doing tedious, manual storage administration tasks. 1 Eliminate array planning; provision just once for the lifetime of an application; simplify change management; and minimize the potential for human error.

* Forget about performance and capacity utilization monitoring. Autonomic storage reporting tools detect and resolve performance and utilization issues before they become problems.

* Eliminate failed backups.

HP Autonomic Restart removes any single point of failure with autonomic error detection and failover.

* Free stranded capacity to maximize storage hardware investments. Thin reclamation identifies free but unused space on an ongoing basis to keep utilization rates high over time without manual intervention.

Incorrect:

Not C: Tiered storage is the assignment of different categories of data to different types of storage media in order to reduce total storage cost.

Categories may be based on levels of protection needed, performance requirements, frequency of use, and other considerations. Since assigning data to particular media may be an ongoing and complex activity, some vendors provide software for automatically managing the process based on a company-defined policy.

QUESTION 65

For how many days after installation is an Online Import license valid?

- A. 30
- B. 60
- C. 180
- D. 365

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

Explanation:

There is a 180 day time based Peer motion shipped free, this license time starts at installation time, so if the license is enabled at the factory then it will start to tick down. The license will generate appropriate alerts once the 180 days is drawing close.

Alternatively there is a permanent license too!

QUESTION 66

A customer is planning to migrate from an HP EVA to an HP 3PAR StoreServ 7000 Storage System The customer uses disk groups on the EVA for fine-grained database management. What can the customer use to achieve fine-grained database management on the HP 3PAR StoreServ 7000?

- A. logical volumes
- B. common provisioning groups
- C. disk groups
- D. virtual volumes

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Terminology comparison between EVA and HP 3PAR StoreServ EVA P6000: Disk Group

HP 3PAR StoreServ: Common Provisioning Group (CPG)

QUESTION 67

A customer plans to migrate from a third-party legacy storage solution to an HP 3PAR StoreServ 7000. The customer needs to configure the storage system and the Service Processor. What is the minimum operating system version the customer needs to run the setup wizard?

- A. Windows Server 2003
- B. Red Hat Enterprise 6
- C. Windows Server 2012
- D. Windows Server 2008 R2

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Explanation:

SmartStart Prerequisites

- Microsoft Windows 2008 R2 Server x64 Edition or 2012 is currently running in the system · 1.0 gigahertz or higher processor
- 1 GB of installed RAM (2 GB recommended)
- CD-ROM or DVD-ROM drive
- 1280 x 1024 or better screen resolution

SmartStart Online Help is supported in the following browser versions:

- Microsoft Internet Explorer 8, 9 and 10
- Mozilla Firefox 14 through 21

To launch HP 3PAR SmartStart:

1. Insert the HP 3PAR SmartStart CD.
2. Follow the onscreen instructions to complete the installation and launch the application. Continue on to "Launching the HP 3PAR Service Processor Setup Wizard" (page 53) and launch the setup wizard.

Reference; HP 3PAR StoreServ 7000 Storage, Installation Guide

QUESTION 68

What is the primary benefit of source-side deduplication compared to target-side deduplication?

- A. Source-side deduplication allows more data to be transferred over low-bandwidth links in the network.
- B. Source-side deduplication reduces the amount of data transferred between media servers and the D2D device.
- C. Source-side deduplication isolates data so that it can be more easily streamed to tape for offsite storage.
- D. Source-side deduplication allows more data to be stored on the D2D device.

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

By enabling source-side deduplication (Dedupe 2.0), HP has the advantage of performing deduplication at the data creation point. Source-side deduplication eliminates the need for specialist deduplication hardware at remote and branch office sites. StoreOnce Catalyst allows customers to align backup with data protection needs, such as minimizing bandwidth utilization when moving data between sites or data centers.

Reference: Dedupe 2.0: What HP Has In Store(Once)

QUESTION 69

A customer plans to implement an HP StoreVirtual 4000 Storage System. Which NICs can the customer use to enable adaptive load balancing after installation? (Select two.)

- A. three 10GbE
- B. one 10GbE
- C. one 1GbE
- D. two 10GbE
- E. two 1GbE
- F. three 1GbE

Correct Answer: DE

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Bonding method supported

Supported NIC bonded configurations

		ALB	ALB	LACP	LACP	A/P	A/P
		1 Gb	10 Gb	1 Gb	10 Gb	1 Gb	10 Gb
ALB	1 Gb	Y	N				
ALB	10 Gb	N	Y				
LACP	1 Gb			Y	N		
LACP	10 Gb			N	Y		
A/P	1 Gb					Y	Y
A/P	10 Gb					Y	Y

ALB = Adaptive load balancing
 LACP = Link aggregation
 A/P = Active/Passive
 Y = Supported
 N = Not supported
 Gb = Gigabits

Note:

* Adaptive load balancing (ALB)

Uses interfaces simultaneously for data transfer (receive and transmit load balancing). If one connection fails, the remaining connection continues without disruption to the storage nodes operation or iSCSI sessions. It offers the benefits of the increased transmission rates without additional switch configuration. Interfaces in an ALB bond may be connected to different switches and therefore supports switch failover.

QUESTION 70

A customer provides their requirements for a storage solution. A consultant, using his experience and product knowledge, has designed a solution. He needs to verify that the storage design and licensing rules have been adhered to, and that the solution can be supported by HP. Which resource can provide this information?

- A. HP StorageWorks Sizing Tool
- B. HP ActiveAnswers
- C. HP Storage Solutions Design Guide
- D. HP SAN Design Validator

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Explanation:

It is recommended that the HP StorageWorks Sizing Tool (<http://www.hp.com/go/storageworks/sizer>) is used to identify the product and WAN link requirements because the required bandwidth is complex.

QUESTION 71

A small-business customer plans to implement an HP 3PAR StoreServ 7200. What must the customer consider regarding large, unexpected data growth?

- A. Additional controller nodes cannot be added to the HP StoreServ 7200.
- B. There are no HBA expansion slots in the HP StoreServ 7200.
- C. Adaptive Optimization suffers a performance impact with large data.
- D. The HP StoreServ 7200 configuration must have fewer than four drive chassis.

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Explanation:

QUESTION 72

A customer is migrating data to a storage array with 7 TB of storage capacity. They need 6 TB to be presented on this array for an existing database requirement. Which storage virtualization technology should this customer use to optimize the utilization of their available storage?

- A. block-level data compression
- B. primary storage deduplication
- C. virtual replication
- D. thin provisioning

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Thin provisioning promises higher capacity utilization rates and is a feature in most storage systems. But buyer beware--not all thin technologies are created equal. HP Converged Storage offers the most comprehensive and advanced set of thin technologies in the industry. With HP, your data center can be lean and efficient.

With HP thin technologies, you can:

- * Start thin, so you can get the most from every dollar and disk. Easily utilize 80% or more of your purchased capacity with thin provisioning, which, unlike competitive offerings, does not require pre-planning or space reservations.

- * Cut storage capacity needs in half--guaranteed.¹

Changes IT refresh cycles by providing simple data mobility across clusters or generations of storage systems without downtime.

- * Expect high efficiency and high performance--not tradeoffs. With HP 3PAR StoreServ Storage, thin technologies are embedded in hardware, so you can run all of your workloads in a thin state and still have high performance.

- * Reclaim nearly 100% of unused space.

HP's thin reclamation technology continually hunts down wasted space in fine-grained, 16k increments and returns that capacity to the system for use by other applications.

QUESTION 73

A customer is looking for a new storage system that provides storage management security for their Windows-based environment. They are considering an HP StoreVirtual 4000. Which security function does this solution provide?

- A. Active Directory support
- B. Centralized Management Console (CMC) authentication
- C. proxy server exclusion
- D. quorum alarms

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Note:

* Now available LeftHand OS version 10 software (formerly SAN/iQ) "one click" online upgrades, support for Windows 2012, Active Directory integration, proxy server support and quorum alerts.

QUESTION 74

A customer is planning to migrate data from an HP EVA4400 to an HP 3PAR StoreServ 7000 Storage System. What should the customer use to migrate the data?

- A. Recovery Manager
- B. Online Import
- C. Peer Motion
- D. Remote Copy

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

EVA to 3PAR Online Import manages the migration of data from a source EVA storage system to a destination 3PAR storage system. Using EVA to 3PAR Online Import, you can migrate EVA virtual disks and host configuration information to a 3PAR destination storage system without changing host configurations or interrupting data access.

Incorrect:

Not C: Peer Motion can be used for HP 3PAR not for HP EVA:

HP 3PAR Peer Motion Software is the first non-disruptive, do-it-yourself data migration tool for enterprise block storage. With Peer Motion, HP 3PAR Storage System customers can load balance I/O workloads across systems at will, perform technology refresh seamlessly, cost-optimize asset lifecycle management, and lower technology refresh capital expenditure. Unlike traditional block migration approaches, Peer Motion enables customers to migrate storage volumes between any HP 3PAR Storage Systems online, non-disruptively, and without complex planning or dependency on extra tools. Peer Motion leverages HP 3PAR Thin Built In™ technology to power the simple and rapid inline conversion of inefficient, "fat" volumes on source arrays to more efficient, higher-utilization "thin" volumes on the destination 3PAR Storage System. Peer Motion Manager is an add-on application that orchestrates all stages of the data migration lifecycle to ensure data migration is simple and fool-proof.

QUESTION 75

Why do customers new to virtualization need to have a SAN?

- A. It reflects that their business has grown from a small to a medium business.
- B. All their competitors have bought one.
- C. It simplifies their storage management.
- D. It provides them with support for DR/HA features.

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 76

Which HP storage product provides customer with the lowest cost shared storage solution

- A. HP StoreVirtual 4000
- B. HP StoreOnce
- C. HP EVA 6000

D. HP 3PAR StoreServ 7000

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 77

A customer's HP StoreServ 7200 Storage System has built-in disk chassis, and additional 2 drive chassis. Customer would like to add additional drives to their storage system. What is the minimum number of drives you can add to this storage system?

- A. Two
- B. Three
- C. Five
- D. Nine

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 78

How can the features of HP 3PAR Recovery Manager benefit the backup and recovery of Exchange Server databases?

- A. Auto-discovery of Exchange databases and transaction logs eliminates tedious administration activities.
- B. Single Instance Storage reduces Exchange's ability to do sequential data access, and the changes made help to provide a 70% 10 reduction.
- C. Driver and firmware updates can be managed by the user with no intervention by expensive IT staff.
- D. There is no requirement for backup windows, as HP 3PAR Recovery Manager leverages Virtual Copy snapshots for instant, non-disruptive, point-in-time capture of the database.

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Is your data protection solution causing your Exchange administrative costs to spiral out of control? HP 3PAR Recovery Manager Software for Microsoft Exchange Server eases administration by providing rapid, efficient online backup and recovery of entire Microsoft Exchange Server databases or even

individual emails from multiple, highly granular points in time. Recovery Manager intelligently creates and manages highly granular and capacity-efficient Exchange-aware snapshots.

These snapshots can then be used to quickly restore Exchange instances or databases, or to non-disruptively back them up to tape for near-continuous data protection. Since Recovery Manager is built on HP 3PAR Virtual Copy Software, scores of reservationless snapshots can be kept online economically, allowing for extended or frequent Exchange database recovery points.

QUESTION 79

Which statement describes a key benefit of HP 3PAR Thin Provisioning in Exchange environments

- A. It makes deduplication more efficient because it uses a smaller block size
- B. It enables multi-node global deduplication and reduces time o restore
- C. It automatically migrates the busiest data to the lowest performing storage and those with low activity to faster storage tiers
- D. It helps cut storage capacity requirements by 50% or more

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 80

A customer plans to migrate data from a third-party storage system to an HP StoreVirtual 4330FC Storage System. The new storage system must contain 7.2 TB of usable space after network RAID 10 configured. How many nodes does the customer need?

- A. Two
- B. Four
- C. Six
- D. Eight

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference: