

HP.Actualanswers.HP0-J64.v2013-12-09.by.Loona.87q

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Passing Score: 570
Time Limit: 115 min
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Exam Code:hpo-j64

Exam Name: Designing HP Enterprise Storage Solutions



Sections

1. HP0-J64

Block 3

QUESTION 1

On which entity is a Cyclic Redundancy Check (CRC) function performed when using the HP StoreOnce Backup System

- A. frame
- B. transferred file
- C. chunk
- D. backup job

Correct Answer: D

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Explanation

Explanation/Reference:

[page 66](#)

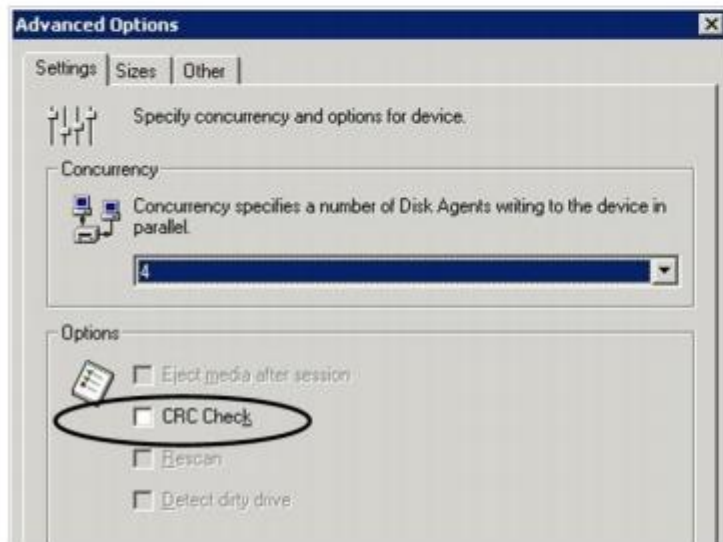
http://h20566.www2.hp.com/portal/site/hpsc/template.BINARYPORTLET/public/kb/docDisplay/resource.process/?spf_p.tpst=kbDocDisplay_ws_BI&spf_p.rid_kbDocDisplay=docDisplayResURL&javax.portlet.begCacheTok=com.vignette.cachetoken&spf_p.rst_kbDocDisplay=wsrp-resourceState%3DdocId%253Demr_na-c01116958-2%257CdocLocale%253D&javax.portlet.endCacheTok=com.vignette.cachetoken

Cyclic redundancy check (CRC)

Cyclic redundancy checking (CRC) is an enhanced checksum function. When this option is selected, CRC checksums are written to the media during backup. CRC checks allow you to verify the media after the backup. Data Protector re-calculates the CRC during a restore and compares it to the CRC on the medium. It is also used while verifying and copying the media. This option can be specified for backup, object copy, and object consolidation operations. The default value is OFF.

Figure 49 shows the default configuration parameters for Ultrium tape drives. CRC checking was OFF.

Figure 49. HP StorageWorks Ultrium 960 advanced options – CRC checking OFF



QUESTION 2

A regional market leader in direct financial services runs several call center across the United States and is opening a number of new call center in the near future. The client uses Windows XP on dedicated workstation. The IT infrastructure consists of numerous HP Proliant DL360 G5 and HP Proliant DL360 G6 servers running VMWare ESX or SUSE Linux for the database server direct-attached storage and HP Ultrium tape drives. They want to consolidate the infrastructure.

You are meeting with the IT director. Which technical benefits should you emphasize in your presentation of a new solution (Select two).

QUESTION 2-B

You have other question very similar but with and CEO

You are meeting with the **CEO**. Which technical benefits should you emphasize in your presentation of a new solution (Select two).

- A. faster time-to-market for new services
- B. decreased operational expenditure (OPEX)
- C. decreased rack space and power usage
- D. greater service margin
- E. reduce time-to provision systems

Answer 2-B

- A. faster time-to-market for new services
- E. reduce time-to provision systems

- A. faster time-to-market for new services
- B. decreased operational expenditure (OPEX)
- C. decreased rack space and power usage
- D. greater service margin
- E. reduce time-to provision systems

Correct Answer: BE

Section: HP0-J64

Explanation

Explanation/Reference:

<http://h20195.www2.hp.com/V2/GetPDF.aspx%2F4AA0-0559ENW.pdf>

Simplify your data center; make it more flexible, efficient, and less expensive to operate. Tom Joyce, GM and SVP HP Converged Systems, explains how HP Converged Infrastructure can turn your IT into a business advantage.

Remember:

CEO - Competitive business advantage; business opportunities

CFO - Cost and risk control

CIO - IT operating costs; application development backlog

Clients - User; service-level consistency or improvement

QUESTION 3

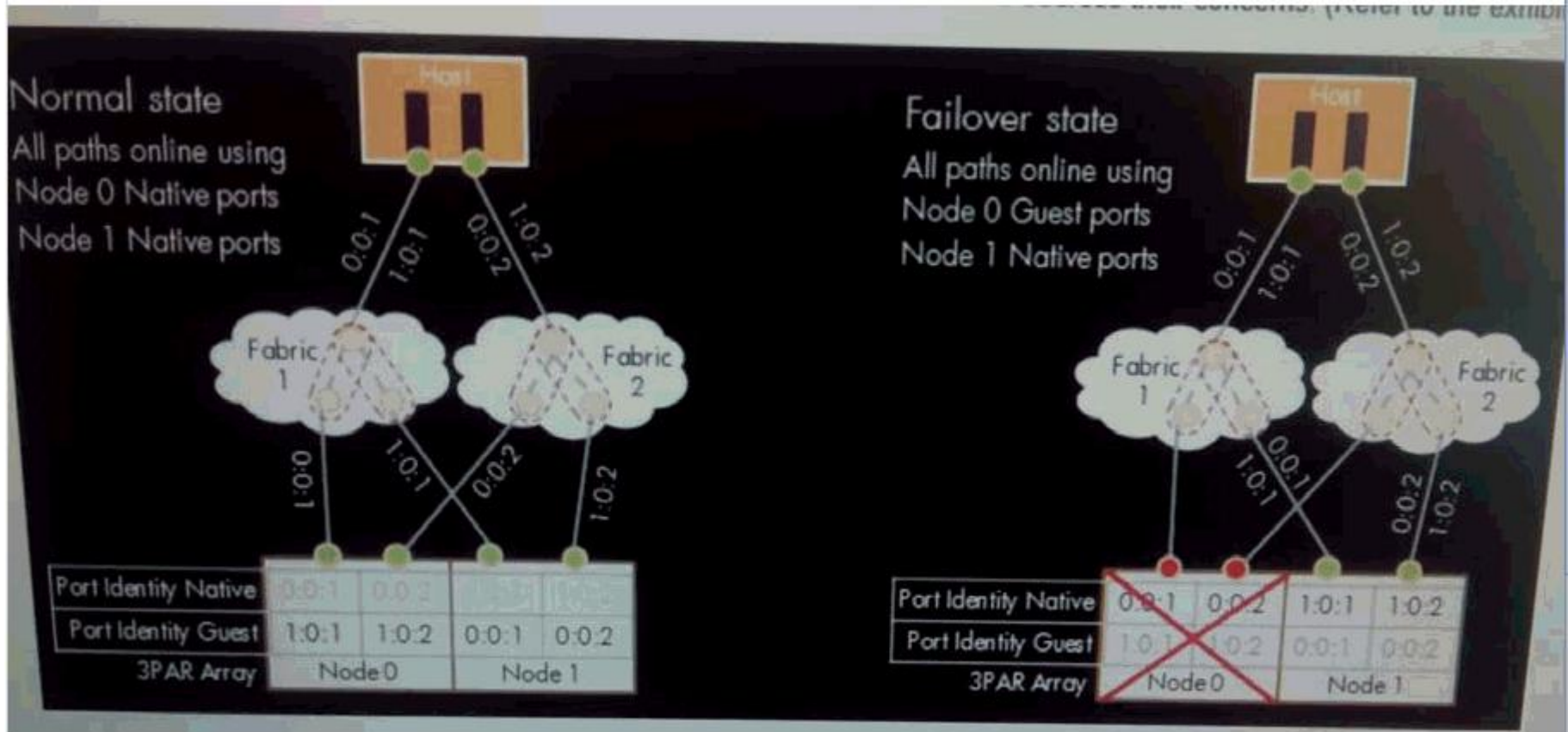
A company's Lead SAN Architect considers HP 3PAR StoreServ a Tier 2 solution due the requirement for node reboot during inform Operating System upgrades. You present the 3PAR Persistence Port feature to the customer to address their concerns (Refer to the exhibit)

Picture click bottom Exhibit

Question:

Which crucial characteristics are true about the HP 3PAR Persistence Port feature? (Select two)

Exhibit:



- A. The host MPIO software must be reset or restarted after a failover scenario to restore the correct path balance
- B. HP 3PAR Persistent Port requires additional failover zone for each node's guest World Wide Name (WWN)
- C. HP 3PAR Persistent Port will maintain connectivity during 3PAR mode upgrade or 3PAR node failure even with a single path host
- D. HP 3PAR Persistent Port requires a minimum of two paths per each World Wide Name (WWN) with additional 1:1 zones
- E. On a two node array, the HP 3PAR Persistence Port minimum setup requires each fabric switch to be physically connected equally to each in a node pair

Correct Answer: CE

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Explanation

Explanation/Reference:

<http://www8.hp.com/h20195/v2/GetPDF.aspx%2F4AA4-4545ENW.pdf>

Features and benefits: With the release of HP 3PAR OS version 3.1.2, HP has introduced new functionality called “Persistent Ports” that supports non disruptive online software upgrades and recovery from node failures, in a manner that is transparent to any FC fabric connected host accessing the HP 3PAR StoreServ.

The Server HBA ports may be zoned to only a single array Node’s port WWN or it may be zoned to both.

QUESTION 4

A customer wants to implement a new backup solution. The environment is predominantly Fibre Channel with Windows 2008, Linux hosts, and a number of HP UX host attached to a 10 GbE network. They have expressed an interest in the HP Store Once technology and its integration with HP Data Protector

- A. Catalyst integration is only support on Windows and HP UX hosts
- B. Catalyst gateway are used on the HP UX hosts
- C. Linux hosts requires Catalyst gateway
- D. Fibre Channel hosts may only use VTL emulation

Correct Answer: D

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Explanation

Explanation/Reference:

http://h20628.www2.hp.com/km-ext/kmcsdirect/emr_na-c03478346-1.pdf

<http://h20195.www2.hp.com/V2/GetPDF.aspx%2F4AA4-1776ENW.pdf>

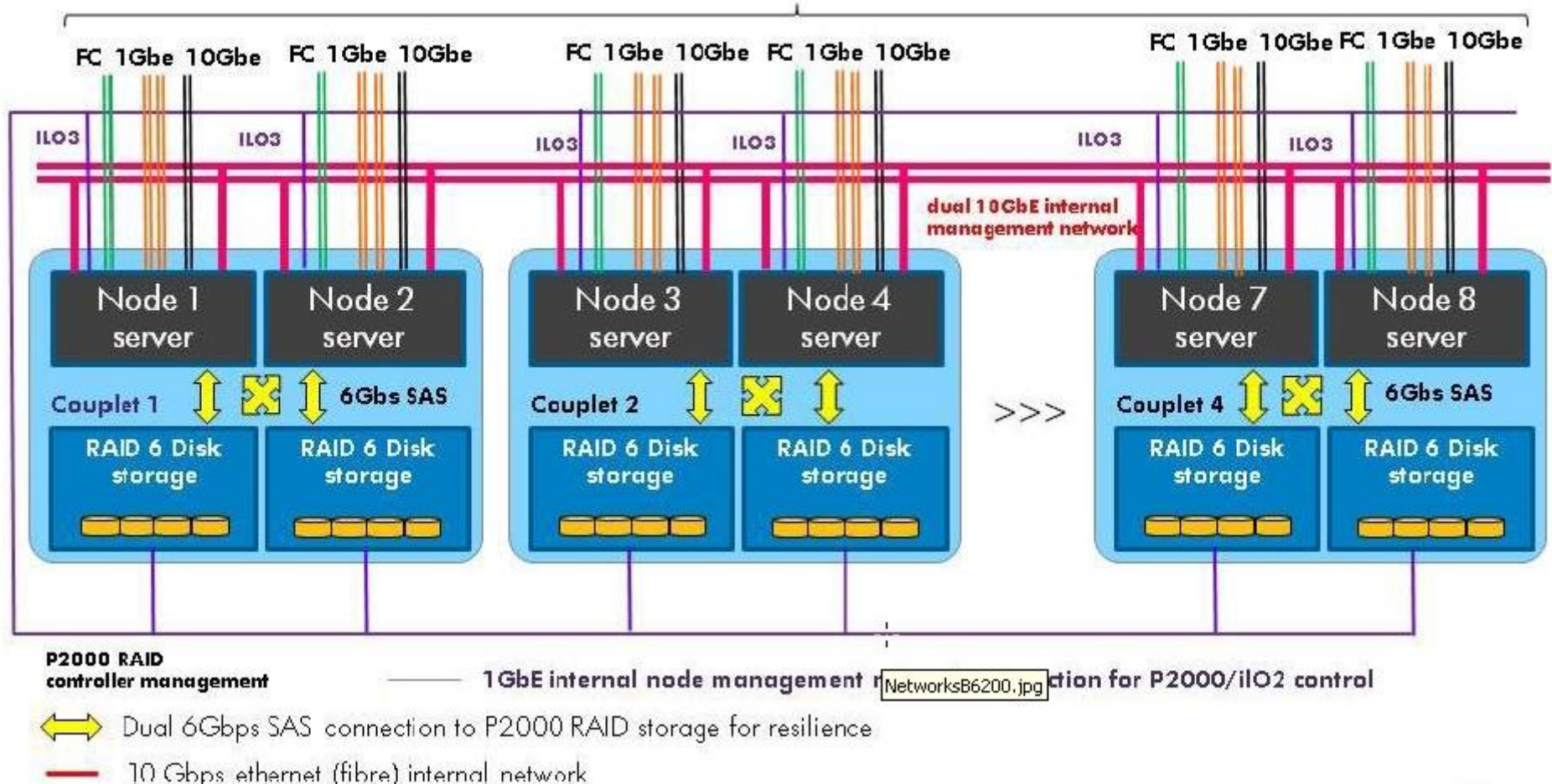
http://www.hp.com/hpinfo/newsroom/press_kits/2012/HPDiscover2012/HPSD_Discover_StoreOnce_Fact_Sheet.pdf

Comparison table of emulations; showing key features and when to use

Emulation	Key Features	Best used in	Comments
Virtual Tape	Uses virtual tape drives and virtual slots to emulate physical tape libraries	Enterprise FC SAN environment (B6200 and 4xxx series). HP StoreOnce also supports iSCSI VTL (4xxx and 2xxx series)	Tried and tested, well understood but lacks sophistication. Uses NetBackup Robot and Drives device type
NAS (CIFS/NFS shares)	NAS shares can be easily configured and viewed by the operating system	Specific environments that do not support tape emulation backup or prefer to backup directly to disk. In some cases the licensing may be lower cost for NAS shares as a backup target.	This is a NAS target for backup - not recommended for random NAS file type access. Uses NetBackup Basic Disk device type
OST with StoreOnce Catalyst	NetBackup has total control over the HP StoreOnce appliance, providing source based deduplication, replication control, improved DR etc.	Environments that require a single management console for all backup and replication activities and the ability to implement federated deduplication*	Requires HP OST 2.0 plugins to be installed on NetBackup Media servers Uses NetBackup OpenStorage device type

Each node has two 8Gb FC connections (used for VTL only), two 10GbE and four 1GbE Ethernet connections (used for NAS shares or Catalyst stores). Figure 4 illustrates these physical connections.

Resilient user connections for management/data

**QUESTION 5**

A pharmaceutical company is planning to replace their existing SAN environment with new HP 3PAR StoreServ array. They run a multi-vendor data center and need to support application running under multiple operating systems. They must support AIX, VmWare and Microsoft Windows.

10800FC-uno (exhibit):

AIX
IBM Virtualization
Apple Mac OS X
Citrix XenServer
HP-UX
HP Virtual Machine
Mainframe
MPE/iX
NetWare
NonStop OS
OpenVMS
Oracle Linux
Red Hat
Red Hat Virtualiza
SGI-IRIX
Solaris
SUSE
SLES Virtualization
Tru64 UNIX
Virtual Server
VMware
Windows 2012
Windows 2008
Windows 2003

	AIX	IBM	Ap	Cit	HP	HP	Ma	MF	Ne	Ne	Op	Or	Re	Re	SG	So
<u>10800 FC</u>	✓	✓		✓	✓							✓	✓	✓		✓
<u>10800 10Gb iSCSI</u>				✓								✓	✓	✓		✓
<u>10400 FC</u>	✓	✓		✓	✓							✓	✓	✓		✓
<u>10400 10Gb iSCSI</u>				✓								✓	✓	✓		✓
<u>7400 FC</u>				✓	✓							✓	✓	✓		✓
<u>7400 10Gb iSCSI</u>				✓								✓	✓	✓		✓

10800FC-duo (exhibit):

Explore HP 3PAR StoreServ Storage interoperability

- HP 3PAR StoreServ 10000 Storage was previously known as HP P10000 3PAR Storage System.
- Storage array models 10400 and 10800 were previously known as P10000(V400) and P10000(V800) respectively.
- HP 3PAR OS 3.1.1 was previously known as InForm OS 3.1.1.
- For Recovery Manager products (RMV, RME, RMS, RMO) and other host-based product supported configurations please refer to the 3PAR Array Software page.

AIX
IBM Virtualization
Apple Mac OS X
Citrix XenServer
HP-UX
HP Virtual Machines
Mainframe
MPE/iX
NetWare
NonStop OS
OpenVMS
Oracle Linux
Red Hat
Red Hat Virtualiza...
SGI-IRIX
Solaris
SUSE
SLES Virtualization
Tru64 UNIX
Virtual Server
VMware
Windows 2012
Windows 2008
Windows 2003
Windows XP Pro
Windows 2000

10800FC-trio (exhibit):

<u>7400 FC</u>				✓	✓							✓	✓	✓		✓	✓	✓
<u>7400 10Gb iSCSI</u>				✓								✓	✓	✓		✓	✓	✓
<u>7200 FC</u>				✓	✓							✓	✓	✓		✓	✓	✓
<u>7200 10Gb iSCSI</u>				✓								✓	✓	✓		✓	✓	✓
<u>T800 FC</u>	✓	✓		✓	✓							✓	✓	✓		✓	✓	✓
<u>T800 iSCSI</u>				✓								✓	✓	✓		✓	✓	✓
<u>T400 FC</u>	✓	✓		✓	✓							✓	✓	✓		✓	✓	✓
<u>T400 iSCSI</u>				✓								✓	✓	✓		✓	✓	✓
<u>F400 FC</u>	✓	✓		✓	✓							✓	✓	✓		✓	✓	✓
<u>F400 iSCSI</u>				✓								✓	✓	✓		✓	✓	✓
<u>F200 FC</u>	✓	✓		✓	✓							✓	✓	✓		✓	✓	✓
<u>F200 iSCSI</u>				✓								✓	✓	✓		✓	✓	✓

- A. HP StoreServ 7400 FC
- B. HP StoreServ 10800 iSCSI
- C. HP StoreServ T400 iSCSI
- D. HP StoreServ 108000 FC

Correct Answer: A

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Explanation

Explanation/Reference:

	AIX	IBM Virtualization	Apple Mac OS X	Citrix XenServer	HP-UX	HP Virtual Machines	Mainframe	MPE/iX	NetWare	NonStop OS	OpenVMS	Oracle Linux	Red Hat	Red Hat Virtualization	SGI-IRIX	Solaris	SUSE	SLES Virtualization	Tru64 Unix	Ubuntu	Virtual Server	VMware	Windows 2012	Windows 2008	Windows 2003	Windows XP Pro	Windows 2000	Windows NT 4.0
10800 FC	✓	✓		✓	✓						✓	✓	✓	✓		✓	✓	✓				✓	✓	✓	✓			
10800 10Gb FCoE													✓									✓						
10800 10Gb iSCSI				✓								✓	✓	✓		✓	✓	✓		✓		✓	✓	✓	✓			
10400 FC	✓	✓		✓	✓						✓	✓	✓	✓		✓	✓	✓				✓	✓	✓	✓			
10400 10Gb FCoE													✓									✓						
10400 10Gb iSCSI				✓								✓	✓	✓		✓	✓	✓		✓		✓	✓	✓	✓			
7450 FC	✓	✓		✓	✓						✓	✓	✓	✓		✓	✓	✓				✓	✓	✓	✓			
7450 10Gb FCoE													✓									✓						
7450 10Gb iSCSI				✓								✓	✓	✓		✓	✓	✓		✓		✓	✓	✓	✓			
7400 FC	✓	✓		✓	✓						✓	✓	✓	✓		✓	✓	✓				✓	✓	✓	✓			
7400 10Gb FCoE													✓									✓						
7400 10Gb iSCSI				✓								✓	✓	✓		✓	✓	✓		✓		✓	✓	✓	✓			
7200 FC	✓	✓		✓	✓						✓	✓	✓	✓		✓	✓	✓				✓	✓	✓	✓			
7200 10Gb FCoE													✓									✓						
7200 10Gb iSCSI				✓								✓	✓	✓		✓	✓	✓		✓		✓	✓	✓	✓			
T800 FC	✓	✓		✓	✓							✓	✓	✓		✓	✓	✓				✓	✓	✓	✓			
T800 iSCSI				✓								✓	✓	✓		✓	✓	✓				✓	✓	✓	✓			
T400 FC	✓	✓		✓	✓							✓	✓	✓		✓	✓	✓				✓	✓	✓	✓			
T400 iSCSI				✓								✓	✓	✓		✓	✓	✓				✓	✓	✓	✓			
F400 FC	✓	✓		✓	✓							✓	✓	✓		✓	✓	✓				✓	✓	✓	✓			
F400 iSCSI				✓								✓	✓	✓		✓	✓	✓				✓	✓	✓	✓			
F200 FC	✓	✓		✓	✓							✓	✓	✓		✓	✓	✓				✓	✓	✓	✓			
F200 iSCSI				✓								✓	✓	✓		✓	✓	✓				✓	✓	✓	✓			

QUESTION 6

Which HP 3PAR InForm Operating System feature allows you to create point-in-time clones with independent service-level parameters?

- A. Virtual Copy
- B. Smart Copy
- C. Remote Copy
- D. Full Copy

Correct Answer: D

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Explanation

Explanation/Reference:

<http://www8.hp.com/us/en/products/storage-software/product-detail.html?oid=5044394#!tab=features>

Data Protection and Copy Space Reclamation Features Improve Capacity Utilization

HP 3PAR RAID MP (Multi-Parity) uses Fast RAID 6 and the accelerated performance of the HP 3PAR ASIC to prevent data loss as a result of double disk failures. Performance levels are maintained within 15% of RAID 10 and with capacity overheads comparable to popular RAID 5 modes.

HP 3PAR Full Copy is an HP 3PAR Operating System Software feature that allows you to create thin-aware, point-in-time clones with independent service level parameters which can be rapidly resynchronized with base volumes as needed.

HP 3PAR Thin Copy Reclamation feature keeps your storage lean and efficient by reclaiming unused space resulting from the deletion of virtual copy snapshots associated with virtual copy and remote copy volumes.

QUESTION 7

A company is experiencing performance issues on their four node HP StoreServ 10800 configured with 256 x 300 GB Fibre Channel drives. A System Reporter analysis reveals that single tier of Fibre Channel storage is under a lot of I/O pressure from an explosion of VMware servers running high I/O messaging applications used to track package routes daily in an Oracle database.

There are 40 x 50 GB thin provisioned volumes that make up 90 % of mostly read I/O activity during regular business hours. The customer is upset and need a solution to quickly increase performance for these critical applications.

Which solution should you propose to cost-effectively resolve this issue?

- A. Upgrade with 256 additional 300 GB drives and Adaptive Optimization to automatically move high I/O volume regions to a Raid 10 CPG for better I/O performance
- B. Utilize Peer Motion to non-disruptively move the offending work load to an SSD optimized HP 3PAR StoreServ array
- C. Upgrade with 32 x 100GB SSD drives and Adaptive Optimization configured for performance-based placement in two storage tiers.
- D. Upgrade with 2 additional nodes and double host-facing Fibre Channels ports to archive better I/O caching across all array nodes when accessing small volumes.

Correct Answer: C

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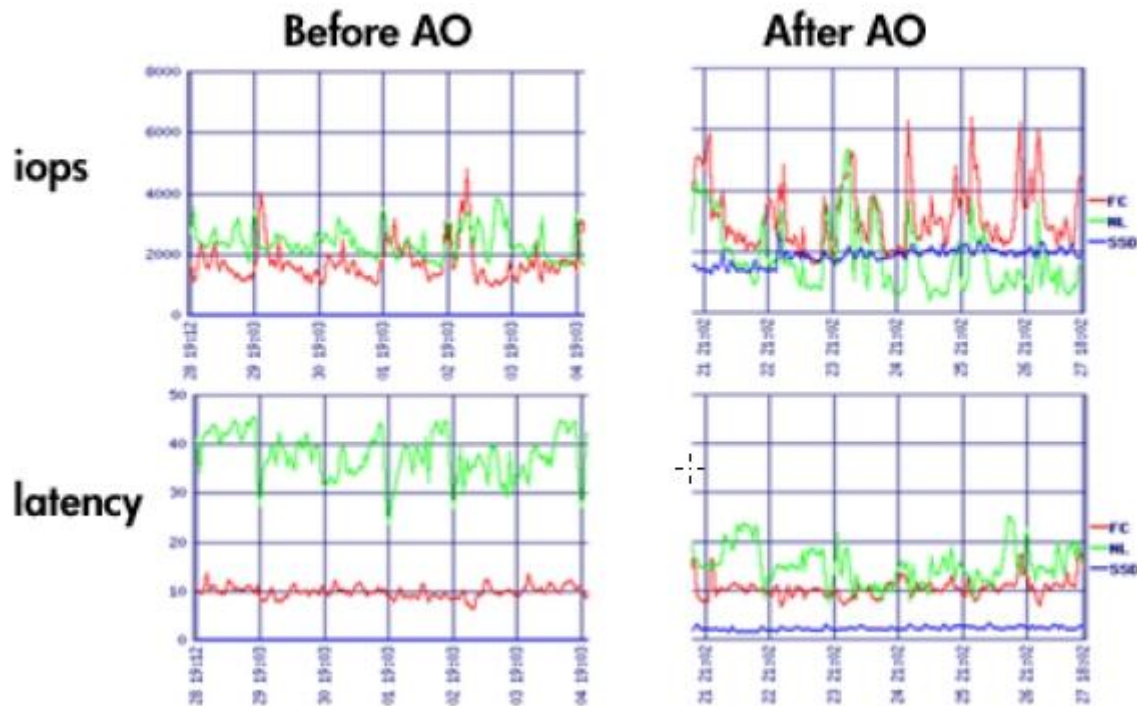
Explanation

Explanation/Reference:

Customer case study

This section describes the real benefits that a customer derived from using HP 3PAR Adaptive Optimization. The customer had a system with 96 300 GB 15k rpm FC drives and 48 1 TB 7.2k rpm NL drives. The customer had 52 physical servers connected and running VMware with more than 250 VMs. The workload was mixed (development and QA, databases, file servers) and they needed more space to accommodate many more VMs that were scheduled to be moved onto the array. However, they faced a performance issue: they had difficulty managing their two tiers (FC and NL) in a way that kept the busier workloads on their FC disks. Even though the NL disks had substantially less performance capability (because there were fewer NL disks and they were much slower), they had larger overall capacity. As a result, more workloads were allocated to them and they tended to be busier while incurring long latencies. The customer considered two options: either they would purchase additional 96 FC drives, or they would purchase additional 48 NL drives and 16 SSD drives and use HP 3PAR Adaptive Optimization to migrate busy regions onto the SSD drives. They chose the latter and were pleased with the results (illustrated in Figure 7).

Figure 7. Improved performance after adaptive optimization



Before HP 3PAR Adaptive Optimization as described in the charts—and even though there are fewer NL drives—they incur greater IOPS load than the FC drives in aggregate and consequently have very poor latency (~40 ms) compared with the FC drives (~10 ms). After HP 3PAR Adaptive Optimization has executed for a little while, as shown in the charts on the right, the IOPS load for the NL drives has dropped substantially and has been transferred mostly to the SSD drives. 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.

<http://h20195.www2.hp.com/V2/GetPDF.aspx%2F4AA4-0867ENW.pdf>

QUESTION 8

A pharmaceutical company is planning to replace their existing SAN storage platform with new HP 3PAR StoreServ array. They tell you that they have a

very mixed environment, but have no inventory or diagram of the existing environment. Which tool gathers information to determine compatibility of your proposed array?

- A. HP Configuration Collector
- B. HP SAN Designer
- C. HP System Reporter
- D. HP SAN Visibility

Correct Answer: D

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Explanation

Explanation/Reference:

HP SAN Visibility

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

<http://h18006.www1.hp.com/storage/networking/sansolutions.html>

HP SAN Designer

SAN Designer is a powerful application to help you design a customized SAN. Configure and design your SAN based on the following attributes: performance, cost, and future growth requirements. SAN Designer helps you select the fabric characteristics as well as the SAN elements allowing for a complete SAN Design. The reporting feature of SAN Designer generates topology diagrams, required SAN components, and additional recommendations for your SAN Design. SAN Designer is a complementary software utility for HP customers and runs on a Windows desktop or laptop.

<http://h18006.www1.hp.com/storage/networking/sandesigner.html>

QUESTION 9

Which HP 3PAR InForm Operating System feature provides the ability to analyze how volumes on the array are using physical disk space and makes intelligent adjustments to maintain optimal volume distribution when new hardware is added to the system?

- A. HP 3PAR Peer Motion
- B. HP 3PAR Autonomic Rebalance
- C. HP 3PAR Adaptive Optimization

D. HP 3PAR System Reporter

Correct Answer: B

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Explanation

Explanation/Reference:

HP 3PAR Autonomic Rebalance

HP 3PAR Autonomic Rebalance optimizes the use of future capacity expansions without requiring administrator intervention. It analyzes how volumes on the HP 3PAR Storage System are using physical disk space and makes intelligent, autonomic adjustments to ensure optimal volume distribution when new hardware is added to the system.

HP 3PAR Adaptive Optimization Software is a granular, policy-driven, autonomic storage tiering software solution. It delivers service level optimization for enterprises and cloud data centers and helps reduce cost, while increasing agility and minimizing risk.

HP 3PAR System Reporter Do you need to gather and track historical system information for your HP 3PAR Storage Systems? HP 3PAR System Reporter Software is a flexible, intuitive, web-based performance and capacity management tool that aggregates fine-grained performance and capacity usage data for HP 3PAR Storage Systems, regardless of location. The highly customizable, robust reporting offers straightforward report sharing and report scheduling which simplifies performance monitoring and assists in gathering data for optimization and planning. System Reporter enables quick troubleshooting and isolation of performance issues minimizing business impact. System Reporter proves particularly useful for service providers and enterprises about detailed information for service level administration. The ability to create reports by user group supports charge back and meeting service level agreements. Works with HP 3PAR Adaptive Optimization Software to enable policy management of autonomic storage tiering resources.

QUESTION 10

Your city government customer has been using HP EVA 6400s for the last three years. While the arrays have performed fairly well and the city particularly likes the ease of management, they have found several situations where the arrays were lacking in functionality. To support multiple organizations within the city government, they have had to utilize multiple arrays to ensure separation of management and data access. The city also had some issues handling their utility billing and VMware environment in a single array and added a separate array to ensure adequate performance.

- A. HP StoreVirtual.
- B. HP StoreAll
- C. HP P9500
- D. HP 3PAR StoreServ

Correct Answer: D

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Explanation

Explanation/Reference:

StoreServ and HP 3PAR can start small and grow affordably and non-disruptively with multi-tenant and federated, efficient reduce acquisition and

operational costs by 50% and autonomous save up to 90% of administrator time.

Help for novice storage users in a Windows, VMware or Linux environments for self-installation.

QUESTION 11

A company is replacing their outdated storage environment with an HP 3PAR StoreServ 7000 at the primary site and also in their co-location facility. These HP 3PAR 7000 Software Suites are included on the proposed package:

- HP 3PAR 7000 Operating System Software Suite
- HP 3PAR 7000 Reporting Software Suite
- HP 3PAR 7000 Application Software Suite for VMware
- HP 3PAR 7000 Replication Software Suite

What can be accomplished with the proposed software solution (Select two)

QUESTION 11-B

You have other question very similar but the customer have

- HP 3PAR 7000 Operating System Software Suite
- HP 3PAR 7000 Reporting Software Suite
- HP 3PAR 7000 **Application Software Suite for Oracle**
- HP 3PAR 7000 Replication Software Suite

- A.- taking a time-consistent snapshot of their Oracle volumes every 4 hours to protect against
- B.- reduction in the amount of physical storage needed with the uses of thin technologies
- C.- autonomous storage tiring as their image files become dated
- D.- replication of all critical data to the co-location site for disaster recovery
- E.- frozen, point-in-time copies of employee data for compliance

Answer 11-B

- D. replication of all critical data to the co-location site for disaster recovery
- E. frozen, point-in-time copies of employee data for compliance

- A. taking a time-consistent snapshot of their Oracle volumes every 4 hours to protect against
- B. reduction in the amount of physical storage needed with the uses of thin technologies
- C. autonomous storage tiring as their image files become dated

- D. replication of all critical data to the co-location site for disaster recovery
- E. frozen, point-in-time copies of employee data for compliance

Correct Answer: AE

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Explanation

Explanation/Reference:

http://www.hp.com/hpinfo/newsroom/press_kits/2012/HPDiscoverFrankfurt2012/3PAR7000_Op_System_DS.pdf

Software suites for HP 3PAR StoreServ 7000 Storage

HP 3PAR Operating System Software Suite: (Option B)

Required for all new HP 3PAR StoreServ 7000 systems, this foundational software suite gives you everything you need to get up and running quickly and efficiently. **This suite includes the HP 3PAR Operating System, Management Console, Host Explorer, and SmartStart** software designed to get you off to a quick start with your new HP 3PAR StoreServ 7000 system. It also includes all of the platform's thin software offerings **Thin Provisioning, Thin Conversion, and Thin Persistence**. Other highlights of this suite include **Full Copy, autonomic rebalancing capabilities** that help you optimize the use of future capacity expansions, and support for **standard multi pathing software** for high availability in clustered environments. A **180-day license for online import is included to enable migration from HP EVA storage**

This optional suite bundles:

HP 3PAR Replication Software Suite (Proposed package)

This optional suite bundles HP 3PAR Virtual Copy with Remote Copy Software, both also sold separately for all HP 3PAR StoreServ 7000 models. Included in this bundle is Peer Persistence, which enables peer federation for VMware clusters to improve overall availability. Licensed based on system capacity

HP 3PAR Reporting Software Suite (Proposed package)

Enhance system visibility and reporting capabilities with this optional suite, which includes HP 3PAR System Reporter Software and the 3PARInfo application, licensed on a per-system basis

HP 3PAR Application Software Suite for VMware (Proposed package)

Everything you need to make your VMware environment more agile and efficient including HP 3PAR Recovery Manager for VMware, Host Explorer for VMware, VASA support, and three essential plug-ins: the VMware Site Replication Manager (SRM) Adapter, the HP 3PAR VAAI plug-in, and the 3PAR management plug-in for VMware View. This suite is optional and licensed on a per-system basis

HP 3PAR Data Optimization Software Suite

HP 3PAR Security Software Suite (option E)

HP 3PAR Application Software Suite for Exchange

HP 3PAR Application Software Suite for Oracle (option A)

HP 3PAR Application Software Suite for SQL

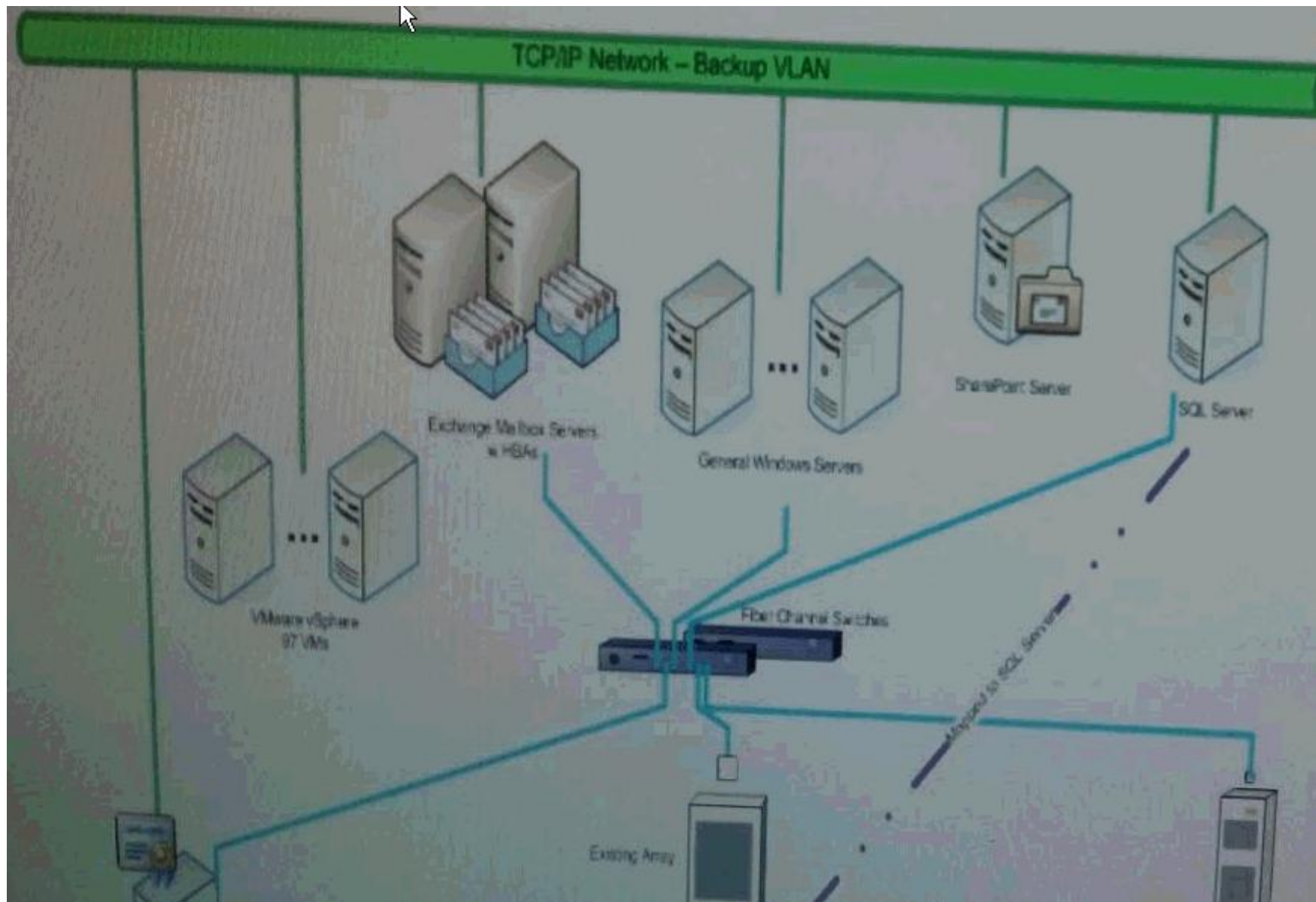
QUESTION 12

Your customer wants to do a refresh on their storage environment. They have given you a drawing to show the existing environment and told you the following:

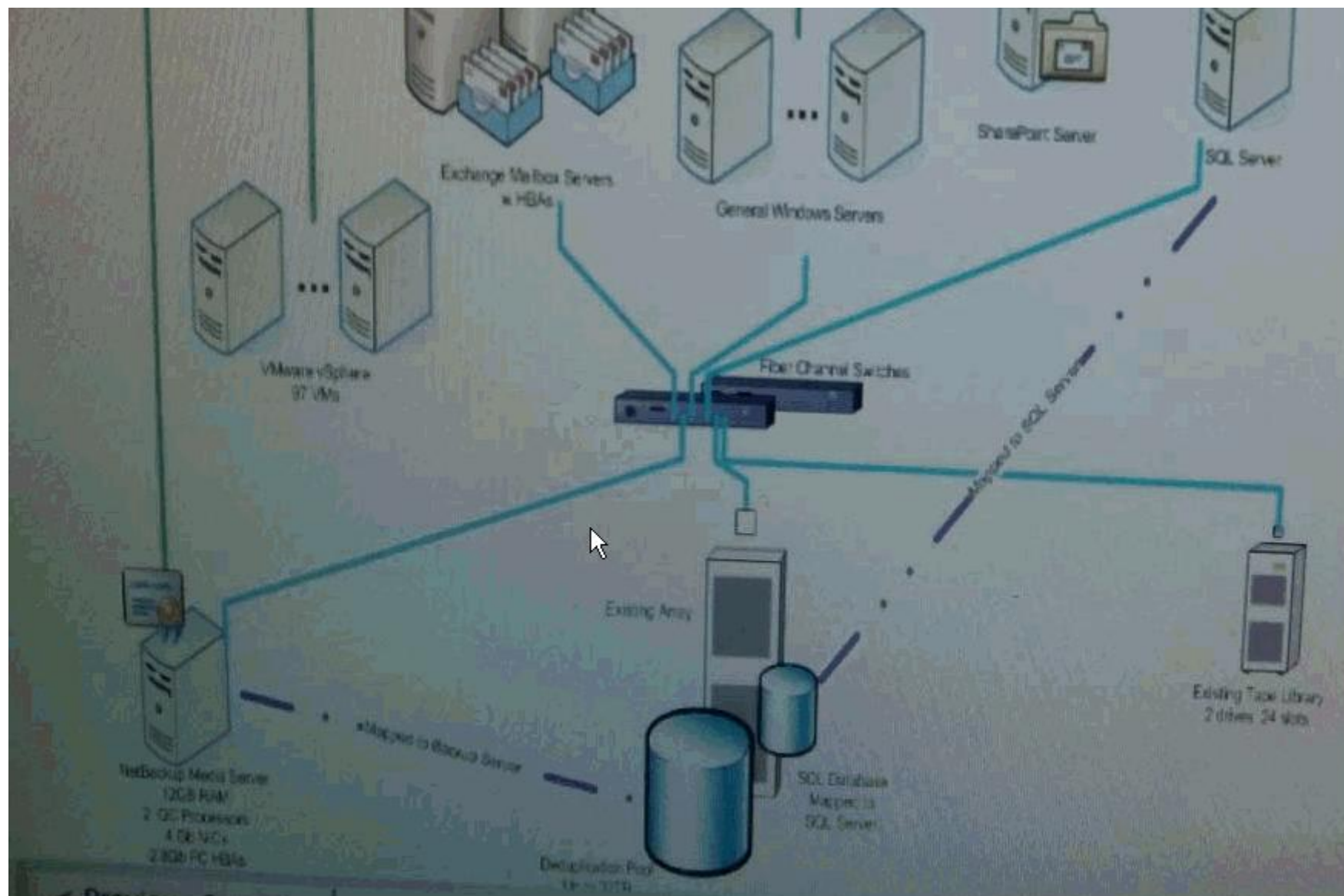
- Their preferred SAN fabric is Fibre Channel-based and the switches are only a year old.
- They want to purchase a single block storage solution that services all applications.
- The NetBackup deduplication pool has provide to be an expensive option, and a new backup target is required
- Budget is limited

Which HP Storage product should you prepare to discuss in your initial meeting with this customer (Select two)

question12-a (exhibit):



question12-b (exhibit):



- A. HP StoreEasy 3830 Storage
- B. HP StorageVirtual 4330 Storage
- C. HP StoreOnce B6200 Backup

- D. HP StoreOnce 2620 Backup
- E. HP StoreServ 7400 Storage
- F. HP StoreOnce 4430 Backup

Correct Answer: CF

Section: HP0-J64

Explanation

Explanation/Reference:

HP StoreOnce <http://www8.hp.com/us/en/products/data-storage/data-storage-products.html?compURI=1225909#.UpU3-dK8D6A>

Their preferred SAN fabric is Fibre Channel-based and the switches are only a year old

\$ HP StoreOnce 2620 Backup ((iSCSI Connectivity)

\$\$ HP StoreOnce 4000 Backup (FC Connectivity and iSCSI Connectivity)

\$\$\$ HP StoreOnce B6200 Backup ((FC Connectivity)

HP StoreOnce and StoreEver Enterprise Backup Solutions (EBS) Hardware/Software Compatibility Matrix

- They want to purchase a single block storage solution that services all applications. (Question)
- and a new backup target is required (Question)

HP StoreServ is not technology backup but StorageArray

\$ HP StoreEasy 3830 Storage (FC Connectivity and iSCSI Connectivity)

http://h18004.www1.hp.com/products/quickspecs/14435_na/14435_na.pdf

\$\$ HP StorageVirtual 4330 Storage (FC Connectivity and iSCSI Connectivity)

<http://www8.hp.com/pt/pt/products/disk-storage/product-detail.html?oid=5335854#!tab=specs>

\$\$\$ HP StoreServ 7400 Storage (FC Connectivity and iSCSI Connectivity)

http://h18000.www1.hp.com/products/quickspecs/14433_div/14433_div.pdf

QUESTION 13

Which field should you change to increase useable capacity and still meet the remaining requirements?

question13-a (exhibit):

Refer to the exhibit.

HP StoreServ 7000 Calculator #1

Hardware Configuration Selections and Calculator Options

Array Type:

Location/Site: Sparing Policy:

Model Choice:

Recommended:

User Workload Definition

Add Requirement By:

Enter the number of disks: Disks

Disk Type:

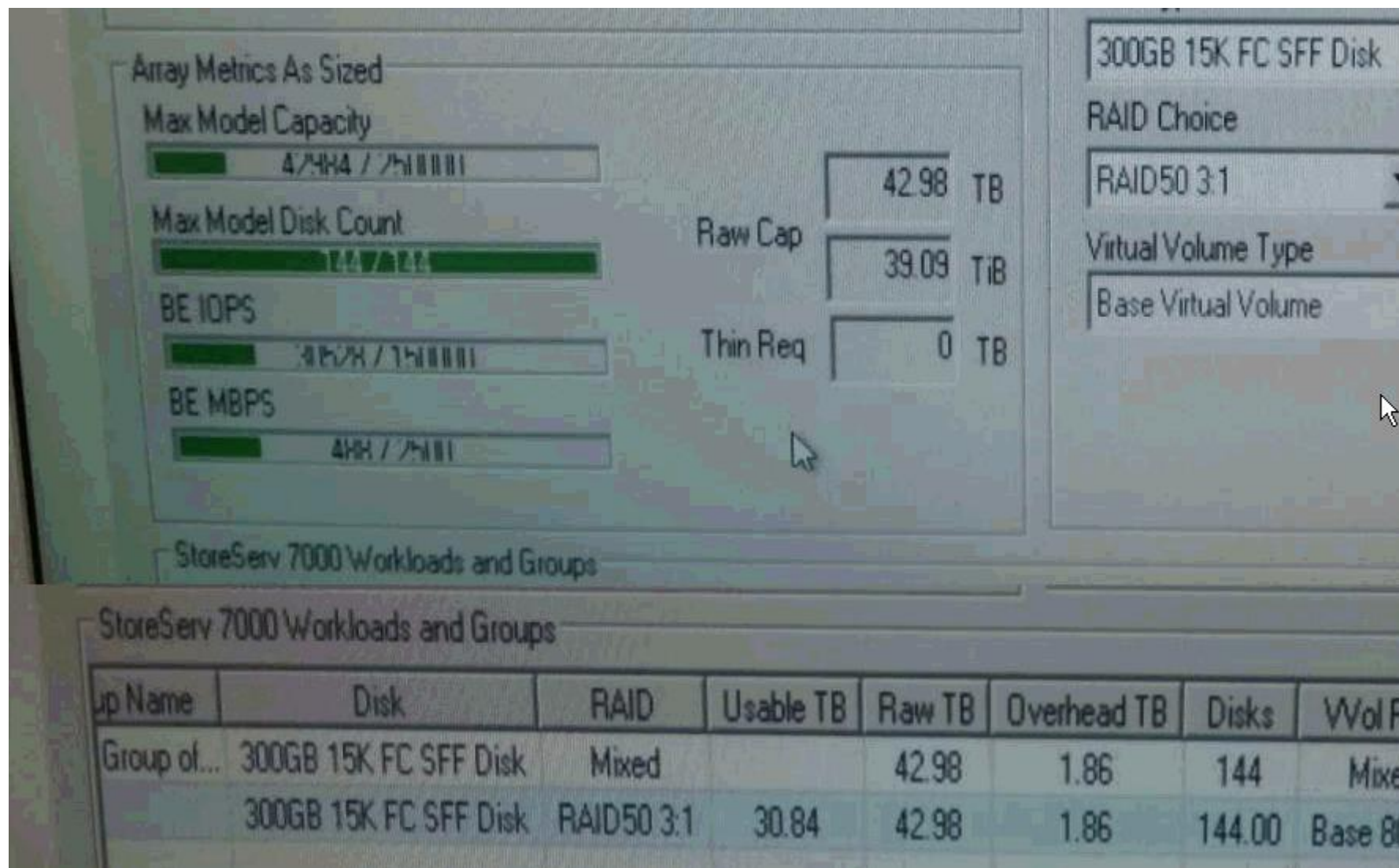
RAID Choice:

Array Metrics As Sized

Max Model Capacity: TB

Max Model Disk Count:

question13-b (exhibit):



- A. Read %
- B. Raid choice
- C. Number of disk
- D. Disk type

Correct Answer: B

Section: HP0-J64

Explanation

Explanation/Reference:

https://roianalyst.alinean.com/ent_02/AutoLogin.do?d=11840239389855150

Possible Raid Choice, or Number of disk

95% Raid Choice

QUESTION 14

You have Proposed HP 3PAR StoreServ thin provisioning capability to achieve a 40% reduction in raw storage requirements. The customer considers all storage vendors thin provisioning equal.

What are the competitive differentiators of HP 3PAR StoreServ thin provisioning? (Select two)

- A. fills empty volume space with zeros for space reclaim identification
- B. does not require resource pools
- C. provides equivalent performance to a normally provisioned volume
- D. features dynamic RAID level conversion based on peak write demand statistic to maintain performance
- E. automatically converts fully provisioned volumes to thin volumes

Correct Answer: AC

Section: HP0-J64

Explanation

Explanation/Reference:

-
- **Start Thin:** HP 3PAR Thin Provisioning is the most comprehensive thin provisioning software solution available. Since its introduction in 2002, 3PAR Thin Provisioning has become widely considered the gold standard in thin provisioning. It leverages HP 3PAR's dedicate-on-write capabilities to make organizations more efficient and more green, allowing them to purchase only the disk capacity they actually need and only as they actually need it.
 - **Get Thin:** With HP 3PAR Thin Conversion, a technology refresh no longer requires a terabyte-for-terabyte replacement, but instead offers the opportunity to eliminate up to 75% of your legacy capacity, simply and rapidly. This savings alone can save up to 60% on the cost of a technology refresh. HP 3PAR Thin Conversion software makes this possible by leveraging the zero-detection capabilities within the HP 3PAR ASIC and Thin Engine - HP 3PAR's unique virtualization mapping engine for space reclamation - to power the simple and rapid conversion of inefficient, "fat" volumes on legacy arrays to more efficient, higher-utilization "thin" volumes on any HP 3PAR Storage System featuring Thin Built In™.
 - **Stay Thin:** With 3PAR Thin Persistence, customers can now leverage next-generation space reclamation technology to minimize storage TCO and maintain environmental responsibility targets they have worked so hard to achieve.

QUESTION 15

The Converged Infrastructure Architect of small aviation firm issued an RFP to three vendors for a new Greenfield virtualization infrastructure. The RFP has the following design criteria:

- 8 blades x86 virtualization server, 2 x 6 core Westmere Processor, 128 GB of RAM
- vCenter Server or physical host, 1 x 6 core, 16Gb of RAM, MS Windows 2008 R2 license
- license for vSphere five for each server
- scale-out-style, iSCSI-based storage, approximately 100 TB usable
- CIFS access required for a third-party application that is on four physical hosts
- 7x24 /4-hour response support - capacity to support host and storage 10 Gb Ethernet connectivity

Which products satisfy the design requirements?

- A. HP StoreSure 2000FC array + HP StoreEasy 3830 Gateway Storage
- B. HP StoreVirtual VSA Software + HP StoreEasy 3830 Gateway Storage
- C. HP StoreVirtual 4330 array + HP StoreEasy 3830 Gateway Storage
- D. HP StoreSure 2000FC array + HP StoreAll 9300 Gateway Storage

Correct Answer: A

Section: HP0-J64

Explanation

Explanation/Reference:
request for proposal (RFP)

Capacity to support host and storage 10 Gb Ethernet connectivity:

HP StoreVirtual VSA Software + HP StoreEasy 3830 Gateway Storage
HP StoreVirtual 4330 array 1 GbE iSCSI (4) Ports Optional upgrade to 10GbE iSCSI (2) Ports
HP StoreSure 2000FC array: Fibre Channel, Combo FC/iSCSI, 6Gb SAS, and 1Gb or 10GbE iSCSI systems
HP StoreAll 9300 Gateway Storage, 4 1GbE ports and choice between 2 10GbE or 2 IB ports for customer data network.

iSCSI-based storage, approximately 100 TB usable:

HP StoreVirtual 4330 array: Capacity 2.4TB Starting and 1152TB Maximum, Drive description (720) SFF SAS or (256) SFF MDL SAS or (1152) LFF MDL SAS.

HP StoreVirtual VSA Software: HP StoreVirtual VSA now featuring adaptive optimization with sub-volume tiering automation to optimize performance and cost for dynamic workloads plus flexible product offerings ranging from 4-to-50 TB capacity

StoreAll 9300 Gateway Storage: (Not support StoreSure 2000FC) Storage expansion options: Attach to HP 3PAR StoreServ, EVA or XP arrays

Storage Capacity : 7.2TB raw capacity (5.7TB after RAID) with 24 300GB Enterprise SAS 10K SFF drives, 21.6TB raw capacity (17.1TB after RAID) with 24 900GB Enterprise SAS 10K SFF drives, 48TB raw capacity (32TB after RAID) with 24 2TB Midline SAS 7.2K LFF drives, 72TB raw capacity (48TB after RAID) with 24 3TB Midline SAS 7.2K LFF drives and Expansion Capacity Block storage capacity of 7.5TB raw capacity (6TB after RAID) with 25 300GB Enterprise SAS 10K SFF drives, 22.5TB raw capacity (18TB after RAID) with 25 900GB Enterprise SAS 10K SFF drives, 48TB raw capacity (32TB after RAID) with 24 2TB Midline SAS 7.2K LFF drives ,72TB raw capacity (48TB after RAID) with 24 3TB Midline SAS 7.2K LFF drives

HP StoreEasy 3830 Gateway Storage:

Storage expansion options: Attach to 3PAR StorServ, EVA P6000, P9000 or P2000 arrays. Compatible operating systems: Microsoft Windows (CIFS), Linux, UNIX, VMware.

HP StoreSure 2000FC array: Modular Smart Array (MSA) solutions 2312fc, 2324, and P2000 and focuses on implementing and managing an MSA SAN solution. iSCSI-based storage, Capacidade 384TB Maximum Including expansion, depending on model

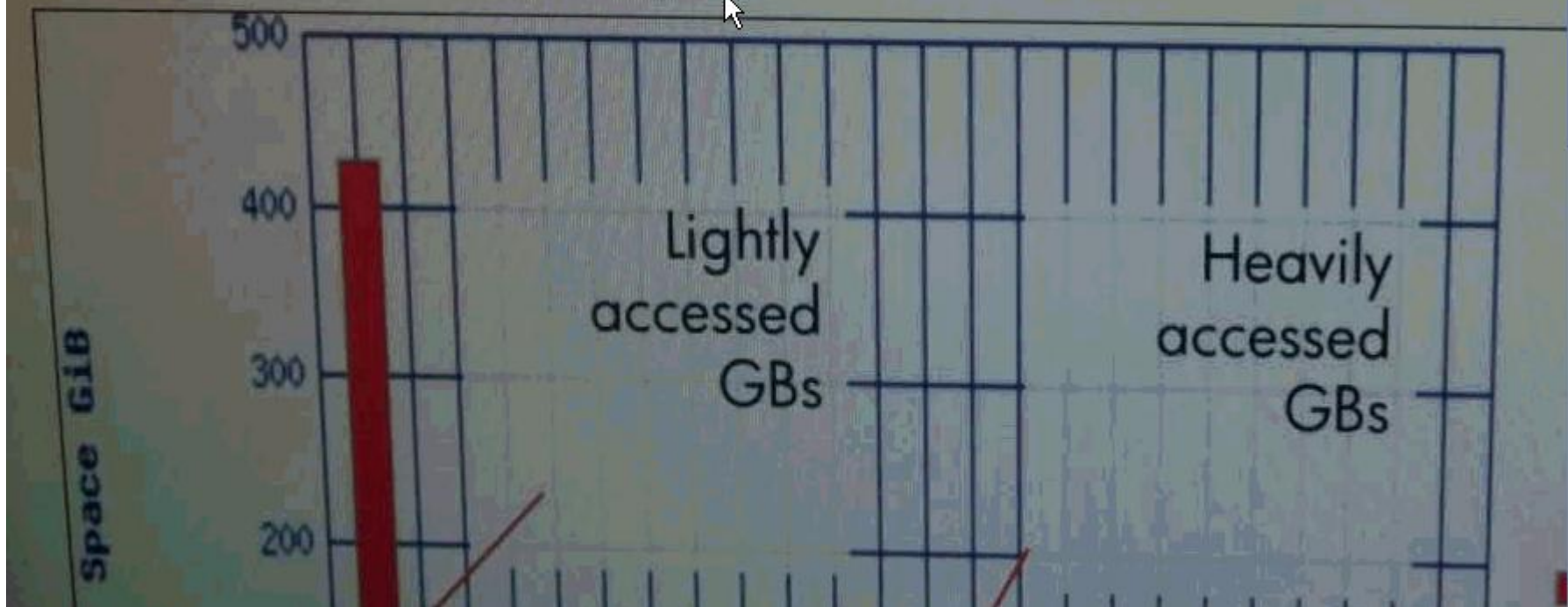
QUESTION 16

Based on the regional density report in the exhibit, which hardware and software solution would cost-effectively meet the customer requirement?

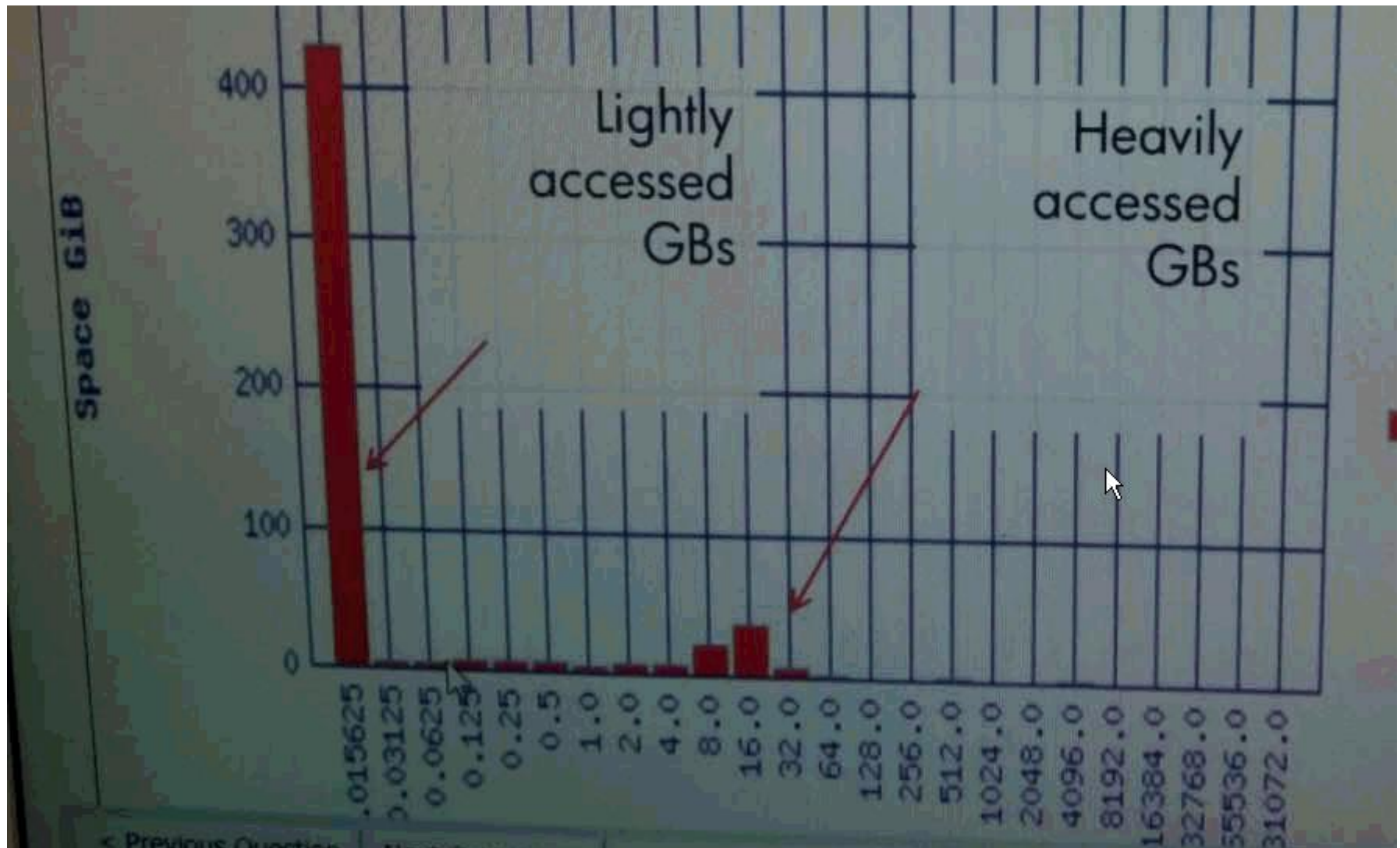
question16-a (exhibit):

A company is consuming current Fibre Channel space at 32% per year on their four node HP 3PAR StoreS Fibre Channel 600GB drives. The customer has stated that current performance on the array is fine but req meet all requirements through the next calendar year.

Based on the regional density report in the exhibit, which hardware and software solution would cost-effecti



question16-b (exhibit):



- A. Upgrade with (128) 600 GB driver to maintain equal volume distribution and best overall performance
- B. Upgrade with (16) 100 GB SSD for a performance boots on critical volumes and (132) 600GB FC driver, and eight additional chassis for a larger Raid set size and better utilization
- C. Upgrade with (32) TB drives and Adaptive Optimization for capacity-specified data placement in each of the two possible tiers
- D. Upgrade with Adative Optimization, (8) 200GB SSDs and (64) 1 TB NL (SATA) drives for three balanced tier will ensure only 35% of performance is

derived from NL (SATA) drives.

Correct Answer: D

Section: HP0-J64

Explanation

Explanation/Reference:

hardware and software solution would cost-effectively meet the customer requirement
(8) 200GB SSDs and (64) 1 TB NL (SATA) cost-effectively and have tier1, tier2 and tier3

QUESTION 17

A company is running their parts inventory applications on an HP 3PAR F400 Storage system with NearLine (SATA) disk drives. These applications are currently using LUN utilizing a Raid 5 (7+1) NearLine CPG. The are having performance issues while compiling their monthly reports in a timely manner. HP 3PAR System Reporter indicates several high write I/O volumes during production runs.

What should the design team recommend o improve this performance?

- A. HP 3PAR Adaptive Optimization and a new RAID 1 CPG
- B. Snapshot to capture all writes to a RAID 1 CPG
- C. Thin provisioning to achieve a better distribution across all physical disks
- D. HP 3PAR Dynamic Optimization to move the high performance volumes to a new RAID 1 CPG

Correct Answer: D

Section: HP0-J64

Explanation

Explanation/Reference:

Chunklet-based RAID

HP 3PAR StoreServ incorporates several enhancements over conventional storage arrays. By making more effective use of all drive resources in the array, these enhancements allow higher performance with less hardware, which leads in turn to cost reduction. HP 3PAR StoreServ supports the following RAID types:

RAID 10 (RAID 1)
RAID 50 (RAID 5)
RAID Multi-Parity (MP) or RAID 6

Common Provisioning Groups and RAID types

A Common Provisioning Group (CPG) is a virtual pool of logical disks that allows virtual volumes to share its resources and allocate space on demand. A CPG can contain Fully-Provisioned Virtual Volumes and Thinly-Provisioned Virtual Volumes (TPVVs) that draw space from the CPGs logical disk pool. Logical disks are widely striped across all the available physical disks of the same type, by using chunklets from all the physical drives.

Dynamic Optimization: tuning volume configurations

HP 3PAR Dynamic Optimization Software is an optional product that allows the underlying characteristics of a volume to be changed transparently and without disruption of service. Drive type, RAID level and configuration, and high availability options can all be changed simply, easily, and non-disruptively. Unlike traditional arrays, where a poor initial choice can be difficult and/or costly to change, Dynamic Optimization allows changes to be made easily.

Dynamic Optimization also makes it easy for IT personnel to adapt to the changing needs of a modern, dynamic computing environment. For example, a previously high-priority project that used RAID 1 on high-performance Fibre Channel disks could be moved to more cost-effective RAID 5 storage on SATA disks.

Another use of Dynamic Optimization is to redistribute volumes after adding drives to an HP 3PAR Utility Storage array. Using Dynamic Optimization, existing volumes are autonomically striped across existing and new drives for optimal volume performance after capacity expansions. The increase in the total disks for the provisioned volume contributes to higher performance.

Question: Note: **HP 3PAR F400 Storage system with NearLine (SATA) disk drives"**

Adaptive Optimization: autonomic sub-volume tuning

HP 3PAR Adaptive Optimization Software is a fine-grained, policy-driven, autonomic storage software solution that delivers service level optimization for enterprises and cloud datacenters at the lowest possible cost while increasing agility and minimizing risk. Adaptive Optimization analyzes performance (access rates) for sub-volume regions, then selects the most active regions (those with the highest I/O rates) and uses the proven sub-volume data movement engine built into HP 3PAR InForm Operating System Software to autonomically move those regions to the fastest storage tier. It also moves less active regions to slower tiers to ensure space availability for newly-active regions.

Traditional storage arrays require the storage administrator to choose between slow, inexpensive storage and fast, expensive storage for each volume—a process that depends on the storage administrator's knowledge of the application's storage access patterns. Moreover, volumes tend to have hot spots rather than evenly-distributed accesses, and these hot spots can move over time. Using Adaptive Optimization, an HP 3PAR array configured with SATA disks plus a small number of Solid State Drives (SSDs) can approach the performance of an all-SSD configuration at little more than the cost per megabyte of SATA-based storage, adapting autonomically as access patterns change.

HP 3PAR Dynamic Optimization and Adaptive Optimization Software can be used to make this change on active volumes without any downtime or interruption. Dynamic Optimization tunes entire volumes with minimal performance impact to the array. Adaptive Optimization provides even finer-grained tuning, moving sub-volume regions between storage tiers in response to changing performance.

QUESTION 18

A food manufacturing company has an existing HP 9200 Virtual Library System (VLS) and HP Data Protector environment. They currently backup approximately 15-20 TB of data daily an HP ESL tape library. They have a business requirement of all backup data being off-side within 24 hours and a data retention requirement of three months. The experience an average of 15% data growth per year. Due to future SAP project, data growth per year. Due to future SAP project, data growth is expected to increase by 50% in the next 12 months. The

customers is looking at their long-term backup strategy and infrastructure to support the data growth and business requirements.

Which solution meets the customer requirements?

- A. two HP StoreOnce 4420 Backups with Low Bandwidth Replication
- B. two HP StoreOnce 4220 Backups with Low Bandwidth Replication
- C. two HP StoreOnce B6200 Backups with Catalyst
- D. two HP StoreOnce 4220 Backups with Catalyst

Correct Answer: C

Section: HP0-J64

Explanation

Explanation/Reference:

The **HP 9200 Virtual Library System** can start as a 10 TB, one-node system and easily scale into a multi-array/multi-node solution with performance and capacity of 4.4 TB/hr/node and up to 2560 TB of useable storage with hardware compression. For fast data protection and backup in complex SAN environments, the VLS9x00 family supports the licensing of Accelerated deduplication and deduplication-enabled replication.

http://h18000.www1.hp.com/products/quickspecs/12812_na/12812_na.pdf

The **HP ESL G3 Tape Library** provides a modular architecture in a standard 19" rack form factor to scale up over 50x from the initial capacity without disrupting ongoing performance and delivery; it is scalable from 100 to over 12,006 slots or from 80TBs to 75 PB in increments of 100 slots.

20 TB daily	30 TB daily
100 TB week	150 TB week
400 TB mount	600 TB mount
1200 TB 3-mount	1800 TB 3-mount
long-term backup strategy	

two HP StoreOnce 4220 (12 to 24 TB raw) (Total 48 TB)
two HP StoreOnce 4220 Backups with Catalyst (12 to 24 TB raw) (Total 48 TB)
two HP StoreOnce 4420 (12 to 48 TB raw) (Total 96 TB)
two HP StoreOnce B6200 Backups with Catalyst (48 to 768 TB raw) (Total 1536 TB)

<http://h18004.www1.hp.com/products/quickspecs/productbulletin.html#spectype=worldwide&type=html&docid=14450>

HP StoreOnce 4220 Backup

HP StoreOnce 4220 is designed for small to midsize data centers and as a replication target device for up to 24 remote and branch offices. The 2U StoreOnce 4220 delivers a scalable solution from 8 to 18 TB of useable capacity (12 to 24 TB raw) using a simple and cost effective 2U capacity upgrade. Meet backup windows with speeds of up to 2.2 TB/hour* using HP StoreOnce Catalyst for protection of up to 8.8 TBs* of data in a 4-hour window.

HP StoreOnce 4420 Backup	HP StoreOnce 4420 delivers a balance of price and performance for midsized to large data centers or regional offices, and an ideal replication target device for up to 50 remote or branch offices. The StoreOnce 4420 delivers a scalable 4U solution from 8 TB to 38 TB of usable capacity (12 to 48 TB raw) and speeds of up to 10.8 TB/hour* with StoreOnce Catalyst for protection of up to 43 TBs* of data in a 4-hour window.
HP StoreOnce B6200 Backup	HP StoreOnce B6200 takes HP StoreOnce to the enterprise, providing disk based backup with deduplication for cost effective, longer term on site data retention and off site disaster recovery. The highest performance HP StoreOnce Backup system, these highly scale-out solutions offer from 32 TB to 512 TB of usable capacity (48 to 768 TB raw) and industry-leading aggregate speeds of up to 100 TB/hr* with StoreOnce Catalyst to match enterprise performance requirements and meet ever shrinking backup windows.

QUESTION 19

Which IT factors support the customer in accelerating time to market? (Select two)

- A. optimized response times
- B. integrated systems that reduce redundancy
- C. 24x7 availability of applications
- D. centralized IT
- E. more efficient cost structures

Correct Answer: AC

Section: HP0-J64

Explanation

Explanation/Reference:

Objective: Sought a reliable, secure and scalable high-performance platform to deliver managed cloud services, accelerate time-to-market and support rapid growth.

Reduces hardware provisioning times three-fold, accelerating time-to-market.

<http://h20195.www2.hp.com/v2/GetPDF.aspx%2F4AA4-6104EEW.pdf>

In commerce, time to market (TTM) is the length of time it takes from a product being conceived until its being available for sale. TTM is important in industries where products are outmoded quickly. A common assumption is that TTM matters most for first-of-a-kind products, but actually the leader

often has the luxury of time, while the clock is clearly running for the followers.

QUESTION 20

A customer wants to align their IT structure from their desktop to their rapidly-growing Enterprise data centers. The need support in designing a long-term strategy. The HP design team wants to present a roadmap to migrate the existing traditional environment into a virtualized infrastructure.

Which HP strategy supports the customer roadmap and should be presented in the next meeting?

- A. HP Smart Grid
- B. HP Storage Essentials
- C. HP Converted Infrastructure
- D. HP Adaptive Enterprise

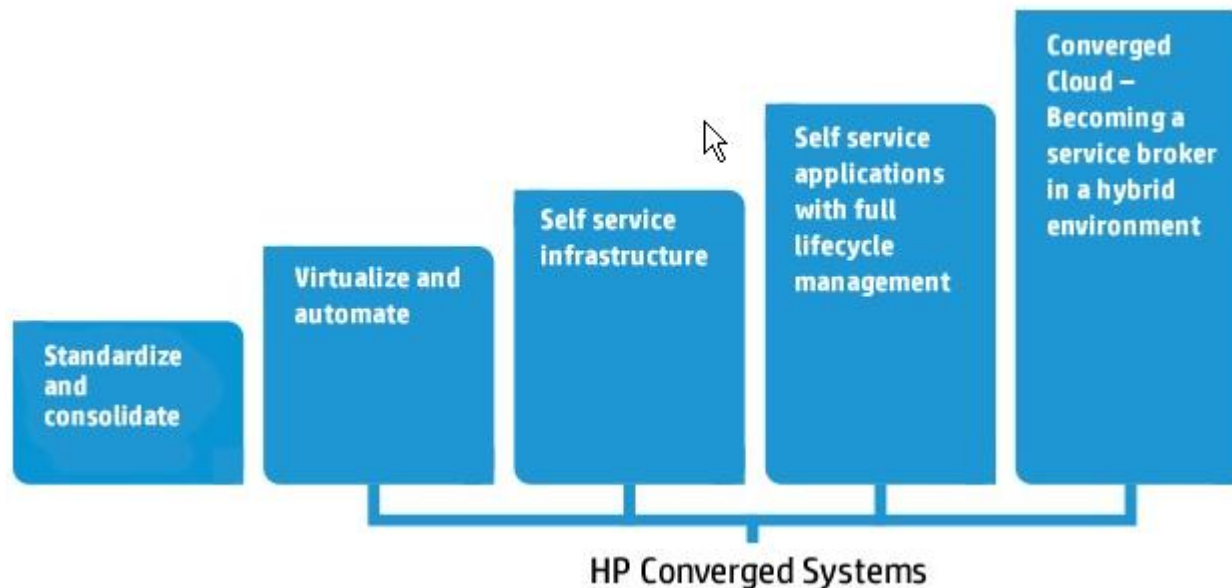
Correct Answer: C

Section: HP0-J64

Explanation

Explanation/Reference:

It's time to build a better enterprise. Together. It starts with IT convergence: servers, storage, and networking that integrate easily into your existing data center infrastructure. Managed intuitively, with built-in intelligence to optimize your enterprise IT.





Converged Infrastructure



To deliver this level of IT value requires an innovative technology partner who has the architecture, the open technologies, and a broad ecosystem of partners. Welcome to the new style of IT.

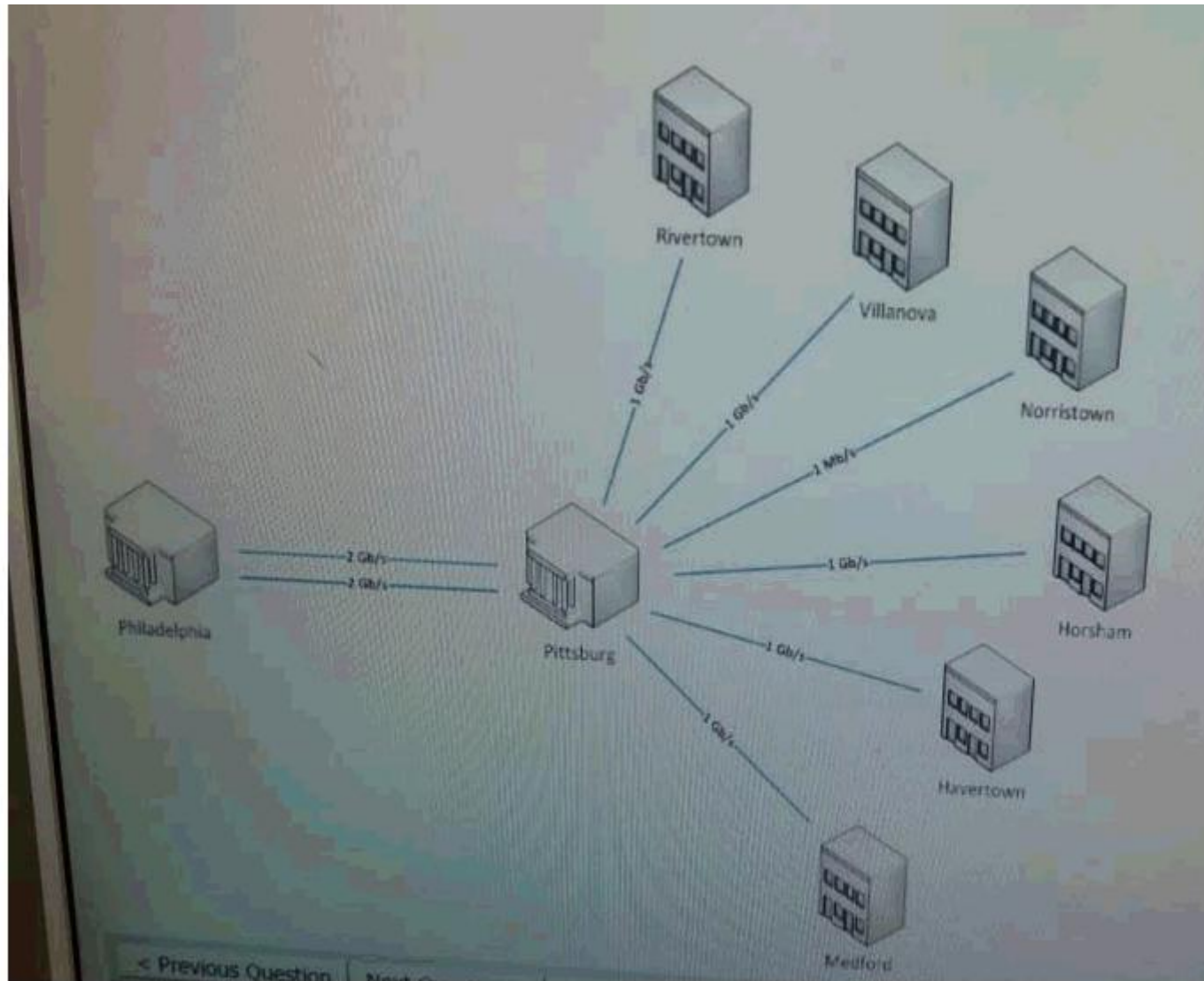
QUESTION 21

The customer wants to implement an HP StoreOnce solution for the environment show.
You have been given the following information:

- Each branch office has approximately 100 GB of data.
- Philadelphia has approximately 2 TB data.
- Pittsburg has approximately 1 TB data.
- All backup data will be replicated back to the data center in Pittsburg.
- Costs should be kept to a minimum but allow for the possibility of adding three more sites.

When designing the solution, which factor needs to be considered?

Exhibit:



- A. The maximum replication target is below 12
- B. The number of source backup streams is below 32
- C. The minimum bandwidth for replication of an HP StoreOnce system is 2 Mbps
- D. The maximum data store size is below 2 TB.

Correct Answer: C

Section: HP0-J64

Explanation

Explanation/Reference:

NOTE: A minimum WAN bandwidth of 2Mbit/s is required for each replication job to ensure that it completes successfully.

http://h41111.www4.hp.com/promo/ESSN-brm-solution/de/de/pdf/HP_StoreOnce_Anwenderhandbuch.pdf

The maximum replication target is below 12 (false)

The number of source backup streams is below 32 (false)

Table 4 Maximum number of files G2 products

	HP D2D2502	HP D2D2504	HP D2D4106/4112	HP D2D4312	HP D2D4324
Max files per share	25000	25000	25000	25000	25000
Max Total Open files per appliance	96	112	128	640	640
Max Open files >24 MB per appliance	32	48	64	128	128

Table 5 Maximum number of files G1 products

	HP D2D2502	HP D2D2503	HP D2D2504	HP D2D4004/9	HP D2D4112
Max files per share	25000	25000	25000	25000	25000
Max Total Open files per appliance	96	40	112	40	112
Max Open files >24 MB per appliance	32	16	48	24	48

The maximum data store size is below 2 TB (false)

Table 6 Data deduplication savings, example 1

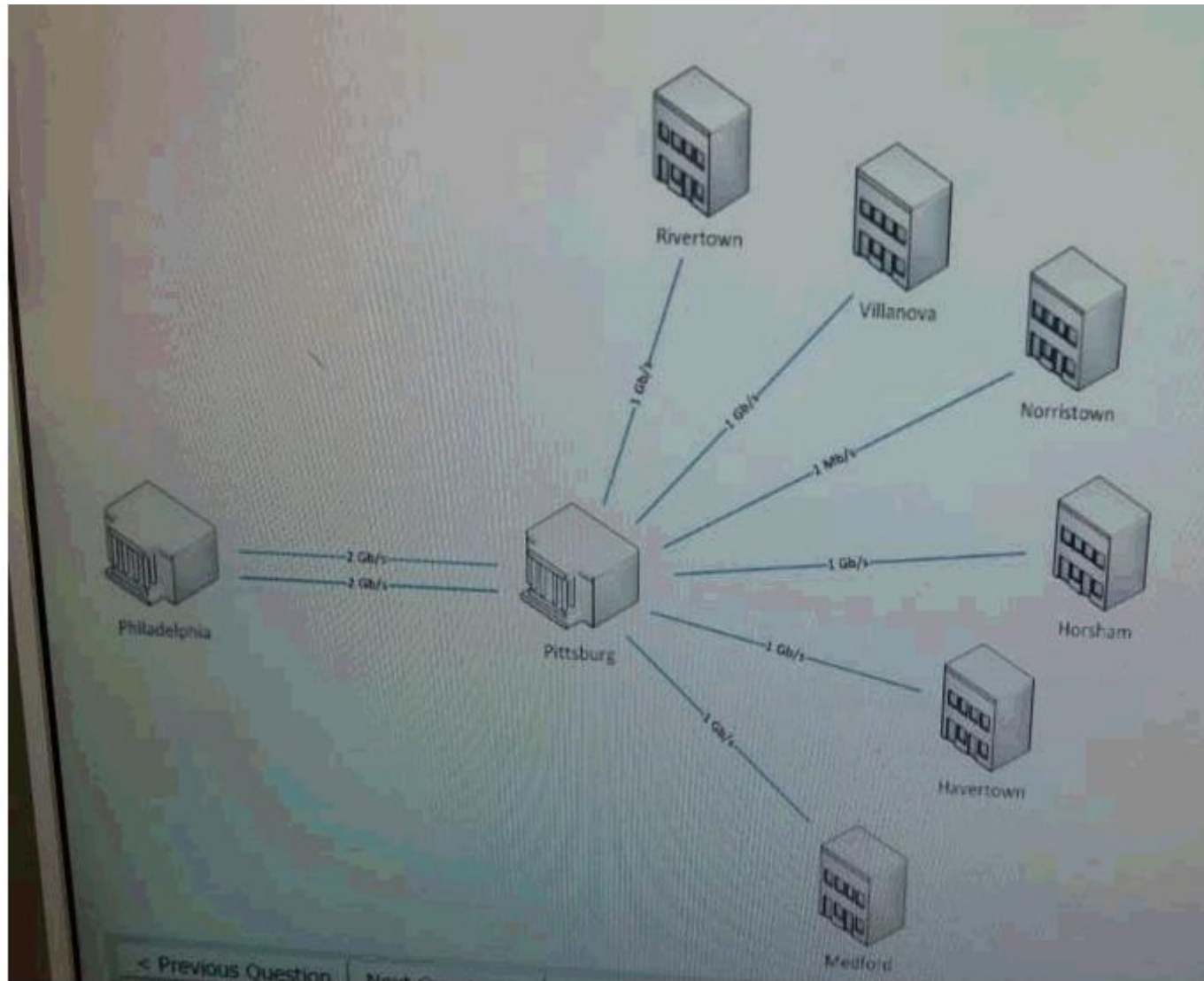
	Data stored normally	Data stored with deduplication
1st daily full backup	500 GB	500 GB
1st daily incremental backup	50 GB	5 GB
2nd daily incremental backup	50 GB	5 GB
3rd daily incremental backup	50 GB	5 GB
4th daily incremental backup	50 GB	5 GB
5th daily incremental backup	50 GB	5 GB
2nd weekly full backup	500 GB	25 GB
3rd weekly full backup	500 GB	25 GB
25th weekly full backup	500 GB	25 GB
TOTAL	12,750 GB	1,125 GB

QUESTION 22

A client asks you to demonstrate the capabilities of an HP 3PAR StoreServ 7000 Storage array.

Which tool should you use?

Exhibit:



- A. SAN Connection Manager
- B. SAN Network Advisor
- C. InForm Management Console
- D. Command View Simulator

Correct Answer: C

Section: HP0-J64

Explanation

Explanation/Reference:

HP StorageWorks Simple **SAN Connection Manager** (SSCM) is a GUI-based management application for basic management of storage area network (SAN) components, such as host bus adapters (HBAs), switches, and storage arrays. SSCM uses Microsoft's Virtual Disk Service (VDS) to manage storage arrays. SSCM provides simplified storage management for VDS-compliant storage devices in a single, integrated, wizard-based user interface.

HP B-series **SAN Network Advisor** (NA) Software and HP B-series Data Center Fabric Manager (DCFM) Software provide comprehensive management of data center fabrics -- including configuration, monitoring, and management of all B-series Directors, Switches and HBAs.

InForm Managemetn Console simplifies storage management by placing everything you need to administer and optimize your entire HP 3PAR Utility Storage deployment in a single window, including remote replication to disaster recovery sites.

Command View Simulator EVA

If you are an existing HP EVA Storage customer looking for a pain-free evolution that takes the best of EVA into the future of storage, then look no further than HP 3PAR StoreServ 7000 Storage. With the new Online Import feature, you can quickly and easily move data from HP EVA to HP 3PAR StoreServ Storage using HP Command View EVA. The upgrade process couldn't be simpler, and HP 3PAR StoreServ Storage is everything you could want in a next generation of EVA—and more.

QUESTION 23

Which HP Service tool performs an operating system binary event log analysis?

- A. ISEE
- B. WEBES
- C. RISS
- D. OSEM

Correct Answer: B

Section: HP0-J64

Explanation

Explanation/Reference:

Web Based Enterprise Services

WEBES is a tool suite aimed at preventing or reducing your system's down time. The tool suite has the following components:

SEA (for operating system binary event log analysis).

If you have a warranty or service contract with HP you are entitled to these tools free of charge. You must, however, upgrade the tools at least once a year, because the software expires after one year

<http://www8.hp.com/us/en/support/svctools/webes.html>

QUESTION 24

A small service provider customer is in the process of a merger and needs to purchase additional IT infrastructure components to support the expansion of their customer base. The goal is to offer same-day repair from any hardware failures and increased high availability from the servers to the local array. The new proposal provides the following Bill of Materials (BOM):

- HP StoreSure 2000 - 155 TB of Midline SAS SFF Drives - FC Controller Pair.
- A pair of HP SN6000B 16Gb 48-port/48-port Active Fibre Channel switches.
- HP P2000 Remote Snap Software
- HP SN1000 2Port 16Gb HBAs
- 24 Fibre Channel cables
- 10 HP Proliant DL360 Gen8s
- vSphere Enterprise Plus and vCenter licenses from HP
- Call-to-repair 24x7 coverage with four-hour on-site response.

The customer operating budget is constrained, and the price of the BOM is too high.

Which components do you propose to change to meet their budget goals without sacrificing their critical to quality goals? (Select two)

- A. Modify the vSphere Enterprise Plus license to vSphere Enterprise.
- B. Modify the HP SN6000B 48/48 switches to 48/24 switches.
- C. Modify the HP SN6000B 48/48 switch count to a quantity of one
- D. Modify the HBA connections by 50%
- E. Modify the Support to Next Business Day.

Correct Answer: AB

Section: HP0-J64

Explanation

Explanation/Reference:

http://h18000.www1.hp.com/products/quickspecs/14212_div/14212_div.pdf

http://h18004.www1.hp.com/products/quickspecs/14104_div/14104_div.pdf

QUESTION 25

HP Secure Key Manager provides centralized encryption technologies for which tape libraries?

- A. HP ESL Tape Libraries with LTO3 tape drives.
- B. HP EML Tape Libraries with LTO4 tape drives.
- C. HP ESL Tape Libraries with SDLT 600 tape drives.
- D. HP VLS900 Virtual Libraries with LTO4 tape emulation.

Correct Answer: B

Section: HP0-J64

Explanation

Explanation/Reference:

Answer: HP EML Tape Libraries with LTO4 tape drives.

Models HP Secure Key Manager Models

HP Secure Key Manager, ESL/EML tape libraries and Encryption SAN Switches are purchased separately from Secure Key Manager.

<http://h20564.www2.hp.com/portal/site/hpsc/public/kb/docDisplay/?docId=c04007622>

HP StoreOnce and StoreEver Enterprise Backup Solutions (EBS) Hardware/Software Compatibility Matrix

Firmware for StoreEver Tape Libraries / Autoloaders / Tape Drive Products

Enterprise Class Libraries ³		Firmware	Business Class Libraries & Autoloaders ^{2,3}		Firmware
ESL G3	(MCB Ver. 2)	665H.GS12501	MSL6480	(FC or SAS Drives only)	4.00
	(MCB Ver. 1)	653H_GS00201	MSL8096 / 8048		1120
Ultrium 6650	(LTO-6 FH FC)	J3HW	MSL4048		8.60
Ultrium 3280	(LTO-5 FH FC)	I68W	MSL2024		6.10
Ultrium 1840	(LTO-4 FH FC)	H6DW	1/8 G2 Autoloader	(HH Drives only)	4.20
EML E-Series		1483	Ultrium 6250	(LTO-6 HH FC)	23CW
Ultrium 6650	(LTO-6 FH FC)	J38S	Ultrium 6250	(LTO-6 HH SAS)	33DW
Ultrium 3280	(LTO-5 FH FC)	I67S	Ultrium 3280	(LTO-5 FH FC)	I65W
Ultrium 1840	(LTO-4 FH FC)	H65S	Ultrium 3000	(LTO-5 HH FC)	Y65W
Ultrium 960	(LTO-3 FH FC)	L6HS	Ultrium 3000	(LTO-5 HH SAS)	Z65W
			Ultrium 1840	(LTO-4 FH FC)	H6CW
			Ultrium 1840	(LTO-4 FH SCSI)	B63W
			Ultrium 1760	(LTO-4 HH SAS)	U61W
			Ultrium 1760	(LTO-4 HH SCSI)	W61W
			Ultrium 960	(LTO-3 4Gb FH FC)	M63W
			Ultrium 960	(LTO-3 2Gb FH FC)	L63W
			Ultrium 960	(LTO-3 FH SCSI)	G63W
			Ultrium 920	(LTO-3 HH SCSI)	D24W
			Ultrium 920	(LTO-3 HH SAS)	C25W / Q51W ²

Key Managers for Tape Drive Encryption	
Key Management Appliances ¹	Firmware
HP Enterprise Secure Key Manager 3.0	5.0.0 or later
HP Enterprise Secure Key Manager 2.1	As shipped
HP Secure Key Manager 1.1	4.8.1
SafeNet KeySecure models k150 or k460 ¹	6.0.2

NOTES:

- 1) Refer to the [KeySecure Interoperability](#) website for additional information.
- 2) Refer to [Library and Tape Tools](#) to determine correct FW versions for libraries and tape drives.
- 3) See [Page 15](#) for the full list of firmware requirements.

Data Privacy

To greatly enhance data privacy, HP EML Tape Libraries are available with LTO-6 Ultrium 6650, LTO-5 Ultrium 3280 and LTO-4 Ultrium 1840 hardware encrypting tape drives for secure high performance backups meeting consortium specifications. . HP Data Protector Software can enable the drive encryption and provide basic key management capabilities. Additional information regarding ISV's supporting hardware encryption is available on the HP Enterprise Backup Solutions (EBS) website at: www.hp.com/go/ebs. The encryption on LTO-6, LTO-5 and LTO-4 media occurs with or without compression, and without speed or capacity penalties. Hardware encryption is not supported on LTO-2 and LTO-3 tapes.

LTO-6, LTO-5 and LTO-4 use the Advanced Encryption Standard (AES) with the longest and most secure keys -- 256 bits. AES-256 is implemented within Galois Counter Mode (GCM). This is a method of increasing AES security by efficiently adding Message Authentication Codes to ensure the integrity of the backup data stored on tape. The HP LTO-6, LTO-5 and LTO-4 tape drive(s) are designed to be compliant with the standard for tape drive security (IEEE 1619.1).

ESKM: The HP Enterprise Secure Key Manager reduces your risk of a costly data breach and reputation damage while improving regulatory compliance with a secure centralized encryption key management solution for HP LTO-6, LTO-5 and LTO-4 enterprise tape libraries (EML & ESLG3). In addition, the ESKM provides strong auditable security and reliable lifetime key archival. The ESKM and LTO-6/LTO-5/LTO-4 drive encryption in the EML library provides a complete and secure privacy solution to protect customers' confidential data. Please note Secure Manager license is required for CVTL to enable connection to ESKM.

For further information on the ESKM please visit: www.hp.com/go/eskm

LTO-4

- First mechanisms approved in April 2007.^[21] First media approved in May 2007.^[22]
- Doubled capacity again to 800 GB.
- Increased data transfer rate to 120 MB/s (maximum).
- Introduced drive level encryption feature using 256-bit AES-GCM.

http://en.wikipedia.org/wiki/Linear_Tape-Open

QUESTION 26

Which feature must the B-series switch support when connecting an HP Virtual Connect FlexFabric module to a B-series switch?

- A. ISL trunking
- B. NPIV
- C. encryption
- D. extended fabric

Correct Answer: B

Section: HP0-J64

Explanation

Explanation/Reference:

Virtual Connect FlexFabric Module Hardware Overview

The Virtual Connect FlexFabric module is the first Data Center Bridging (DCB) and Fibre Channel over Ethernet (FCoE) solution introduced into the HP BladeSystem portfolio. It provides 24 line rate ports, Full-Duplex 240Gbps bridging, single DCB-hop fabric. As shown in Image 1, there are 8 faceplate ports. Ports X1-X4 are SFP+ transceiver slots only; which can accept a 10Gb or 8Gb SFP+ transceiver. Ports X5-X8 are SFP and SFP+ capable, and do not support 8Gb SFP+ transceivers.

B-series Switches

Flexible Fabrics

High Speed 16Gb optimized inter switch links (ISLs) provide twice the performance as previous generation Fibre Channel switches. The net result is there are fewer links, fewer cables, fewer ports and less power for the same performance.



Overview

- The HP 8/24 SAN switch addresses the needs of SMB organizations as well as large enterprises by functioning as a standalone core switch or as lower-cost edge switch in large core-to-edge tiered storage networks. The 8/24 SAN switch provides unprecedented investment protection. Auto-sensing ports that support backward compatibility with 1, 2, 4, and 8 Gbit/sec devices significantly reduce deployment complexity and costs, while providing compatibility with installed devices. Organizations that do not require 8 Gbit/sec interfaces can populate the new switches with 4 Gbit/sec SFPs, while preserving their ability to easily upgrade to 8 Gbit/sec SFPs in the future. The 8/24 SAN Switch with 24 enabled ports may be deployed as a full-fabric switch or in Access Gateway mode, which provides connectivity into any SAN (the default mode setting is a switch). Access Gateway mode utilizes NPIV switch standards to present Fibre Channel connections as logical devices to SAN fabrics.

HP H-series Switch Cross Reference Guide

Single Power Supply						
Features	H-series		B-series	B-series	B-series	C-series
	8/20q	SN6000 Single Power Supply	8/8 Base SAN	8/8 SAN Switch	8/24 SAN Switch	SN6000c
HP® Part Number	AQ233A/B 8-port AK242A/B 16-port	BK780A/B 12-port AW575A/B 20-port	AM866A	AM867A	AM868A	AW585A 16-port AW586A 32-port
Host/Storage Device Ports	8 – 20	12 – 20	8 – 24	8 – 24	16 – 24	16 – 48
Dedicated High-Speed ISL Ports		Yes – 4 10Gb (20Gb-Capable) Stacking Ports Included	Must Use Device Ports	Must Use Device Ports	Must Use Device Ports	Must Use Device Ports
Fibre Channel Speed	8/10/20Gb	8/10/20Gb	8Gb	8Gb	8Gb	8Gb
Aggregate Device Bandwidth (max)	320Gbps	544Gbps	408Gbps	408Gbps	408Gbps	816Gbps
HP List Price (all ports active)	\$5,499	\$10,500	\$10,879	\$11,779	\$10,589	\$35,997
Full Fabric Support	Yes	Yes	No	Yes	Yes	Yes
Array Provisioning (LUN creation, mounting directly from switch management interface)	MSA/P2000 and P6000/EVA	MSA/P2000 and P6000/EVA	No	No	No	No
ISL Trunking	Included	Included	No	Requires Per-Switch License, Additional Cost	Requires Per-Switch License, Additional Cost	Included
Fabric Management	SCM ¹ Included	SCM ¹ Included	No	Optional, Additional Cost	Optional, Additional Cost	Optional, Additional Cost
Multi-Vendor Fabric Interoperability	Transparent Router (Per Port or Entire Switch)	Transparent Router (Per Port or Entire Switch)	No	Access Gateway (Entire Switch Only)	Access Gateway (Entire Switch Only)	NPV (Entire Switch Only)
Zoning Software	Yes – Intuitive Drag/Drop Interface	Yes – Intuitive Drag/Drop Interface	Yes	Yes	Yes	Yes
Fabric Performance and Monitoring Software	Optional EFMS ² Software	Optional EFMS ² Software	No	Optional Power Pack+ Software	Optional Power Pack+ Software	Optional Fabric Manager Software
Hot Plug Redundant Power Supplies	No	No	No	No	Yes	Yes
SFPs	Standard	Standard	B-series Specific	B-series Specific	B-series Specific	C-series Specific

¹ SCM = SAN Connection Manager ² EFMS = Enterprise Fabric Management Suite

QUESTION 27

A customer storage infrastructure consists of eight HP StoreVirtual 4000 nodes in a cluster, connected to an HP 2910-24G al network environment. Server virtualization is done using VMware vSphere 5.1 on six hosts across two sites.

Which drawbacks must the customer consider when upgrading the solution? (Select two)

- A. When adding more nodes in the cluster, additional 1Gb network ports have to be added in each node.
- B. When using more than eight nodes in a cluster, a 10 Gb connection is recommended.
- C. When upgrading to VMware version 5.1, the iSCSI multi-patching driver has to be configured.
- D. When using a server across the sites, VMware Site Recovery Manager is needed.
- E. When using 10 Gb the customer has to implement new network switches.

Correct Answer: BE

Section: HP0-J64

Explanation

Explanation/Reference:

Recommended network switches for HP StoreVirtual 4000 Storage

HP Networking has an extensive portfolio of Ethernet switches that are ideally suited for iSCSI deployments. These switches are designed to deliver high-performance, low-latency, and wire-speed Layer 2 to 4 network services. HP Networking top of rack series of switches offer unmatched combination of 1GbE and 10GbE ports density, high availability architecture, Intelligent Resilient Framework (IRF) technology as well as a full range of Layer 2 and or Layer 3 features depending on switch selection. These switches are built to support open and industry-standards networking protocol. These switches can be deployed within the network core or as a high-performance switch in the convergence layer or network edge of SMB and enterprise networks. Listed below is a selection of recommended top of rack models. These are the 3800, 5830, 5920, and 6600 series.

Another recommended switching platform is the HP Networking 2920 series, to learn more visit hp.com/go/networking.
<http://h17007.www1.hp.com/docs/products/4aa4-5213enw.pdf>

Networking 2910
<http://www8.hp.com/pt/pt/products/networking-switches/product-detail.html?oid=3901673#!tab=specs>

Recommended switch infrastructure for an HP P4000 SAN

HP does not recommend any particular switch for use with HP P4000 SANs. However, there is a set of minimum switch capabilities that make building a high-performance, high-availability storage network a relatively easy and cost effective task.

The following are three commonly recommended HP switches, but ultimately you will need to follow the recommended switch capabilities in Table 1 below which provides guidance for general switch selection based on your specific needs. As a rule of thumb, any enterprise-class managed switch typically has the capabilities required for most customer installations.

- HP E2910 al Switch Series (10/100/1000Base-T & 4 x optional 10GbE)
- HP A5810-48G Switch (10/100/1000Base-T & 2 x 10GbE)
- HP E6600 Switch Series (10/100/1000Base-T and 10-GbE SFP+)

QUESTION 28

A customer plans to replace their storage array with an HP 3PAR StoreServ 10800 Storage System. This array stores sensitive data and must be highly available. The solution must comply with all legal requirements for securing sensitive data.

Which level of service you recommend for the new HP 3PAR StoreServ array?

- A. Support Plus 24
- B. Support Plus 24 with Data Media Retention
- C. Proactive 24 with 6-hour CTR
- D. Critical Service with Data Media Retention

Correct Answer: C

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Explanation

Explanation/Reference:

Support plus 24

24x7x365 hardware and software services - plus cost-saving software updates and more.

HP Support Plus 24 helps you increase performance and availability with comprehensive, consistent hardware and software services. Working with your IT team, HP Services engineers deliver onsite hardware support and over-the-phone software support around-the-clock 365 days per year.

Choose Support Plus 24 when you need to: Improve uptime with responsive hardware and software services available anytime, cost-effectively obtain expert 24x7 hardware and software support, enjoy consistent service coverage across geographically dispersed sites.

Proactive 24

Proactively enhance your environment's stability, effectiveness, and efficiency. HP Proactive 24 Service is an integrated hardware and software support solution that combines efficient problem prevention with responsive technical assistance whenever you need it. This HP Care Pack extended warranty service not only improves the effectiveness of technologies across your networking infrastructure. It establishes a collaborative relationship between you and HP that strengthens your IT team and gives you rapid access to our expertise as issues arise. An assigned HP account manager serves as your primary contact for proactive services and access to our broad base of technical resources. Your account manager works closely with your IT staff to understand your environment and goals, document all the components of your infrastructure, recommend changes to improve performance and stability, and monitor ongoing operations through state-of-the-art remote tools.

HP Support Plus

Provides support for both hardware and software during standard business hours.

HP Support Plus 24

Extends HP Support Plus coverage to 24x7

HP Proactive 24

Complements internal IT resource with proactive services that minimize downtime and improve the IT environments's effectiveness.

Care Pack **Services** with Defective **Media Retention**

www.ts.avnet.com/.../services/.../care_pack_services... ▼ Traduzir esta página

HP Care Pack **services** with Defective **Media Retention** (DMR) ... a **critical** business proposition in an age where **data** leaks are big news and the technology ...

Critical Service with Defective Media Retention

HP Care Pack services with Defective Media Retention (DMR)

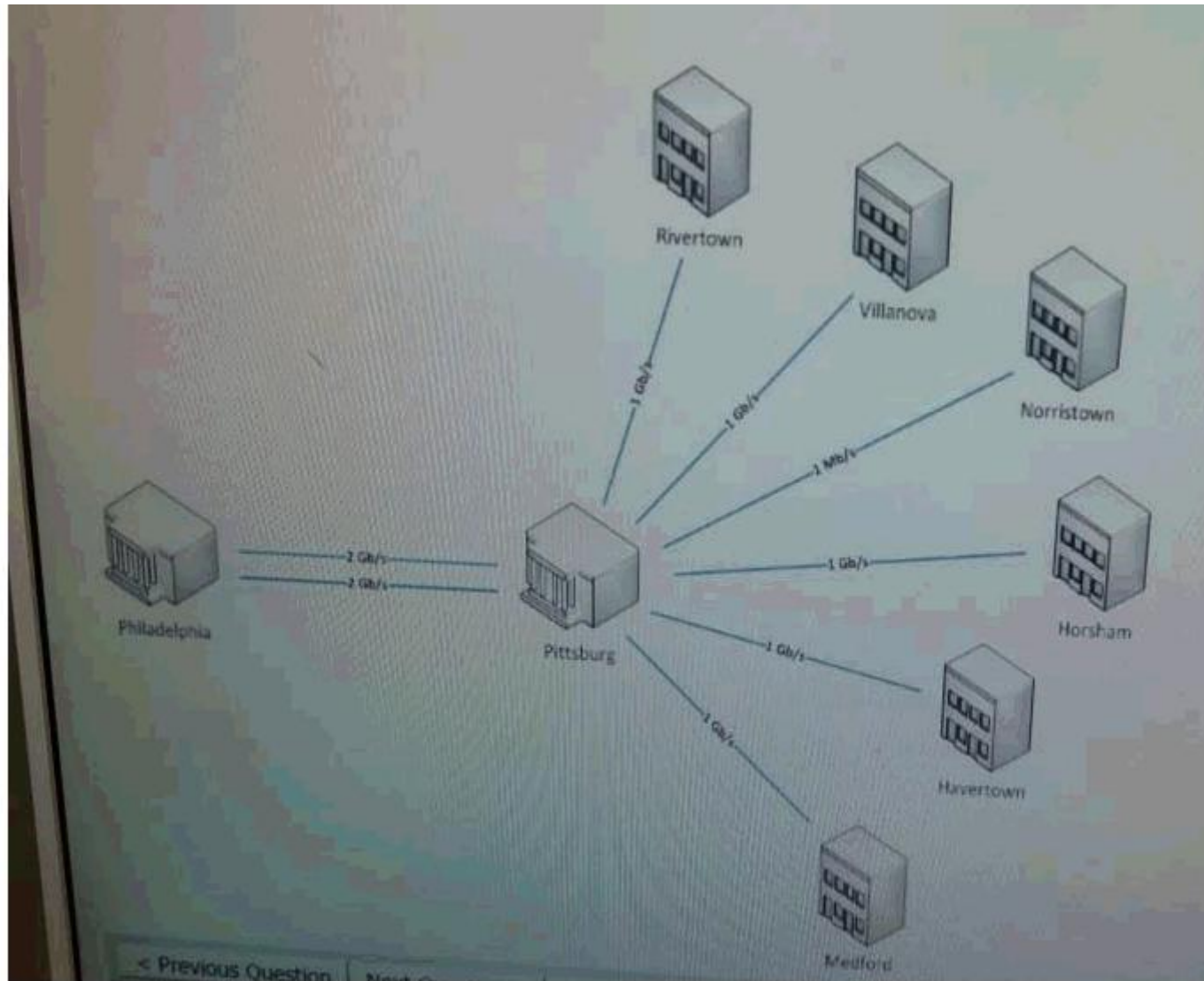
HP recently announced the introduction of HP Care Pack services with Defective Media Retention (DMR) which allows customers to ensure their data safe and secure by maintaining control over defective storage disks for just a 10% uplift in their Care Pack expenditure

QUESTION 29

The customer wants to implement an HP StoreVirtual solution for the environment shown. The Storage requirements dictate that the solution must have four nodes per site.

What needs to be considered when designing the solution?

Exhibit:



- A. The latency on the link
- B. A failover manager required on both sites
- C. 200 MB/s bandwidth per storage nodes pair required
- D. The type of data being replicated

Correct Answer: A

Section: HP0-J64

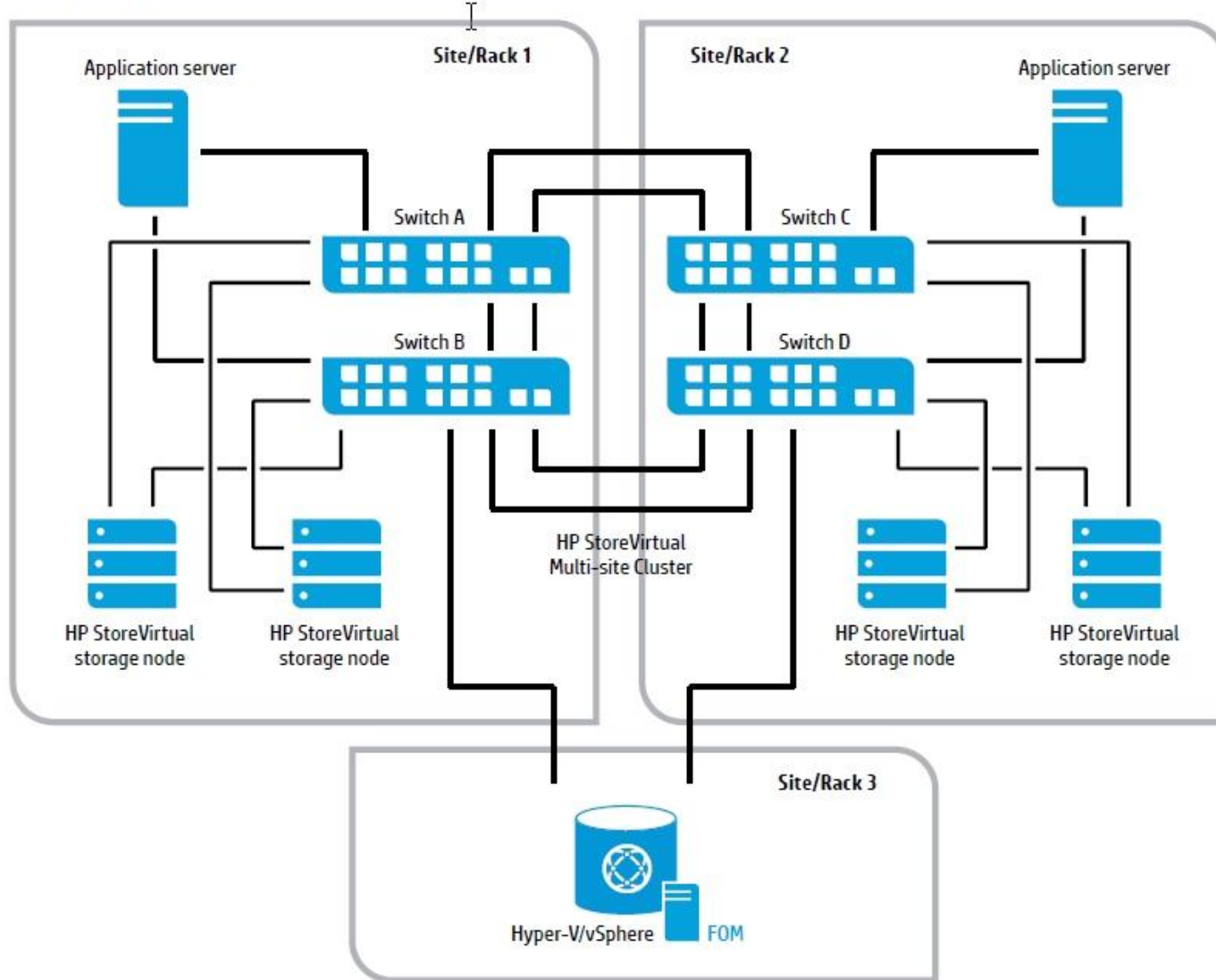
Explanation

Explanation/Reference:

Best practices

- Use a single IP subnet with Layer 2 switching
- Configure redundant network paths between sites to help minimize link failure in a two-site configuration. In multi-site cluster with three sites, HP recommends a triangle network design, not a V-design to ensure high availability.
- For 1GbE installations allocate 50 MB/s per storage node in the sites between data centers; for environments with 10GbE storage connectivity, reserve 250 MB/s. For campus cluster deployments with Fibre Channel connectivity on HP StoreVirtual, plan for 500 MB/s per storage node in the sites (only two sites supported).
- In the example (see Figure 7) above with 1GbE storage connectivity and two storage nodes in each site, designate $50 \text{ MB/s} \times 2 = 100 \text{ MB/s}$ of bandwidth between the sites (at least one 1GbE link; two for redundancy).
- HP StoreVirtual Fail-over Manager is not in the data path and has to be connected using at least Fast Ethernet (100 Mb/s) with a latency not exceeding 50 ms.

Figure 7. Typical multi-site cluster environment



Network latency

High network latency can be the primary cause of slow I/O performance, or worse, iSCSI target disconnects. It is important to keep round trip network latency on your storage subnet below two milliseconds. Many factors can contribute to increasing network latency, but two are most common:

- Distance between storage cluster nodes
- Router hops between storage cluster nodes

Configuring a multi-site cluster on a single IP subnet with Layer 2 switching will help to lower the network latency between storage cluster nodes.

QUESTION 30

B-series switches with Access Gateway mode enabled provide connectivity to other switches that support

Which feature?

- A. VSAN
- B. NPIV
- C. FCIP
- D. LSAN

Correct Answer: B

Section: HP0-J64

Explanation

Explanation/Reference:

Access Gateway

Brocade Access Gateway Mode enables seamless connectivity for Brocade embedded SAN switches to other supported SAN fabrics, enhances scalability, and simplifies manageability. Utilizing N_Port ID Virtualization (NPIV) standards, Brocade Access Gateway eliminates switch/domain considerations.

QUESTION 31

During a customer proposal meeting for a 900 TB HP 3PAR StoreServ 10800, you discover an opportunity to address the lack of disaster recovery for two very critical applications that both require approximately 90 TB of usable storage each. The customer is considering a competitive disaster recovery (DR) solution to meet this requirement in a more cost-efficient manner than a second array.

Which HP 3PAR StoreServ architecture feature should you position to address this customer need?

- A. Specify an HP 3PAR StoreServ Synchronous Long Distance configuration utilizing an HP 3PAR StoreServ 7200 synchronous configuration for the best possible RPO and RTO.
- B. Highlight the benefits of the HP 3PAR unified architecture and propose a minimally configured HP 3PAR StoreServ 7200 to provide a cost-effective disaster recovery (DR) solution.
- C. Propose an HP 3PAR StoreServ solution that highlights the benefits of duplicated storage
- D. Propose a second HP 3PAR StoreServ 10400 with a 250 TB replication license to cost-effectively meet the disaster recovery (DR) requirement.

Correct Answer: C
Section: HP0-J64
Explanation

Explanation/Reference:
<http://h20195.www2.hp.com/V2/GetPDF.aspx%2F4AA3-8318ENW.pdf>

Replication solutions for demanding disaster tolerant environments

HP 3PAR Remote Copy software

Long-distance disaster recovery

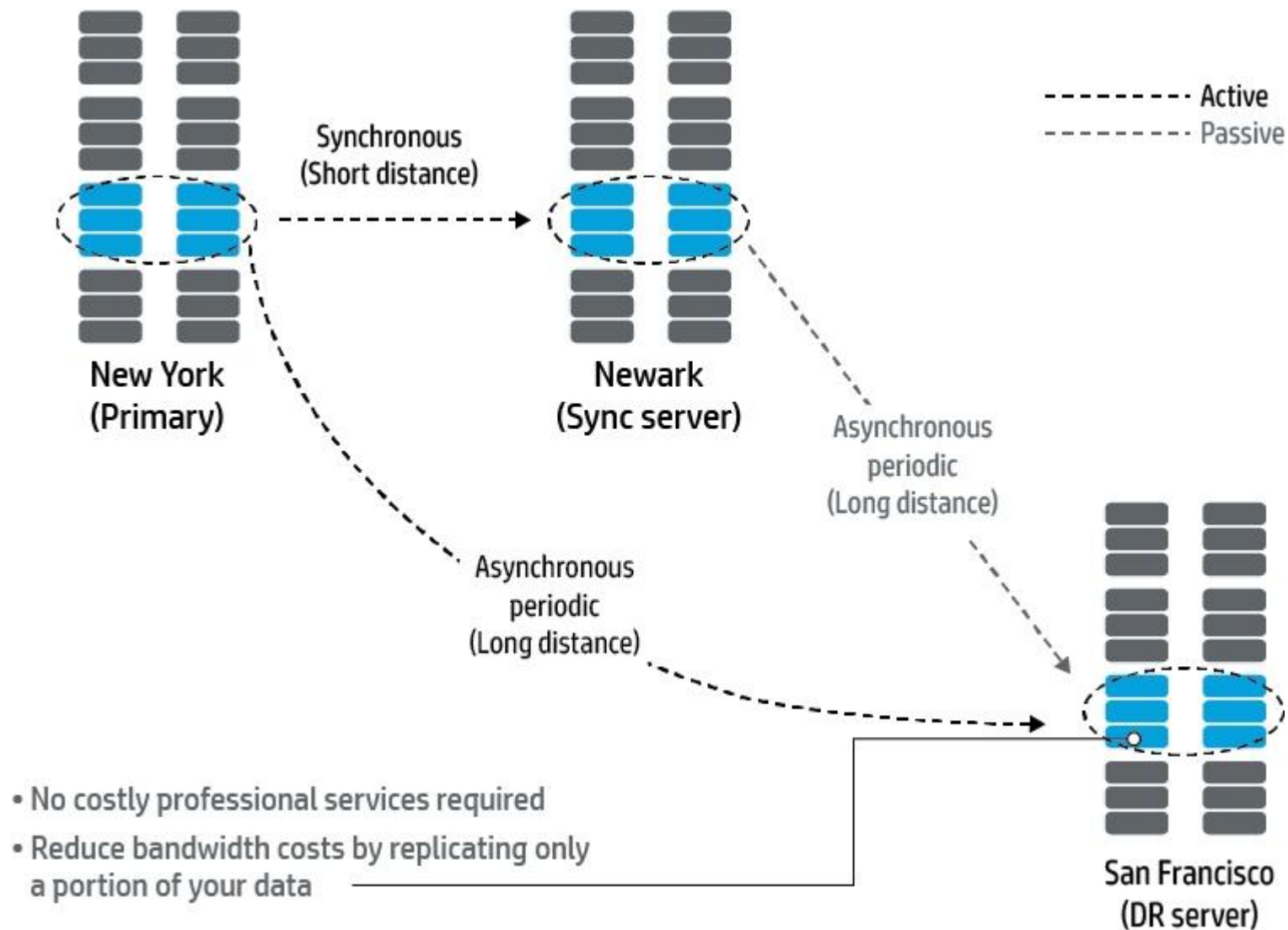
Disaster recovery requirements that include low RTOs and zero-data loss RPOs pose a significant challenge. Adding a requirement for a distant disaster recovery site on the opposite side of a continent rather than in an adjacent town greatly compounds these challenges and the complexity of typical solutions.

PDF Replication solutions for demanding disaster tolerant environments, pp 10 e 11

Synchronous long-distance topology

Synchronous long distance combines the ability to make replicas created using synchronous mode over a high-speed low-latency network along with the high-link latency replication capability offered by asynchronous periodic mode to provide a long distance replication solution. An SLD topology has the potential of delivering a zero data loss RPO to the remote asynchronous periodic replication site. This is accomplished by using two backup storage servers: one located near the primary InServ using Synchronous mode (the sync array) and a distant storage server using asynchronous periodic mode (the disaster recovery array). In addition to the HP 3PAR Remote Copy connections from the primary array to the two backup arrays, a passive asynchronous periodic link is configured from the sync array to the disaster recovery array (see figure 8). This is the only HP 3PAR Remote Copy technology that supports replicating the same Remote Copy primary volumes from a source array to two separate target arrays. Only a single Remote Copy volume group (consistency group) is supported in an synchronous long distance topology.

The primary intent of the SLD topology is to provide users with a way of potentially achieving an RPO of zero at the distant asynchronous periodic disaster recovery array in the event a disaster renders the primary array down. If a disaster takes the primary storage array down, on failover to the sync array, the passive asynchronous periodic link between the sync array and the disaster recovery array is activated and any data that was written on the sync array but that has not yet made it to the disaster recovery array is sent from the sync array to the disaster recovery array, bringing the disaster recovery array up to date with the last write that occurred to the primary array. After the disaster recovery array has been made consistent with the state of the primary storage array at the time of failure, operations may be continued using the disaster recovery site with no loss of data suffered (RPO = 0) (or operations can proceed from the sync array if that is desired). The normally passive asynchronous periodic link between the sync array and the disaster recovery array is then reversed so updates to the disaster recovery array are replicated back to the sync array albeit in asynchronous periodic mode. When the original primary array is restored to service, its Remote Copy links are reversed and used to synchronize the primary server's volumes with changes that occurred during the outage before resuming normal service.



QUESTION 32

An IT Operations Director of a large investment bank requests a meeting with the HP Account Manager and the Solution Architect. During the meeting, the IT Operations Director reports that there will be a 10% reduction in the investment bank's operations staff, which currently provides help-desk

services and first level technical support for 400 U.S. customer banks. HP Professional Services provides support for the investment bank's New York and San Francisco data centers, which have HP 3PAR StoreServ 10000 Storage Systems attached to HPUX-based HP Integrity Superdomes. The investment bank's 400 customer bank use HP EVA P6400 storage attached to an HP Blade Systems with Virtual Connect FlexFabric. Now, the investment bank needs to add proactive monitoring and analysis.

What should the HP Account Manager and Solution Architect do to help the IT Operations Director address these challenges? (Select two)

- A. Discuss the business benefits of the existing HP EVA 6400 install base using HP Insight Remote Support Advanced.
- B. Demonstrate the value of HP's Mission Critical Advantage Services.
- C. Prepare HP Consulting Services to evaluate the investment bank data center SAN monitoring and firmware management environment
- D. Modify the management framework of the investment bank data center infrastructure with HP Systems Insight Manager and HP Insight Remote Support Standard.
- E. Recommend the placement of the HP EVA 6400 with the HP 3PAR StoreServ 12000 Storage System.

Correct Answer: AD

Section: HP0-J64

Explanation

Explanation/Reference:

Needs to add proactive monitoring and analysis

HP Insight Remote Support Advanced is ideal for midsize to large environments. It is recommended if you are already using HP Systems Insight Manager (SIM) for Microsoft Windows, have a larger enterprise environment, or need Mission Critical Services delivery.

HP Insight Remote Support is ideal for environments with up to 2,500 devices and for customers who do not require a management platform integration or HP Mission Critical Services delivery. With Insight Remote Support, customers can take advantage of HP Insight Online to share device information with their HP authorized partners.

QUESTION 33

A customer requires a storage solution with the ability to easily align data placement with in appropriate array tiers in order to reduce costs.

Which description of HP 3PAR StoreServ Dynamic Optimization capabilities is accurate for this customer?

- A. Non-disruptive conversion from frequently-accessed data in a fully provisioned storage tier to a thinly provisioned storage tier
- B. Automatic RAID-level alignment for all busy volumes after array capacity or controller upgrades
- C. Automatic placement based on volume access patterns, tier capacity settings, and pre-determined optimization schedules.
- D. User-initialized volume migration to the best tier, based on application needs or historical array performance analysis.

Correct Answer: D

Section: HP0-J64

Explanation

Explanation/Reference:

HP 3PAR Dynamic Optimization and HP 3PAR Policy Advisor for Dynamic Optimization are autonomic storage tiering tools that give your organization the ability to react quickly to changing application and infrastructure requirements. Used together, these unique 3PAR utilities alleviate the problem of costly and time-consuming quality of service (QoS) level optimization-even in the largest and most demanding environments.

HP 3PAR StoreServ Dynamic Optimization and Adaptive Optimization software are optional features that allow storage administrators to seamlessly migrate data between storage tiers in their environment without interrupting data access.

Never HP 3PAR StoreServ Dynamic Optimization "a fully provisioned storage tier to a thinly provisioned storage tier"

HP 3PAR Thin-to-Fat and Fat-to-Thin Conversion

In previous releases of the HP 3PAR OS, customers had to perform an offline transition in order to change the provisioning attributes of a volume. This used the legacy physical copy technology where upon completion of the copy, all the VLUNs and applications had to be manually moved from the old VV to the new one. With HP 3PAR OS 3.1.2 you now have the ability with HP 3PAR Thin-to-Fat and Fat-to-Thin Conversion to convert from a thin-provisioned volume to a fully-provisioned volume (or vice versa) without requiring an offline transition. Fat-to-thin saves space for volumes that are sparsely consumed VMware datastores while thin-to-fat saves on thin provisioning license usage for data stores that are currently thin provisioned volumes and mostly or completely allocated.

(Answer for A) Non-disruptive conversion from frequently-accessed data in a fully provisioned storage tier to a thinly provisioned storage tier for Question **HP 3PAR Fat-to-Thin Conversion**

<http://www.vmware.com/files/pdf/partners/hp/vmware-vsphere-hp-3par-storeserv-so.pdf>

(Thank You - Antonio)

QUESTION 34

A regional market leader in direct financial services run several call centers across the United States and is opening a number of new call centers in the near future. The client uses Windows XP on dedicated workstation. The IT infrastructure consists of numerous HP Proliant DL 360 G5 and HP Proliant DL380 G6 servers running VMware ESX or SUSE Linux for the database server, direct attached storage, and HP Ultimatum tape drives. They want to consolidate the infrastructure.

Which drawback of his environment can be eliminated when designing an HP StoreVirtual 4000 Storage solution?

- A. Unexpected downtime caused by a site failure
- B. Performance bottlenecks caused by mixed workload's
- C. Inconsistent Oracle data caused by array snapshots
- D. Capacity bottlenecks caused by duplicated data blocks

Correct Answer: B

Section: HP0-J64

Explanation

Explanation/Reference:

SmartClone technology is based on the space-efficient LeftHand Thin Provisioning architecture, and the volume clones can be used without limitation along with all other LeftHand OS features like Network RAID, Thin Provisioning, Snapshot, and Remote Copy. The feature works by taking any volume or snapshot and making one or many clones in an instant. The cloning function makes a permanent, read/write volume on the array, pointing back to the original volume's blocks instead of duplicating the blocks. By managing each clone as a pervasive volume, SmartClone eliminates any requirement for a volume, snapshot, or any of its predecessors to exist after the clone has been created, and also eliminates the need to run de-duplication software, because there are no duplicate blocks. The clone shares the original volume's blocks and uses copy-on-write semantics. SmartClone technology reduces storage costs and increases overall storage efficiency. Administrators can store "gold-master" system images on the array for virtual desktop and boot-from-SAN implementations, and quickly provision test environments using real production data. To simplify management, administrators can view all of the relationships between clones, volumes, and snapshots graphically in the Control Management Console.

http://h18006.www1.hp.com/products/quickspecs/13254_div/13254_div.pdf

QuickSpecs

HP LeftHand P4000 SAN Solutions

Family Information

All of the following benchmarks were designed to help characterize the actual performance users can expect in similar production environments. Each benchmark measures different storage characteristics. The Cache Only benchmarks illustrate the maximum **performance** limits of the SAN in an optimal scenario. While these numbers are often used as a basis of comparison between different storage vendors, they aren't representative of the workload typically found in production environments. The following benchmarks are real-world benchmarks designed to mimic actual application workloads. 8K OLTP and 4k Email benchmarks illustrate the expected performance in those application environments. Sequential Reads and Writes show throughput in megabytes per second (MB/sec), an indicator of performance for applications such as file share or streaming media.

HP LeftHand P4000 SANs Performance:

RAID 5 Performance Results (rounded down)				
	SATA Starter SAN	SAS Starter SAN	Virtualization SAN	Multi-Site SAN
Cache only IOPs	120,000	120,000	120,000	240,000
Cache only MB/s	448	448	448	896
Sequential Reads MBs	70	210	306	410
Sequential Writes MBs	40	125	183	220
8K OLTP	844	1,759	2,764	5,025
4k Email IOPS	800	2,200	3,400	7,000

RAID 10 Performance Results (rounded down)				
	SATA Starter SAN	SAS Starter SAN	Virtualization SAN	Multi-Site SAN
Cache only IOPs	120,000	120,000	120,000	240,000
Cache only MB/s	448	448	448	896
Sequential Reads MBs	70	210	306	410
Sequential Writes MBs	40	125	183	220
8K OLTP	965	2,010	3,015	6,030
4k Email IOPS	1,200	3,100	5,100	10,500

QUESTION 35

An insurance customer is planning to purchase an HP StoreVirtual SAN to support their large document management repository. They want to utilize Network RAID 6 to protect against multiple failures. What is the minimum number of nodes that must be included in the proposal to support this requirement?

- A. 3
- B. 4
- C. 5
- D. 6

Correct Answer: C

Section: HP0-J64

Explanation

Explanation/Reference:

Network Raid-5 Minimum Systems is 3

Network Raid-6 Minimum Systems is 5

http://h20565.www2.hp.com/portal/site/hpsc/template.PAGE/public/kb/docDisplay/?sp4ts.oid=4118659&spf_p.tpst=kbDocDisplay&spf_p.prp_kbDocDisplay=wsrp-navigationalState%3DdocId%253Dmmr_kc-0108305-19%257CdocLocale%253Den%257CcalledBy%253DSearch_Result&javax.portlet.begCacheTok=com.vignette.cachetoken&javax.portlet.endCacheTok=com.vignette.cachetoken

Sample Configuration:

Example 1: How much space will be available for NR volumes?

Basic Set-up: A Multi-Site SAN, with 4 HP P4500 nodes with 600GB disks. P4500 have 2 logical arrays of 6 disks. This means that 2 disks are in each configuration.

Raw Capacity : $4 \times 12 \times 600\text{GB} = 28.8\text{TB}$

Hardware RAID5 [TS]: $24.0\text{TB} = 4 \times (12 - (1 \times 2)) \times 600\text{GB} = [NN \times (N - (1 \times NL))] \times Ds$

Total space available for NR# volumes:

[formatted]

+ NRAID0 : 24.0TB

+ NRAID10: (24.0/2) [12.0TB or 12 1 TB volumes at nr10]

+ NRAID10+1: (24.0/3) [8.0TB or 8 1 TB volumes at nr10+1]

+ NRAID10+2: (24.0/4) [6.0TB or 6 1 TB volumes at nr10+2]

+ NRAID5: (24.0-(24.0*(1/4))) [18.0TB or 18 1 TB volumes at nr5]

+ NRAID6: Min number of nodes for NRAID6 is 5.

Exibição de docum

QUESTION 36

A customer is concerned about backup data growth and maintaining or improving restore service level. The current environment consist of an HP StoreVirtual P4500 SAN solution, HP Data Protector, and an HP MSL4048 Tape Library with LTO-3 drives connected via SAS to the backup server. You have been asked to design an upgrade to the current environment that provide increased backup storage and improve backup retention and restore times.

What should be proposed?

- A. Configure client-side de-duplication in the backup software.
- B. Implement HP StoreEasy with block-level de-duplication.
- C. Upgrade the MSL Tape Library to LTO-5 tape drives
- D. Implement an HP StoreOnce Backup System

Correct Answer: C

Section: HP0-J64

Explanation

Explanation/Reference:

The HP StoreEver MSL Tape Libraries meet demanding storage requirement of businesses needing unattended backup, disaster recovery, or archive capability. The MSL Libraries offer a broad choice of storage capacity and interfaces with LTO-6, LTO-5, LTO-4, or LTO-3 Ultrium tape drives.

	Generation				
Attribute	LT0-1	LT0-2	LT0-3	LT0-4	LT0-5
Release date	2000	2003	2005	2007	2010
Native data capacity	100 GB	200 GB	400 GB	800 GB	1.5 TB ^[7]
Max uncompressed speed (MB/s) ^{[9][Note 1]}	20	40	80	120	140
Compression capable?	ALDC "2:1"				
WORM capable?	No		Yes		
Encryption capable?	No			Yes	
Partition capable?	No (1 allowed)				Yes (2 allowed)
Tape thickness	8.9 μm		8 μm	6.6 μm	6.4 μm
Tape length	609 m		680 m	820 m	846
Tape tracks	384	512	704	896	1280
Write elements	8		16 ^{[7][13]}		
Wraps per band	12	16	11	14	20 ^[7]
Linear density (bits/mm)	4880	7398	9638	13,250	15,142 ^[14]
Encoding	RLL 1,7	RLL 0,13/11; PRML			RLL 32/33; PRML
Cartridge memory	4 KiB			8 KiB	

http://en.wikipedia.org/wiki/Linear_Tape-Open

QUESTION 37

Which rule applies when designing a route HP StoreVirtual 4000 Remote Copy environment to replicate data from a branch office to the main data center?

- A. The two IP subnets must have IP routes to each target network with forwarding.
- B. The two IP subnets must have IP routes to each target network with direct access mode configured.
- C. The two IP subnets must have IP routes to each target network without network address translation.

D. The two IP subnets must have IP routes to each target network without a private VPN tunnel used.

Correct Answer: C

Section: HP0-J64

Explanation

Explanation/Reference:

IP networking requirements

You can use HP P4000 remote copy from one cluster to another cluster on a single IP subnet as well as across routed environments. In a routed environment, the two IP subnets must have IP routes to each target network without network address translation (NAT) or port forwarding. You can employ private WAN connections using point-to-point protocols, or you can set up a VPN tunnel between two networks that are separated by the public Internet. The VPN tunnel effectively acts as one hop on a router and will allow the use of private IP space on each end.

<http://h17007.www1.hp.com/docs/justrightit/HP%20StoreVirtual%20P4000%20Networking%20Recommendations.pdf>

QUESTION 38

A customer in the financial needs full high availability and optional write performance of and HP StoreVirtual 4000 solution in case of a data center failure.

Which Network RAID level should you recommend?

- A. Network RAID 6
- B. Network RAID 10
- C. Network RAID 10+1
- D. Network RAID 10+2

Correct Answer: D

Section: HP0-J64

Explanation

Explanation/Reference:

Network RAID-0, Network RAID-5, and Network RAID-6 will not tolerate site failures.

Network RAID 5 - Stores three data and one parity as a minimum configuration i.e 3+1 , meaning three nodes as a starting point.

Network RAID 6 - Stores three data and two parity as a minimum configuration i.e 3+2 , meaning five nodes are required initially.

Network RAID 10 - Stores two copies of each volume's block, providing continuous data availability across any single node failure.

Network RAID 10+1 - Stores three copies of each block for mission-critical data that needs to be available despite any double node failure.

Network RAID 10+2 - used in situations where a cluster is divided between two locations, and the data must be continuously available in the event of both a site failure and a node failure at the alternate site (Campus SAN).

full high availability and optional write performance of and HP StoreVirtual 4000

http://h20565.www2.hp.com/portal/site/hpsc/template.PAGE/public/kb/docDisplay/?sp4ts.oid=4118659&spf_p.tpst=kbDocDisplay&spf_p.prp_kbDocDisplay=wsrp-navigationalState%3DdocId%253Dmmr_kc-0108305-19%257CdocLocale%253Den%257CcalledBy%253DSearch_Result&javax.portlet.begCacheTok=com.vignette.cachetoken&javax.portlet.endCacheTok=com.vignette.cachetoken

Network RAID10+1: Data is striped and mirrored across three or more storage systems. Three copies of the Data in a volume configured with Network RAID10+1 are available and preserved in the event that any two storage systems become unavailable. Best applications for Network RAID10+1 are those that require data availability even if two storage systems in a cluster become unavailable.

Network RAID10+2: Data is striped and mirrored across four or more storage systems. Four copies of the Data in a volume configured with Network RAID10+2 is preserved in the event that any three storage systems become unavailable. Network RAID10+2 are designed for Multi-Site SANs to preserve data in the event of an entire site becoming unavailable. Best use for Network RAID10+2 volumes is for data that must be synchronously replicated between two locations and must remain fully redundant in the case of an entire site failure.

QUESTION 39

Your are designing a new storage environment for an enterprise customer who deals with application delivery.

Which questions should you ask the CEO during the consulting interview to get all of the information to design and position the solution? (Select two)

- A. What are your business opportunities?
- B. Which cost and risk control mechanisms are in place?
- C. Which service-level improvements do you need?
- D. What is your application development backlog?
- E. What is your competitive business advantage?

Correct Answer: AE

Section: HP0-J64**Explanation****Explanation/Reference:**

CEO - Competitive business advantage; business opportunities

CFO - Cost and risk control

CIO - IT operating costs; application development backlog

Clients - User; service-level consistency or improvement

QUESTION 40

A medium-sized company with 300 users has a Fibre Channel-based storage infrastructure with two HP StoreServ 7000 storage arrays. Their user data is distributed on three HP Proliant DL380 G5 servers with local-attached storage. They have asked for a solution to increase the availability of their File Service that will fit in their limited IT budget.

Which solution you recommend in your proposal?

- A. HP Virtual System for Microsoft
- B. HP StoreEasy 3830 Gateway Storage
- C. HP StoreVirtual VSA
- D. HP StoreAll 9300 Storage

Correct Answer: C

Section: HP0-J64

Explanation**Explanation/Reference:****HP StoreVirtual VSA**

<http://www8.hp.com/pt/pt/products/data-storage/data-storage-products.html?compURI=1225885#.Upuy4NK8D6A>

HP StoreAll 9300 Storage

<http://h20195.www2.hp.com/V2/GetPDF.aspx%2F4AA2-9975ENW.pdf>

HP Virtual System for Microsoft

<http://h17007.www1.hp.com/us/en/converged-infrastructure/converged-systems/virtualization-virtualsystem-microsoft.aspx#n298OHITGxs>

HP StoreEasy 3830 Gateway Storage

<http://www8.hp.com/pt/pt/products/file-object-storage/product-detail.html?oid=5335920#!tab=features>

File Service that will fit in their limited IT budget

<http://h20195.www2.hp.com/V2/GetPDF.aspx%2F4AA2-5104ENW.pdf>

HP StoreVirtual VSA software

Technical specifications

Hardware support	Runs on all HP ProLiant or third-party servers and c-Class server blades certified with VMware ESX or Microsoft Hyper-V
Warranty standard statement	3-year HP software support standard; 9x5 business hours phone support (software technical support and software product and documentation updates)
QuickSpecs	h18000.www1.hp.com/products/quickspecs/13255_div/13255_div.pdf

The total package—solution value statements

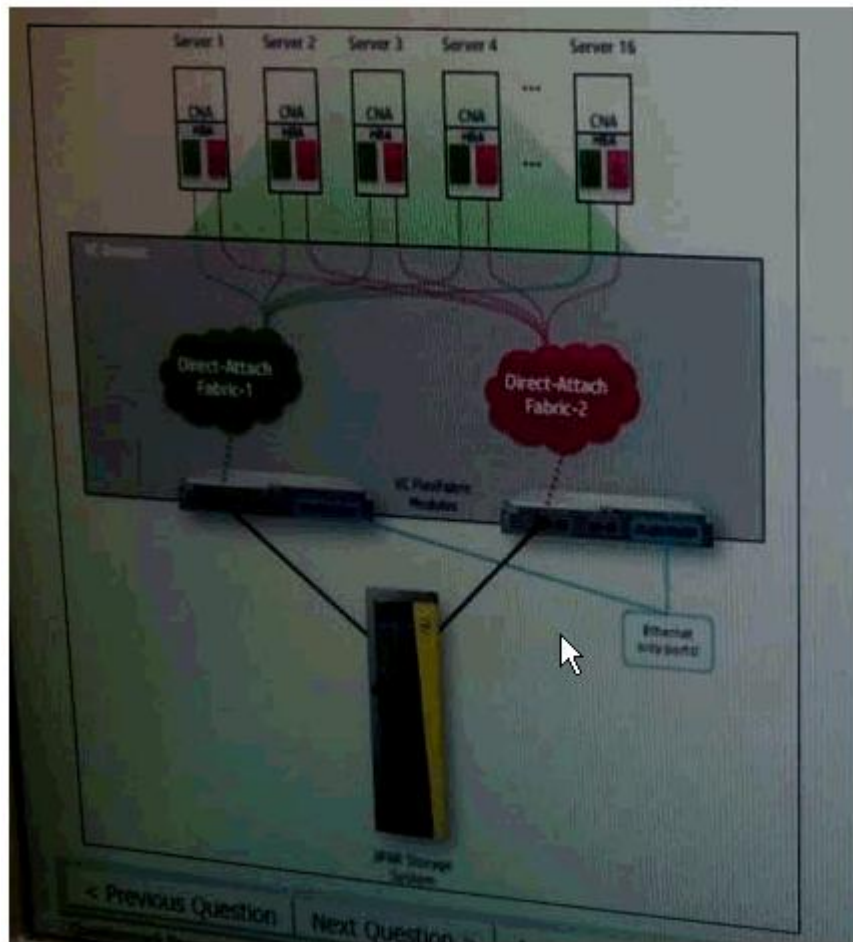
- Gain the benefits of a SAN without requiring a physical SAN infrastructure as StoreVirtual VSA turns hypervisor attached storage into a virtual iSCSI storage.
- Take advantage of advanced hypervisor features such as VMware vMotion and Microsoft Live Migration, which require shared storage.
- Enables a disaster recovery solution for remote or branch offices that do not have budget, space, or power for a traditional SAN.

QUESTION 41

The IT director for a packaged foods corporation is soliciting design concepts from vendors for a new call center infrastructure. The IT director's objectives are to use up to 16 state-of-the-art virtualized blade server and easy-to-implement Fiber Channel storage. Backup architecture is already provided by the IT director's team. After reviewing the customer needs, you begin to develop a solution. You show the IT director an illustration of the design.

Which benefit of the Flat SAN feature matches the customer needs?

Exhibit:



- A. Simplify fabric management by connecting HP Virtual Connect FlexFabric Fibre Channel directly to HP 3PAR StoreServ Fibre Channel storage
- B. Use Virtual Connect Flex-10 to further improve interconnect efficiency
- C. Scale with the pay-as-you-grow model and pay for only what is currently needed
- D. Manage through a single pane of glass with Virtual Connect Manager Web-based and Command Line Interfaces

Correct Answer: A

Section: HP0-J64

Explanation

Explanation/Reference:

<http://h20195.www2.hp.com/V2/GetPDF.aspx%2F4AA4-6479ENW.pdf>

HP 3PAR StoreServ Flat SAN and Direct Attached Storage

In client virtualization environments, up to 80% of network traffic is server-to-server and server-to-storage. Legacy, multi-tier, fibre-channel network architectures require a complex web of network cards, interconnects, cables, and switches to keep pace with this changing traffic. This approach creates performance bottlenecks and drives higher costs and complexity to build, maintain, and secure at scale.

To address this problem HP announced HP Virtual Connect for 3PAR with FLAT SAN technology, the industry's first direct connection to fibre channel-based storage that does not require dedicated switches. This technology provides a simplified architecture with best-in-class storage and network innovations such as BladeSystem Virtual Connect, and the HP 3PAR StoreServ.

Customer benefits include these features:

- Single layer fibre channel storage network eliminates SAN switches and Host Bus Adapters (HBAs)
 - Massive simplification of fabric management
 - 2.5x faster fibre channel storage provisioning
 - 50% less infrastructure costs
 - Automated zoning capabilities to set up zones with one-click
 - Up to 55% less latency by removing the SAN fabric layer

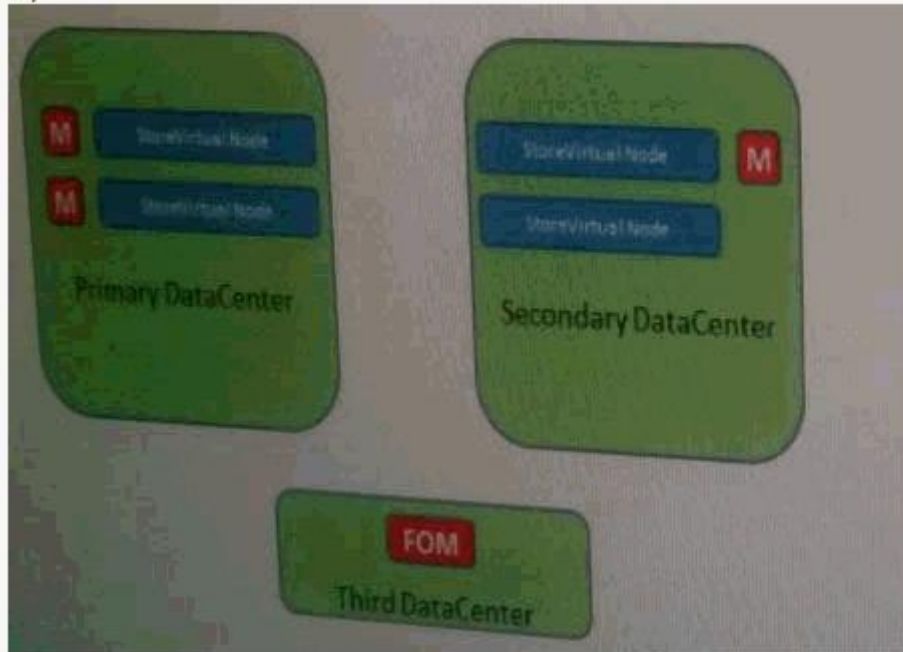
QUESTION 42

Your customer has the requirement for high availability automated data failover in their environment. Ypu design an HP StoreV cluster. During the initial presentation you describe the process of the failover.

What is correct Manager (M) and Failover Manager (FOM) configuration to fulfill the customer requirements?

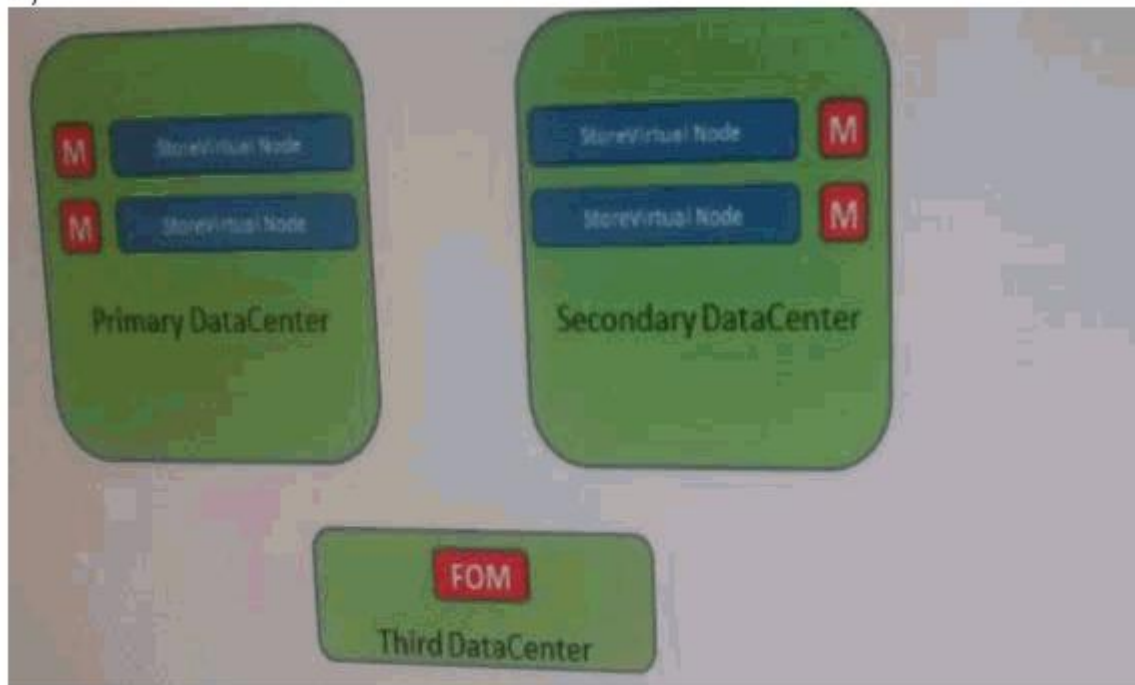
question42-a (exhibit):

A)



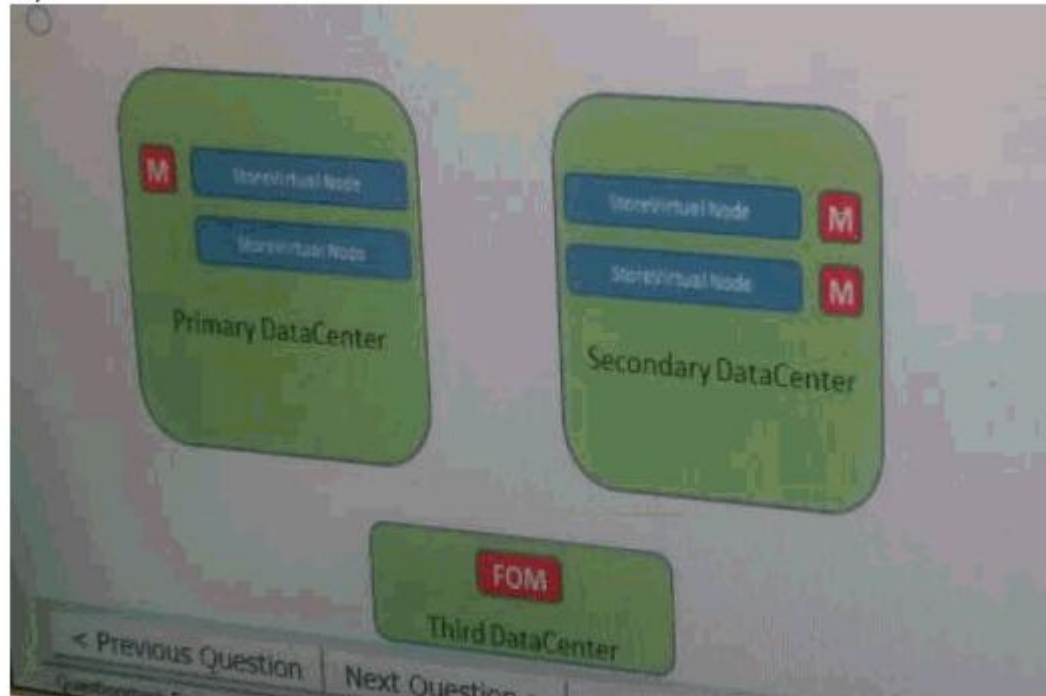
question42-b (exhibit):

B)



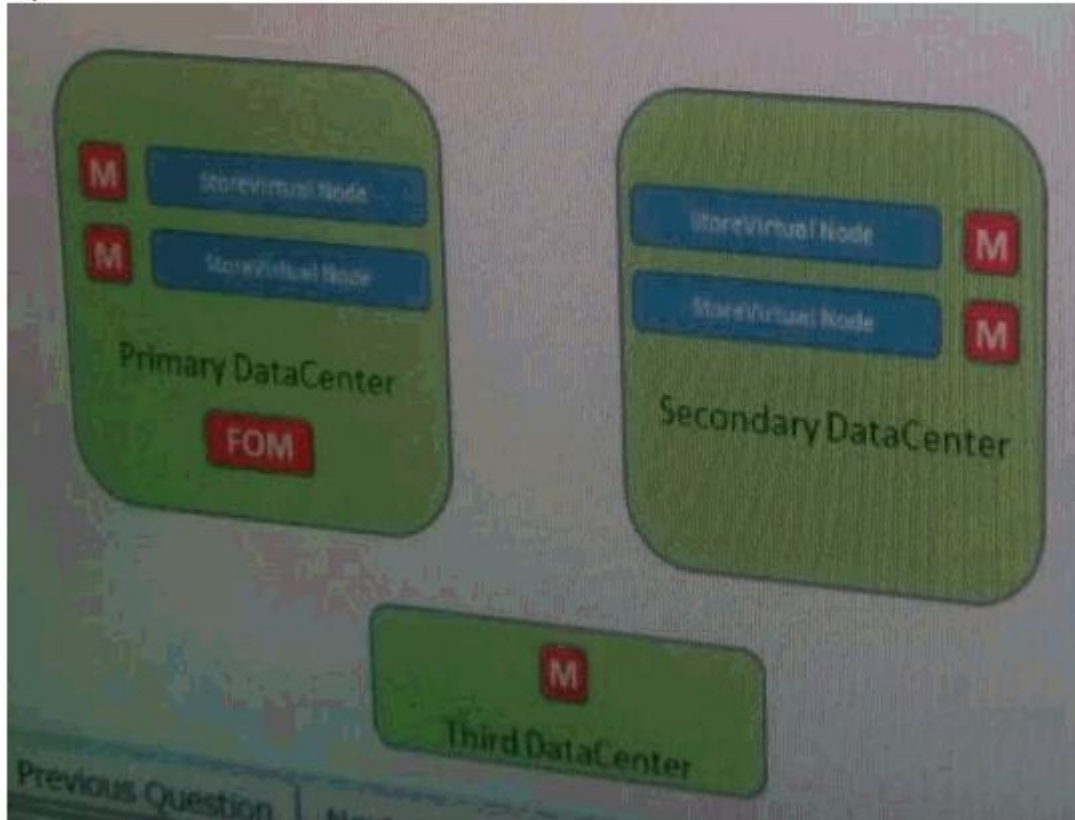
question42-c (exhibit):

C)



question42-d (exhibit):

D)



- A. Exhibit A
- B. Exhibit B
- C. Exhibit C
- D. Exhibit D

Correct Answer: B

Section: HP0-J64

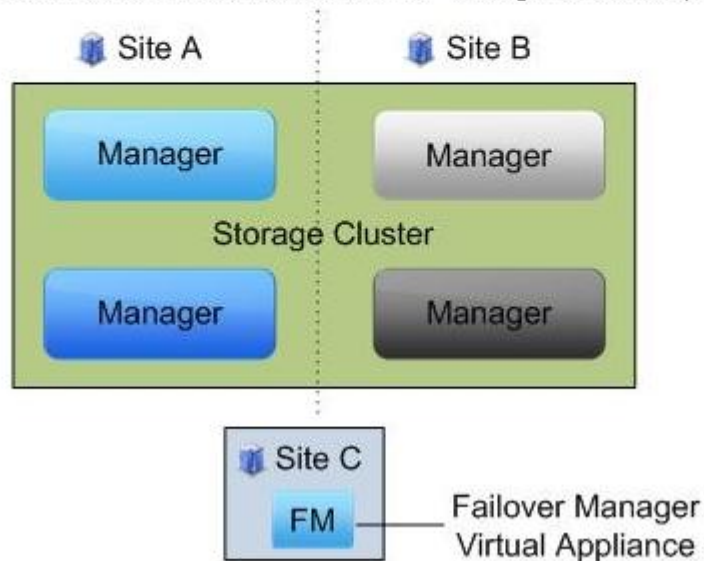
Explanation

Explanation/Reference:

<http://frankdenneman.nl/2009/10/11/lefthand-san-lessons-learned/>

Failover manager

A failover manager is a special edition of a manager. Instead of running on a storage node, the failover manager runs as a virtual appliance. A failover manager only function is maintaining quorum. When designing a SAN spanning two sites, running a failover manager is recommended. The optimum placement of the failover manager is a third site. Place an even amount of managers in both sites and run the failover manager at an independent site.



<http://bizsupport2.austin.hp.com/bc/docs/support/SupportManual/c01727773/c01727773.pdf>

QUESTION 43

A customer plans to centralize and virtualize their user desktop using VMware View Solution for 300 users. Their primary focus for this project is efficient backups. The customer design includes HP Proliant BL460C Gen8 servers and an HP StoreVirtual solution. The customer needs an environment that uses a single management console for all backup and replication activities and the ability to implement federated de-duplication. In your design, you want to add an HP StoreOnce B6200 Backup solution.

Which HP StoreOnce emulation support the customer need?

- A. VTL
- B. StoreOnce Catalyst
- C. Enterprise Tape Library
- D. NAS Share

Correct Answer: B

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Explanation

Explanation/Reference:

Their primary focus for this project is efficient backups

<http://h18000.www1.hp.com/storage/pdfs/4AA3-7775ENW.pdf>

h18000.www1.hp.com/products/quickspecs/14153_div/14153_div.pdf

	StoreOnce Catalyst
Target for backup applications	VTL
	NAS [Common Internet File System (CIFS)/Network File System (NFS)]
	Symantec OST

HP StoreVirtual solution using VMware View and uses a single management console for all backup and replication activities.

<http://www8.hp.com/pt/pt/products/data-storage/data-storage-products.html?compURI=1225885#.Upu7BieahF0>

http://h18004.www1.hp.com/products/quickspecs/productbulletin.html#spectype=north_america&type=html&docid=14450

Reliable remote office data protection

HP StoreOnce Backup is ideal for remote offices - providing a local backup target and an efficient deduplicated local data repository. Choose the flexibility and simplicity of the HP StoreOnce VSA, or choose dedicated appliances such as the StoreOnce 2620 depending on the infrastructure, performance and management requirements of your remote office deployments. HP StoreOnce also enables a Federated Deduplication solution for replication of backup to other sites, including the consolidation of backup and DR from multiple remote offices to the data center. Multiple StoreOnce appliances and virtual machines can replicate to central StoreOnce appliance; for example you can fan-in up to 384 remote offices to a single HP StoreOnce B6200 target at the data center.

With HP StoreOnce Catalyst the movement of data between sites is configured and controlled using your backup application as a single interface for the data protection solution. StoreOnce Catalyst supports a range of flexible configurations that enable the concurrent movement of data from one site to multiple sites, and the ability to cascade data around the enterprise (sometimes referred to as multi-hop).

QUESTION 44

Which HP 3PAR StoreServ key architectural benefit should be emphasized when presenting an HP StoreServ technical overview to a customer facing critical staff reductions in a multi-tier storage array environment with departmental array isolation requirements?

- A. identical operation system features and management tools from entry-level to enterprise-class array
- B. automated volume identification and export ID selection for both UX and Windows 2008 hosts
- C. automated RAID level reconfiguration based on actively monitored pre-configured performance thresholds
- D. real time automated thin storage pool configuration guidance and configuration based on a selectable set of storage tiers

Correct Answer: D

Section: HP0-J64

Explanation

Explanation/Reference:

<http://cloud-land.com/blog/category/storage/>

<http://h20195.www2.hp.com/v2/GetPDF.aspx%2F4AA3-8316ENW.pdf>

HP 3PAR StoreServ offers efficient, autonomic, and multi-tenant features to positively impact your critical business issues. It has set the gold standard for thin provisioning and is the leading storage vendor offering a multi-dimensional approach to thin storage.

QUESTION 45

You are designing an HP 3PAR StoreServ 7000 solution for an enterprise customer with a broad spectrum of UNIX server and Brocade switch technologies. Many applications are supported on older hosts that have been in production for many years. There are concerns with current operating system level and firmware levels.

Which approach should you use to provide upgrade information to the customer?

- A. Configure the array with an earlier release of the HP 3PAR InForm OS to ensure compliance on older enterprise environments.
- B. Collect sample server and SAN information and build a configuration report with HP Single Point of Configuration Knowledge (SPOCK) that depicts minimal supported release levels.
- C. Provide the customer with access to Product QuickSpecs and the HP SAN Design Guide to assist with verifying integration compliance.
- D. Utilize HP 3PAR Host Explorer to verify current host configuration compliance specifications.

Correct Answer: B

Section: HP0-J64

Explanation

Explanation/Reference:

<http://h20272.www2.hp.com/>

Welcome to the Single Point of Connectivity Knowledge (SPOCK) website. SPOCK is the primary portal used to obtain detailed information about supported HP Storage product configurations.

Explore HP 3PAR StoreServ Storage interoperability

- » HP 3PAR StoreServ 10000 Storage was previously known as HP P10000 3PAR Storage System.
- » Storage array models 10400 and 10800 were previously known as P10000(V400) and P10000(V800) respectively.
- » HP 3PAR OS 3.1.1 was previously known as InForm OS 3.1.1.
- » For Recovery Manager products (RMV, RME, RMS, RMO) and other host-based product supported configurations, please refer to the [3PAR Array Software page](#)

	AIX	IBM Virtualization	Apple Mac OS X	Citrix XenServer	HP-UX	HP Virtual Machines	Mainframe	MPE/iX	NetWare	NonStop OS	OpenVMS	Oracle Linux	Red Hat	Red Hat Virtualization	SGH-RIX	Solaris	SUSE	SLES Virtualization	Tru64 Unix	Ubuntu	Virtual Server	Vmware	Windows 2012	Windows 2008	Windows 2003	Windows XP Pro	Windows 2000	Windows NT 4.0
10800 FC	✓	✓		✓	✓						✓	✓	✓	✓		✓	✓	✓				✓	✓	✓	✓			
10800 10Gb FCoE													✓									✓						
10800 10Gb iSCSI				✓								✓	✓	✓		✓	✓	✓		✓		✓	✓	✓	✓			
10400 FC	✓	✓		✓	✓						✓	✓	✓	✓		✓	✓	✓				✓	✓	✓	✓			
10400 10Gb FCoE													✓									✓						
10400 10Gb iSCSI				✓								✓	✓	✓		✓	✓	✓		✓		✓	✓	✓	✓			
7450 FC	✓	✓		✓	✓						✓	✓	✓	✓		✓	✓	✓				✓	✓	✓	✓			
7450 10Gb FCoE													✓									✓						
7450 10Gb iSCSI				✓								✓	✓	✓		✓	✓	✓		✓		✓	✓	✓	✓			
7400 FC	✓	✓		✓	✓						✓	✓	✓	✓		✓	✓	✓				✓	✓	✓	✓			
7400 10Gb FCoE													✓									✓						
7400 10Gb iSCSI				✓								✓	✓	✓		✓	✓	✓		✓		✓	✓	✓	✓			
7200 FC	✓	✓		✓	✓						✓	✓	✓	✓		✓	✓	✓				✓	✓	✓	✓			
7200 10Gb FCoE													✓									✓						
7200 10Gb iSCSI				✓								✓	✓	✓		✓	✓	✓		✓		✓	✓	✓	✓			
T800 FC	✓	✓		✓	✓							✓	✓	✓		✓	✓	✓				✓	✓	✓	✓			

http://h20272.www2.hp.com/Pages/spock2Html.aspx?htmlFile=sw_array_3par.html

HP Storage SPOCK

» SPOCK Home	3PAR Array Software
» Announcements	SPOCK Home > Software > 3PAR Array Software
SAN Compatibility	HP 3PAR Operating System Software: Array Software
» Compatibility Tool <ul style="list-style-type: none">» View by Array» View by OS» View by NAS» View by FC Switch» View by FCoE Switch» View by SAS Switch» View by Router» View by CNA» View by HBA » My SPOCK	» HP 3PAR StoreServ Block Storage Drivers in OpenStack (112 KB PDF, 2013_10_17) » HP 3PAR SmartStart (10 KB PDF, 2013_10_14) » HP 3PARInfo (10 KB PDF, 2013_10_10) » HP 3PAR CLI Remote Client (14 KB PDF, 2013_11_13) » HP 3PAR Cluster Extension (CLX) for Linux (245 KB PDF, 2012_03_28) » HP 3PAR Cluster Extension (CLX) for Windows

QUESTION 46

How does the HP StoreVirtual DSM for Windows compare to the native MPIO provided by the operating system?

- A. It opens iSCSI connections to all StoreVirtual nodes
- B. It modified the iSCSI routing policies
- C. It creates iSCSI bond groups
- D. It changes iSCSI transfer block size

Correct Answer: A

Section: HP0-J64

Explanation

Explanation/Reference:

HP StoreVirtual DSM for Windows

<http://h10032.www1.hp.com/ctg/Manual/c03687491.pdf>

1 Using MPIO

Description of the HP StoreVirtual DSM for Microsoft MPIO

The HP StoreVirtual DSM for Microsoft MPIO provides enhanced MPIO functionality as follows:

- Automatic creation of an I/O path to each storage system in the cluster on which the volume resides, plus a path for the administrative connection.
- Improved performance architecture over native MPIO solutions:
 - Read I/Os are always serviced by a storage system that holds a copy of the data being requested.
 - Write I/Os are always serviced by a storage system that receives a copy of the data. Remaining copies (replicas) of the data are forwarded to the appropriate storage system based on the data protection level of the volume.
- The ability to build a robust, fault-tolerant solution because an I/O path is built to every storage system in the cluster. For example, in a cluster with five storage systems, DSM for MPIO-connected volumes have six iSCSI MPIO connections to the SAN, one for each storage system and one for the administrative connection. Five of the six connections could go offline, and I/O would still be serviced.

The DSM for MPIO supports connecting multiple NICs in the application server to the SAN.

Configuring with multiple NICs improves fault-tolerant physical network connections in the server.

The DSM for MPIO can be used in a Multi-Site SAN with one or more subnets. In this configuration, the DSM for MPIO will only build I/O paths to the storage systems that are in the same subnet as the application server. Alternatively, you can assign an application server to a site. Application servers assigned to a site connect only to storage systems in the same site. Both of these configurations permit higher performance and lower network utilization by reducing the amount of I/Os that traverse the WAN link.

NOTE: Refer to the instructions specific to Multi-Site SAN configurations in the rest of this chapter. You can also refer to the *HP StoreVirtual Storage Multi-Site Configuration Guide*, available on the HP StoreVirtual Management Software DVD or on the HP StoreVirtual 4000 Storage Manuals page of the HP Business Support Center website.

<http://www.hp.com/support/StoreVirtualManuals>

QUESTION 47

Which backup platforms are supported with HP StoreOnce Catalyst via an OpenStorage Technology (OST) integration?

- A. CommVault Galaxy
- B. CA ARCserve
- C. Symantec Backup Exec 2013
- D. IBM TSM

Correct Answer: C

Section: HP0-J64

Explanation

Explanation/Reference:

http://h20628.www2.hp.com/km-ext/kmcsdirect/emr_na-c03478346-1.pdf

<http://h20195.www2.hp.com/v2/GetPDF.aspx%2F4AA4-4500ENW.pdf>

• **Backup Exec OST**

OST is a Symantec backup interface that allows intelligent storage devices, like the HP StoreOnce Backup system, to work with Symantec's Backup Exec software. OST provides Backup Exec administrators with advanced capabilities, such as optimized duplication and DR copy creation.

QUESTION 48

A very large application service provider (ASP) is going through a major virtualization effort. After the initial meeting with the ASP team, your notes are:

- Customer objective is to virtualize their environment. Modernize and simplify their infrastructure.
- All servers are on HP Blade System c7000 virtual Connect 1/10-F and Virtual Connect FC modules, G5 physical blade servers. Lease is up.
- 48 blades require virtualization and NFS connections. Existing filer third party Lease is up to need more I/O and Scale.
- 12 blades are Clustered SQL Server. No virtualization on these blades required. Storage today is on new FC-base HP 3PAR StoreServ 7400 FC.

As you develop a proposal, what should be part of the design to meet the customer goals? (Select two)

- A. Add an HP StoreEasy X3830 Gateway rack mount server to the front end of the 3PAR
- B. Add an HP StoreEasy X5000 rack mount server to the front end of the 3PAR
- C. Add new HP Blade System c7000s and Gen8 blades with Virtual Connect Flex 10
- D. Add new HP Blade System C7000s and Gen8 blades with HP Virtual Connect FlexFabric.

Correct Answer: AD

Section: HP0-J64

Explanation

Explanation/Reference:

Storage today is on new FC-base HP 3PAR StoreServ 7400 FC

HP Virtual Connect FlexFabric:

HP Virtual Connect FlexFabric 10Gb/24-port Modules are the simplest, most converged and flexible way to connect virtualized server blades to any data or storage network. VC FlexFabric modules eliminate up to 95% of network sprawl at the server edge with one device that converges traffic inside enclosures and directly connects to **LANs and SANs**.

<http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA1-0311ENW.pdf>

HP Virtual Connect Flex-10

Simplify and make your data center change-ready. The HP Virtual Connect Flex-10 10Gb Ethernet Module for c-Class BladeSystem allows administrators to fine-tune network bandwidth at the server edge by dividing each 10 Gb network connection into four independent physical FlexNIC server connections. Each FlexNIC can be configured from 100 Mb up to 10 Gb, allowing just the right amount of network bandwidth based on your application needs.

<http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA1-0311ENW.pdf>

HP StoreEasy X5000

<http://www8.hp.com/pt/pt/products/file-object-storage/product-detail.html?oid=5335827#!tab=features>

HP StoreEasy 5000 Storage is a new breed of efficient, secure, and highly available storage to simply address the file and application storage challenges of customers' medium to large business and branch office environments. StoreEasy 5000 Storage, built on industry leading ProLiant DNA and Microsoft Windows Storage Server, integrates easily into new and existing environments with a straightforward, consistent management experience for IT generalists.

HP StoreEasy X3830

<http://www8.hp.com/pt/pt/products/file-object-storage/product-detail.html?oid=5335920#!tab=features>

SAN / Array Compatibility

Host Bus Adapter (HBA) Support

HP StoreEasy 3830 Gateway Storage products are designed to be connected to a SAN or storage array by adding a recommended Fibre Channel or SAS HBA, or by using an iSCSI initiator.

HBA selection is left as your choice based on existing infrastructure and/or desired array support. Please see compatible HBAs listed in the 'Options' section below.

NOTE: See the following URL for additional information about Fibre Channel HBAs:

<http://h18006.www1.hp.com/storage/saninfrastructure/hba.html>

HP SAN / Array Support

HP 3PAR
StoreServ

http://h18006.www1.hp.com/storage/disk_storage/3par/index.html

HP StoreVirtual

http://h18000.www1.hp.com/products/quickspecs/13254_div/13254_div.html

HP P9000/XP

<http://h18006.www1.hp.com/storage/xparrays.html>

HP P6000/EVA

<http://h18006.www1.hp.com/products/storageworks/eva/index.html>

HP P2000/MSA

http://h18006.www1.hp.com/storage/disk_storage/msa_diskarrays/index.html

HP 3PAR StoreServ Flat SAN and Direct Attached Storage

In client virtualization environments, up to 80% of network traffic is server-to-server and server-to-storage. Legacy, multi-tier, fibre-channel network architectures require a complex web of network cards, interconnects, cables, and switches to keep pace with this changing traffic. This approach creates performance bottlenecks and drives higher costs and complexity to build, maintain, and secure at scale.

To address this problem HP announced HP Virtual Connect for 3PAR with FLAT SAN technology, the industry's first direct connection to fibre channel-based storage that does not require dedicated switches. This technology provides a simplified architecture with best-in-class storage and network innovations such as BladeSystem Virtual Connect, and the HP 3PAR StoreServ.

Customer benefits include these features:

- Single layer fibre channel storage network eliminates SAN switches and Host Bus Adapters (HBAs)
 - Massive simplification of fabric management
 - 2.5x faster fibre channel storage provisioning
 - 50% less infrastructure costs
 - Automated zoning capabilities to set up zones with one-click
 - Up to 55% less latency by removing the SAN fabric layer

QUESTION 49

Which HP Storage solution aligns with the HP federated storage approach?

- A. HP StoreSure
- B. HP StoreAll
- C. HP StoreEasy
- D. HP StoreVirtual

Correct Answer: D

Section: HP0-J64

Explanation

Explanation/Reference:

HP StoreAll

<http://www8.hp.com/pt/pt/products/data-storage/data-storage-products.html?compURI=1225919#.UpvSw9K8D6A>

HP StoreEasy

<http://www8.hp.com/pt/pt/products/data-storage/data-storage-products.html?compURI=1226325#.UpvS8dK8D6A>

HP StoreVirtual

<http://www8.hp.com/pt/pt/products/data-storage/data-storage-products.html?compURI=1279309#.UpvTINK8D6A>

<http://www8.hp.com/pt/pt/products/data-storage/data-storage-products.html?compURI=1225885#.UpvTNNK8D6A>

HP StoreSure

<http://www8.hp.com/pt/pt/products/data-storage/data-storage-products.html?compURI=1401941#.UpvTtdK8D6A>

HP federated storage approach

<http://www8.hp.com/us/en/products/data-storage/data-storage-technology.html?compURI=1225859#.UpvUOdK8D6A>

Products:

- HP 3PAR StoreServ Storage
- HP StoreVirtual Storage
- HP StoreOnce Backup with StoreOnce Catalyst

QUESTION 50

A customer has a B-Series SAN and wants to add an H-Series switch.

Which feature and protocol achieve this?

- A. Transparent Router (TR), N_Port ID Virtualization (NPIV)
- B. NR - SPIV
- C. LR - RPIV
- D. SR - TPIV

Correct Answer: A

Section: HP0-J64

Explanation

Explanation/Reference:

- a) Transparent Router (TR), N_Port ID Virtualization (NPIV)
- b) NR - SPIV
- c) LR - RPIV
- d) SR – TPIV

<http://www.certificationexplorer.com/Documents/HP0-J64.pdf>

QUESTION 51

A customer has an HP StoreVirtual six node cluster. The HP StoreVirtual system is presenting 30 Network RAID 10 LUNs to an application server. The application server has HP DSM for MPIO and HP Application Aware Snapshot Manager installed. The customer wants to add four more nodes to the cluster.

What must be considered when adding the four additional nodes?

- A. There is a maximum number of eight nodes per cluster.
- B. Network RAID 10 drives need to be converted to Network RAID 10+1
- C. HP DSM for MPIO will not support the new configuration
- D. All data needs to be backed up and restored.

Correct Answer: C

Section: HP0-J64

Explanation

Explanation/Reference:

- a) There is a maximum number of eight nodes per cluster.
- b) Network RAID 10 drives need to be converted to Network RAID 10+1.
- c) HP DSM for MPIO will not support the new configuration.
- d) All data needs to be backed up and restored.

<http://www.certificationexplorer.com/Documents/HP0-J64.pdf>

QUESTION 52

Your customer is rapidly expanding and wants to migrate from direct-attached storage to an array-based storage platform.

Which benefit can be achieved by moving to the HP 3PAR StoreServ platform?

- A. reduces administration time by up to 75%
- B. reduces SAN equipment costs
- C. reduces power costs by 75%
- D. cuts disk capacity requirements by 50% or more

Correct Answer: D

Section: HP0-J64

Explanation

Explanation/Reference:

- a) reduces administration time by up to 75%
- b) reduces SAN equipment costs
- c) reduces power costs by 75%
- d) cuts disk capacity requirements by 50% or more

<http://www.certificationexplorer.com/Documents/HP0-J64.pdf>

QUESTION 53

You are working with a city government on a storage refresh. They are interested in consolidating divisions that have previously had separate arrays and management. The political environment will now allow for combined budgets, but managing the storage still needs to be kept separate for varied security reasons. Budgets are very constrained, so cost will be an issue.

Which storage array should you recommend to meet their needs?

- A. HP StoreVirtual 4330 FC Storage
- B. HP StoreVirtual 4130 Storage
- C. HP 3PAR StoreServ 7200 Storage
- D. HP 3PAR StoreServ 10400 Storage

Correct Answer: C

Section: HP0-J64

Explanation

Explanation/Reference:

- a. HP StoreVirtual 4330 FC Storage
- b. HP StoreVirtual 4130 Storage
- c. HP 3PAR StoreServ 7200 Storage
- d. HP 3PAR StoreServ 10400 Storage

<http://www.certificationexplorer.com/Documents/HP0-J64.pdf>

QUESTION 54

A solution architect from an HP authorized reseller calls you with a need to configure HP Blade System and an HP StoreServ 7400 Storage System. He needs a bill of materials and a budgetary quote (List Price) for his colleague.

Which tool do you recommend he use?

- A. HP Storage Sizing Tool
- B. HP Single Point of Connectivity (SPOCK)
- C. HP SalesBuilder for Windows
- D. HP Storage Product Selector

Correct Answer: C

Section: HP0-J64

Explanation

Explanation/Reference:

<http://www.tools.hp.com>

<http://sbw.cup.hp.com>

Features

SBQWB - Configuration and quotation module

Knowledge Base Files - Configuration database rules

Price book files - The HP list price and contractual files

Discount files - Channel partner-specific discount information

SalesBuilder for Windows has two main components: the Configurator and the Quoter.

-
- a) HP Storage Sizing Tool
 - b) HP Single Point of Connectivity (SPOCK)
 - c) HP Salesbuilder for Windows
 - d) HP Storage Product Selector

<http://www.certificationexplorer.com/Documents/HP0-J64.pdf>

QUESTION 55

Which statement is accurate when an HP Blade System customer is interested in the HP Virtual Connect FlexFabric Flat SAN feature?

- A. Virtual Connect fabric-attached and direct-attached SAN fabric can not be mixed on the same Virtual Connect domain.
- B. When using the direct-attach mode, participating uplinks must be directly connected to an HP 3PAR StoreServ Storage System
- C. The direct-attach mode supports connecting HP Enterprise Virtual Array and HP StoreServ Storage
- D. Virtual Connect Enterprise Manager license are required.

Correct Answer: B

Section: HP0-J64

Explanation

Explanation/Reference:

- a) Virtual Connect fabric-attached and direct-attached SAN fabrics can not be mixed on the same Virtual Connect domain.
- b) When using the direct-attach mode, participating uplinks must be directly connected to an HP 3PAR StoreServ Storage System.
- c) The direct-attach mode supports connecting HP Enterprise Virtual Array and HP StoreServ Storage.
- d) Virtual Connect Enterprise Manager licenses are required.

<http://www.certificationexplorer.com/Documents/HP0-J64.pdf>

QUESTION 56

A company currently has 800 virtual machines with 300 TB data. Seventy percent of the servers are at 85% idle. The customers needs to reduce the overall costs of present and future storage upgrade requirements by at least 25% while reducing power and cooling costs.

What should be done to properly size each tier in an HP StoreServ Adaptive Optimization multi-tier solution?

- A. Establish capacity ratios in SSD and FC tiers to meet baseline performance requirements.

- B. Run the 3PAR System Reporter to ensure sufficient regional density I/O in each tiers
- C. Configure maximum IOPS for the NearLine tier to reduce costs by the desired percentage
- D. Estimate the amount of 1 TB license required for automatic tier movement.

Correct Answer: A

Section: HP0-J64

Explanation

Explanation/Reference:

- a) Establish capacity ratios in SSD and FC tiers to meet baseline performance requirements.
- b) Run the 3PAR System Reporter to ensure sufficient regional density I/O in each tier
- c) Configure maximum IOPS for the NearLine tier to reduce costs by the desired percentage.
- d) Estimate the amount of 1TB licenses required for automatic tier movement.

<http://www.certificationexplorer.com/Documents/HP0-J64.pdf>

QUESTION 57

You are responding to a request for proposal (RFP) for a new HP 3PAR StoreServ array. The company decision-market has asked you to justify the cost of the array.

Which benefits of the Alinean ROI Analysts should be included in the business case to justify the cost of the array (Select three)

- A. regulatory documentation
- B. payback period
- C. competitive data
- D. internal rate of return (IRR)
- E. value proposition
- F. architecture of the array

Correct Answer: BDE

Section: HP0-J64

Explanation

Explanation/Reference:

-
- a) regulatory documentation
 - b) payback period
 - c) competitive data
 - d) internal rate of return (IRR)
 - e) value proposition
 - f) architecture of the array

<http://www.certificationexplorer.com/Documents/HP0-J64.pdf>

QUESTION 58

You are responding to a request for proposal (RFP) for a new HP 3PAR StoreServ array. The company decision-market has asked you to justify the cost of the array.

Which benefits of the Alinean ROI Analysts should be included in the business case to justify the cost of the array (Select three)

- A. regulatory documentation
- B. payback period
- C. competitive data
- D. internal rate of return (IRR)
- E. value proposition
- F. architecture of the array

Correct Answer: BDE

Section: HP0-J64

Explanation

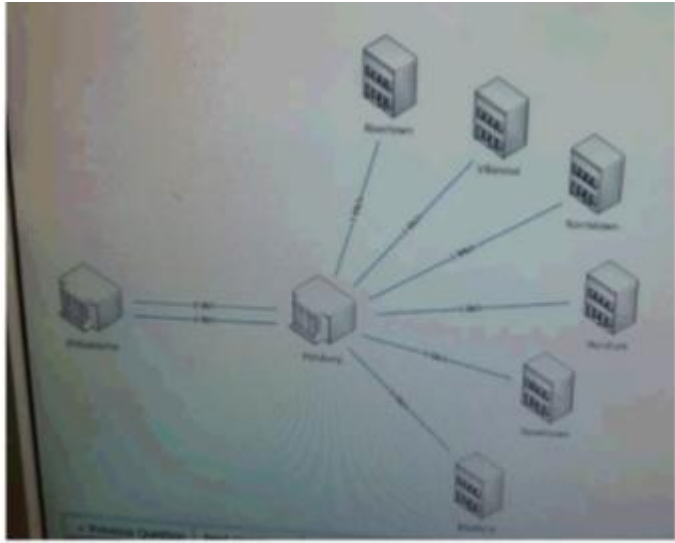
Explanation/Reference:

- a) regulatory documentation
- b) payback period
- c) competitive data
- d) internal rate of return (IRR)
- e) value proposition
- f) architecture of the array

<http://www.certificationexplorer.com/Documents/HP0-J64.pdf>

QUESTION 59

LICENSE DEDUPLICATION



- A. 1
- B. 2
- C. 6
- D. 7

Correct Answer: A

Section: HP0-J64

Explanation

Explanation/Reference:

http://h20565.www2.hp.com/portal/site/hpsc/template.PAGE/public/kb/docDisplay/?sp4ts.oid=3896393&spf_p.tpst=kbDocDisplay&spf_p.prp_kbDocDisplay=wsrp-navigationalState%3DdocId%253Demr_na-c01833372-3%257CdocLocale%253D%257CcalledBy%253D&javax.portlet.begCacheTok=com.vignette.cachetoken&javax.portlet.endCacheTok=com.vignette.cachetoken

How do I enable low bandwidth replication on my HP StorageWorks D2D Backup Systems?

The HP StorageWorks D2D Backup Systems are available with replication which may be licensed by target.

HP D2D2503 and D2D4000 Backup System products purchased prior to May 2009 may also use the replication feature, but will require the latest version of firmware before purchasing a replication license.

The latest firmware can be obtained via a free firmware upgrade, and is available from the "support for your product" link on <http://www.hp.com/go/d2d>

or from the "software drivers and downloads" page on the HP Website using the web address: <http://welcome.hp.com/country/us/en/support.html?pagedisplay=drivers>

Replication licenses for D2D products can be ordered from <http://www.hp.com> :

HP StorageWorks D2D4112 Replication License EH994A

HP StorageWorks D2D4000 Replication License EH991A

HP StorageWorks D2D2500 Replication License EH990A

A license key is required to enable an appliance to host replication target libraries. (No license is required for appliances which only act as replication sources)

Licensing is "per target appliance" that is a single license is required to enable an appliance to host as many replication target libraries as it is capable of supporting. The D2D2500 may host up to 8 replication target libraries, D2D4000 may host up to 16 replication target libraries and the D2D4112 may host up to 24 replication target libraries).

Licenses are delivered via www.webware.hp.com and are node-locked by appliance serial number (and are not transferable)

Once a license has been obtained, configuring and using replication is simple by the graphical user interface and configuration wizard on the HP D2D appliance.

QUESTION 60

A customer is interested in replacing their old storage arrays with HP 3PAR StoreServ storage arrays. They are very concerned about data availability primary benefit that should be considered?

- A. mainframe support
- B. automated tiering
- C. clustered architecture
- D. static management

Correct Answer: C

Section: HP0-J64

Explanation

Explanation/Reference:

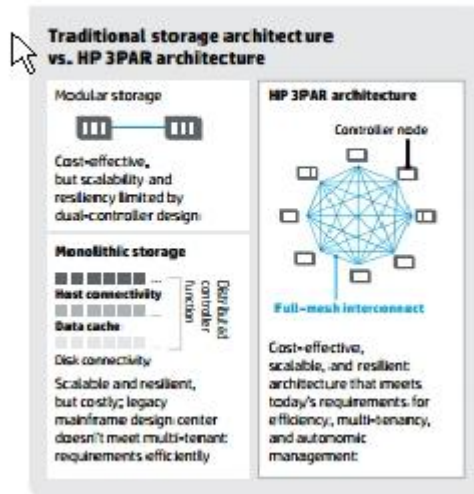
<http://h20195.www2.hp.com/V2/GetPDF.aspx%2F4AA3-2542ENW.pdf>

HP 3PAR StoreServ Architecture

The tightly clustered, multi-tenant HP 3PAR StoreServ Architecture allows you to start small and grow as you go, adding new applications and workloads affordably and nondisruptively—all within a single, autonomically tiered, flash-optimized array

HP 3PAR ASIC with Thin Built In
Flash-optimized architecture featuring a Mesh-Active design
Fine-grained virtualization and system-wide striping
HP 3PAR Persistent Cache
HP 3PAR Persistent Ports

Figure 2. Traditional storage architecture vs.
HP 3PAR architecture



QUESTION 61

Which HP 3PAR InForm Operating System feature provides Tier 1 resiliency and allows for non-disruptive online software upgrades on HP 3PAR StoreServ Storage systems without relying on multipathing software?

- A. HP 3PAR Autonomic Rebalance
- B. HP 3PAR Access Guard
- C. HP 3PAR Persistent Cache
- D. HP 3PAR Persistent Ports

Correct Answer: D

Section: HP0-J64

Explanation

Explanation/Reference:

<http://h20195.www2.hp.com/V2/GetPDF.aspx%2F4AA3-2542ENW.pdf>

HP 3PAR Persistent Ports

HP 3PAR Persistent Ports is another Tier 1 resiliency feature that provides non-disruptive online software upgrades on HP 3PAR StoreServ Storage without relying on multipathing software to initiate failover. This feature, available on all HP 3PAR StoreServ models, brings Tier 1 resiliency across the 3PAR StoreServ product line, including midrange models, by helping to ensure that host paths remain online throughout the software upgrade process. The use of standard NPIV (N_Port ID Virtualization) technology enables a single host-facing 3PAR StoreServ port to assume the identity of additional predesignated partner ports, thus enabling transparent switchover of host path connections.

QUESTION 62

Which tool helps a customer determine if the interoperability of their bill of materials (BOM) is supported by HP?

- A. HP Sizing and Configuration Tool
- B. HP Single Point of Connectivity Knowledge(SPOCK)
- C. HP SAN Designer
- D. HP Storage Product Selector

Correct Answer: A

Section: HP0-J64

Explanation

Explanation/Reference:

<http://h71028.www7.hp.com/enterprise/us/en/solutions/storage-tools.html>

HP Sizer for Microsoft Exchange Server 2010

Microsoft® Exchange Server 2010 is a complex application that requires intensive knowledge of deployment strategies, interdependencies, server and storage performance related issues. HP has developed the HP Sizer for Microsoft Exchange Server 2010 to assist customers with proper server and storage sizing for their Exchange Server 2010 deployments. The algorithms developed and implemented in this tool are based upon extensive testing of Exchange Server 2010 server roles and technologies, HP's deep experience with Microsoft Exchange, and intricate knowledge of server CPU, memory, and I/O subsystems. This tool is free to download and use, and is designed to simplify configuration across a broad range of deployments. This newest Microsoft Exchange Server Sizer provides support for multiple site deployments, varied client types and access methods, all Exchange Server 2010 server roles, Database Availability Group (DAG) high availability options, choice of tower, rack mounted, or HP BladeSystem server platforms, and either direct attached or SAN-based storage solutions. Based on your input, the tool provides a comprehensive bill of materials along with a deployment overview of the Exchange Server 2010 server roles and storage configurations. Once this Sizer is installed, updates can be downloaded automatically to the underlying software engines that are necessary to provide support for HP server and storage product information details.

QUESTION 63

An advantage of using HP StoreOnce Catalyst with the HP StoreOnce B6200 Backup System is a reduction in bandwidth between which two components?

- A. the HP StoreOnce B6200 Backup System and the tape library
- B. the media server and the client

- C. the HP StoreOnce B6200 Backup System and the client
- D. the media server and the HP StoreOnce B6200 Backup System

Correct Answer: D

Section: HP0-J64

Explanation

Explanation/Reference:

<http://h20195.www2.hp.com/V2/GetDocument.aspx?docname=4AA4-4480ENW&cc=us&lc=en>

http://www.conres.com/stuff/contentmgr/files/0/a1d681554de12de089adc5229589f778/download/hp_storeonce_catalyst_best_practice_release1.pdf

QUESTION 64

A regional market leader in direct financial services runs several call centers across the United States and is opening a number of new call centers in the near future. The client uses Windows XP on dedicated workstations. The IT infrastructure consists of numerous HP ProLiant HP DL360 G5 and HP ProLiant DL380 G6 servers running VMware ESX or Windows 2003, direct-attached storage, and Hp Ultrium tape drives.

Which HP storage and virtualization solution should be designed to support the customer IT infrastructure roadmap for client virtualization?

- A. HP 3PAR StoreServ 7000 with KVM
- B. HP EVA P6000 with VMs
- C. HP StoreVirtual 4000 with VMware View
- D. HP StoreSure 2000 with XenDesktop

Correct Answer: D

Section: HP0-J64

Explanation

Explanation/Reference:

A. kernel-based virtual machine (**KVM**)

B. virtual machine(s) **VMs**

C. VMware® Horizon View™ (formerly **VMware View**) is a virtual desktop infrastructure solution that simplifies desktop management and provides users with what they need, when they need it.

D. **Citrix XenDesktop** is the award winning solution for virtual desktop delivery and apps on demand. XenDesktop delivers virtual apps and desktops on a single unified platform, providing self-service access for users and simplified management for IT.

D. **HP StoreSure 2000** Modular Smart Array (MSA) solutions 2312fc, 2324, and P2000 and focuses on implementing and managing an MSA SAN solution.

[PDF] [HP MSA P2000 G3 Modular Smart Array Systems - Hewlett Pack](#) ...
h18000.www1.hp.com/products/.../13551_div.pdf ▼ Traduzir esta página
04/10/2013 - Hewlett Packard's MSA P2000 Family of storage arrays features P2000
... The P2000 G3 SAS array is designed for directly attaching up to four ...

C. HP StoreVirtual 4000 <http://www8.hp.com/pt/pt/products/disk-storage/product-detail.html?oid=4118659#!tab=features>
Question possibility are HP StoreVirtual 4000 with VMware View, but

iSCSI/Fibre Channel: Direct attach or direct connect

HP StoreVirtual does not support direct attach configurations for iSCSI or Fibre Channel connectivity.

<http://h20195.www2.hp.com/v2/GetPDF.aspx%2F4AA2-5654ENW.pdf>

QUESTION 65

A customer has an HP BladeSystem c7000 with HP Virtual Connect Flex-10 modules interconnect bays 1 and 2. The customer wants to install an HP ProLiant BL460c Server Blade with no options. Which Feature is unavailable to the customer with this configuration?

- A. Fibre Channel
- B. Ethernet
- C. iSCSI
- D. VLANs

Correct Answer: A

Section: HP0-J64

Explanation

Explanation/Reference:

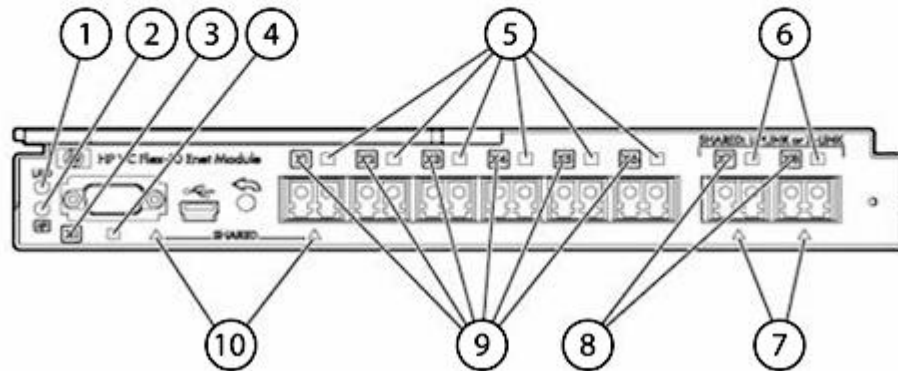
http://h18004.www1.hp.com/products/quickspecs/13127_div/13127_div.pdf

<http://h18000.www1.hp.com/products/quickspecs/productbulletin.html#spectype=worldwide&type=html&docid=13127>

Overview

HP Virtual Connect Flex-10 10Gb Ethernet Module for c-Class BladeSystem

Simplify and make your data center change-ready. The HP Virtual Connect Flex-10 10Gb Ethernet Module for the c-Class BladeSystem is the simplest, most flexible connection to your networks. The Virtual Connect Flex-10 Ethernet Module is a new class of blade interconnect that simplifies server connections by cleanly separating the server enclosure from LAN, simplifies networks by reducing cables without adding switches to manage Virtual Connect wire-once connection management allows you to change servers in just minutes, not days, and tailors network connections and speeds based on application needs. HP Flex-10 technology significantly reduces infrastructure costs by increasing the number of NICs per connection without adding extra blade I/O modules, and reducing cabling uplinks to the data center network. The HP Virtual Connect Flex-10 10Gb Ethernet Module for c-Class BladeSystem is an innovative, new class of integrated interconnects from HP.



QUESTION 66

A customer is planning to move four HP BladeSystem c7000s to another location. The Onboard Administrator firmware is at the current version. The disk drives and Virtual Connect Flex-10 modules must be removed before shipment.

Which design impact must be considered if the Virtual Connect Flex-10 modules are not reinstalled in their original locations?

- A. The Virtual Connect configurations on the installed chassis will be overwritten.
- B. The blade chassis will be reset to factory defaults.
- C. The original Virtual Connect configurations will remain intact.
- D. All server network and SAN connections will be disabled.

Correct Answer: D

Section: HP0-J64

Explanation

Explanation/Reference:

http://h20565.www2.hp.com/portal/site/hpsc/template.BINARYPORTLET/public/kb/docDisplay/resource.process/?spf_p.tpst=kbDocDisplay_ws_BI&spf_p.rid_kbDocDisplay=docDisplayResURL&javax.portlet.begCacheTok=com.vignette.cachetoken&spf_p.rst_kbDocDisplay=wsrp-resourceState%3DdocId%253Demr_na-c03801914-2%257CdocLocale%253D&javax.portlet.endCacheTok=com.vignette.cachetoken

Connecting multiple enclosures

Virtual Connect supports the connection of up to four c7000 enclosures, which can reduce the number of network connections per rack and also enables a single VC Manager to control multiple enclosures. A single set of cables can be used to carry all external Ethernet traffic from a single rack.

Multiple enclosure support enables up to four c7000 enclosures to be managed within a single Virtual Connect domain.

QUESTION 67

The CTO for a healthcare IT company just returned from HP Discover. They would like a presentation about the HP StoreServ family of arrays. The company has one data center with servers and storage. Government regulations require the company to have one copy of patient data in the data center and two additional copies. The company utilizes Amazon Storage Services to retain the two additional copies due to their data center limitations. The current array also failed to recover from a controller failure three months ago.

Which HP value proposition will increase data availability and efficiency for the customer?

- A. HP Remote Copy software
- B. HP Autonomic storage provisioning and data tiering
- C. HP Peer Motion
- D. HP 3PAR Mesh-Active clustering and persistent cache

Correct Answer: D

Section: HP0-J64

Explanation

Explanation/Reference:
Mesh-Active Controller Design

All HP 3PAR Storage Systems feature a unique Mesh-Active design as part of a next-generation architecture designed for virtual and cloud data centers. Unlike legacy "active-active" controller architectures — where each volume is active on only a single controller — this Mesh-Active design allows each volume to be active on every controller in the system. The result is robust, load-balanced performance and greater headroom for cost-effective scalability that is designed to overcome the tradeoffs associated with modular and monolithic storage systems. A high-speed, full-mesh, passive system backplane joins multiple Controller Nodes to form a cache-coherent, active-active cluster that represents the next generation of Tier 1 Storage.

<http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA2-9918ENW.pdf>

QUESTION 68

During a recent customer presentation, a question was raised regarding the HP StoreVirtual cluster running out of storage space. In reviewing the customer needs, the recommendation was to add a new HP StoreVirtual cluster.

How can the customer move data from the existing HP P4000 cluster to the new HP StoreVirtual cluster?

- A. HP Virtual Management
- B. HP Peer Motion
- C. HP Storage Essentials
- D. HP Infrastructure Management

Correct Answer: B
Section: HP0-J64
Explanation

Explanation/Reference:

[HP Blogs - HP LeftHand P4000 Peer Motion demo - The HP Blog Hub](http://h30507.www3.hp.com/t5/Around-the-Storage-Block-Blog/HP-LeftHand-P4000-Peer-Motion-demo/ba-p/108913#.Up6F29JdWE4)
[h30507.www3.hp.com/.../HP...Peer-Motion.../108913#](http://h30507.www3.hp.com/t5/Around-the-Storage-Block-Blog/HP-LeftHand-P4000-Peer-Motion-demo/ba-p/108913#.Up6F29JdWE4) ▼ Traduzir esta página
12/03/2012 - **Peer Motion** is HP's data migration technology which offers HP LeftHand users two simple and flexible methods of moving data volumes within ...

<http://h30507.www3.hp.com/t5/Around-the-Storage-Block-Blog/HP-LeftHand-P4000-Peer-Motion-demo/ba-p/108913#.Up6F29JdWE4>

QUESTION 69

Your customer has an existing HP StoreVirtual P4500 G2 multi-site SAN, which has become I/O constrained. They want to implement a new higher performance tier into the existing management group. Which Peer Motion method provides the ability to dynamically rebalance data volumes to the higher performance tier?

- A. dynamic LUN management
- B. cluster swap
- C. Remote Copy
- D. volume migration

Correct Answer: D

Section: HP0-J64

Explanation

Explanation/Reference:

<http://h20195.www2.hp.com/v2/GetPDF.aspx%2F4AA4-0304ENW.pdf>

Peer Motion is a data migration technology which offers LeftHand customers two simple and flexible methods of moving data volumes within their LeftHand environment. The two methods are:

- Volume migration
- Cluster swap

Volume migration and **cluster swap** employ peer-to-peer storage federation concepts to seamlessly move application workloads between tiers of data storage or storage clusters within a LeftHand environment.

What is Volume Migration?

HP's Peer Motion volume migration service is the online movement of any LeftHand volume between different tiers of storage systems and/or clusters. Volume migration enables the movement of data volumes between LeftHand storage clusters while preserving application access to the storage. iSCSI sessions are automatically redirected to the new cluster when the migration is initiated and application access is maintained throughout the process. The data "restripe rate" (rate at which data is moved to the new cluster) can be managed by the administrator to control the resources allocated to data migration and limit any potential impact on performance. Peer Motion volume migration provides customers a scalable tiered solution to align virtualized and cloud-based compute requirements with customer's most appropriate and cost-effective storage resources.

Peer Motion volume migration allows administrators to rapidly respond to changing workload and capacity requirements by seamlessly moving an application to a tier of storage with a higher performance profile or a cluster with more available capacity. In contrast to legacy storage designs, these migrations can be performed online, without downtime or complex planning activities

QUESTION 70

Your customer has a requirement to retain frozen point-in-time copies of their data to assist with internal data retention and to simplify compliance with internal governance procedures. Which additional HP 3PAR StoreServ software feature is necessary to meet this requirement?

- A. virtual domains
- B. Remote Copy
- C. thin persistence
- D. virtual lock

Correct Answer: D

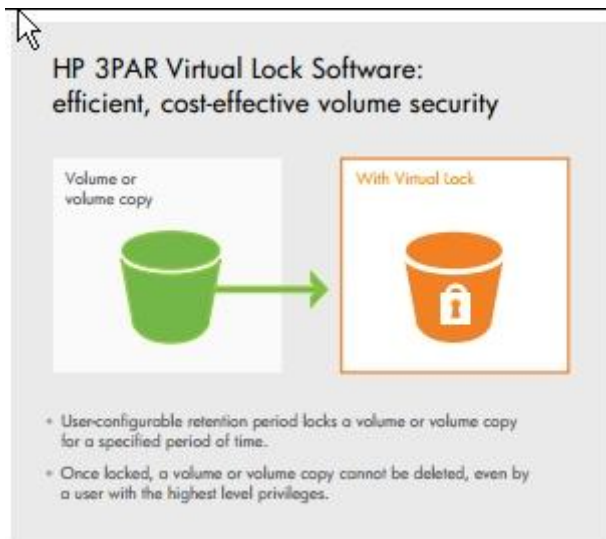
Section: HP0-J64

Explanation

Explanation/Reference:

<http://h20195.www2.hp.com/v2/GetPDF.aspx%2F4AA3-6149ENW.pdf>

Coupled with reservationless, non-duplicative, read-only virtual copies (snapshots), Virtual Lock allows you to retain frozen, point-in-time copies of data for eDiscovery and governance purposes.



QUESTION 71

A customer needs to refresh a mission-critical Fibre Channel block storage solution. They need a budgetary quote by end of the week. Which key initial

information should you gather to design an appropriate high-level HP Storage solution?

- A. number of host ports needed, current volume counts IOP averages, disaster recovery, and backup criteria
- B. current RAID levels, backup and replication criteria, number of SAN ports, and current disk speeds
- C. current RAW capacity, estimated array level IOPS, replication and backup criteria, and number of host ports needed.
- D. usable capacity, replication and backup criteria, number of thinly provisioned volumes, and deduplication ratios

Correct Answer: C

Section: HP0-J64

Explanation

Explanation/Reference:

mission-critical Fibre Channel block storage solution

Simplification of your storage management

Lowering costs

Increased performance

Ensuring reliability

Supporting green initiatives

Scalability

Security

QUESTION 72

A current customer has an older HP 3PAR StoreServ F400 running InForm OS 2.3.1 in a pre-production data center and is facing a new schedule for scaling out the application into production. The scale out will require twice the capacity and three times the performance to handle the initial workload. You design a new high performance HP 3PAR StoreServ 7400 with 64 SSDs to meet the demand of the new application. The customer has already tested new application servers attached to the F400. Due to competitive issues, the customer needs to move into production quickly and with minimal disruption.

Which solutions should you include to help ensure customer success? (Select two.)

- A. HP MPX200 Appliance to facilitate automatic storage migration from the older 3PAR array with minimal disruption
- B. HP 3PAR StoreServ Thin Conversion to reduce the storage requirement on the new array.
- C. HP 3PAR StoreServ Peer Motion to allow for non-disruptive storage movement to the new array
- D. HP 3PAR StoreServ Temporary Remote Copy License for data migration to the new array as easily as possible
- E. HP 3PAR StoreServ Data Migration services to assist with populating the new array with production data

Correct Answer: BC

Section: HP0-J64

Explanation

Explanation/Reference:

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.

<http://www8.hp.com/us/en/products/storage-software/product-detail.html?oid=5157539#!tab=features>

Data migration simplified (not apply). Question: the customer needs to move into production quickly and with minimal disruption.

Available in convenient packaged offerings, the HP 3PAR StoreServ Data Migration Service provides a flexible means of migrating your organization's critical data safely with minimal impact to your operation.

HP 3PAR Operating System Software Suite

Increase your storage management efficiency, capacity utilization and performance with this foundational software that offers autonomic provisioning and change management along with built-in HP 3PAR thin technology. Cut capacity requirements in half and stay efficient over time.

Optional software suites:

3PAR Replication Software Suite

3PAR Data Optimization Software Suite

3PAR Security Software Suite

3PAR Reporting Software Suite

http://www8.hp.com/pt/pt/products/data-storage/data-storage-products.html?compURI=1225854#.Up_Tb9JdWE4

QUESTION 73

A retail customer recently experienced a major flood in the area of their data center and lost some critical financial data. They are now planning to purchase an HP StoreVirtual multi-site configuration and rent co-location space in another city. As a part of the proposal, which component of the HP StoreVirtual architecture must be implemented to support automatic quorum management across the two sites?

- A. Management Group
- B. Centralized Management Console
- C. Failover Manager
- D. Manager Quorum

Correct Answer: B

Section: HP0-J64

Explanation

Explanation/Reference:

http://h20565.www2.hp.com/portal/site/hpsc/template.BINARYPORTLET/public/kb/docDisplay/resource.process/?javax.portlet.begCacheTok=com.vignette.cachetoken&javax.portlet.endCacheTok=com.vignette.cachetoken&javax.portlet.rid_ba847bafb2a2d782fcbb0710b053ce01=docDisplayResURL&javax.portlet.rst_ba847bafb2a2d782fcbb0710b053ce01=wsrp-resourceState%3DdocId%253Demr_na-c01727773-2%257CdocLocale%253D&javax.portlet.tpst=ba847bafb2a2d782fcbb0710b053ce01_ws_BI&ac.admitted=1386206291390.876444892.492883150

CMC Centralized Management Console. See HP StorageWorks P4000 Centralized Management Console.

QUESTION 74

A customer is upgrading their infrastructure and plans to migrate their SAN traffic to their Ethernet network using FCoE. Which product will allow the customer to use their HP EVA 4400 on their new infrastructure?

- A. HP MPX200 Multifunction Router
- B. HP E2520 switch series
- C. HP SN6000 Fiber Channel Switch
- D. HP CN1100E Dual Port Converged Network Adapter

Correct Answer: A

Section: HP0-J64

Explanation

Explanation/Reference:

HP MPX200 Multifunction Router

As IT environments and businesses grow and deploy physical/virtual servers and arrays, the amount of information required to manage, share, and protect keeps growing. The HP MPX200 provides highly available Unified block storage on EVA, XP and P9500. The multifunction router supports (10 GbE, 1 GbE iSCSI, FC, FCoE, FCIP). MPX200 performs SAN based and block-level high performance online/offline data migration across heterogeneous storage arrays (3PAR, XP, P9500, EVA and more) and helps migrate from normal provisioned storage to thin provisioned storage. MPX200 extends HP EVA, XP and P9500 investments by adding multi-protocol without requiring separate arrays or added management costs. The MPX200 enables multi-protocol SAN designs with increased scalability, ROI and simplified SAN solutions for virtualized server environments. The MPX200's enterprise-class high-availability design provides dual hot-pluggable power supplies and router blades for no single point of failure

<http://www.ndm.net/hpstorage/Storage-Networking/hp-mpx200-multifunction-router>

QUESTION 75

A customer has these servers in their IT environment.

- .1 Exchange server
- .6 SQL database servers
- .5 file servers
- .16 application servers

The customer is using an HP StoreOnce Backup System to back up their data. To achieve the best deduplication ratio/performance compromise, how many virtual libraries should be created?

- A. 1
- B. 4
- C. 5
- D. 13

Correct Answer: B

Section: HP0-J64

Explanation

Explanation/Reference:

<http://www.manualslib.com/manual/484560/Hewlett-Packard-D2d.html?page=7>

Key factors for performance considerations with deduplication:

The inline nature of the deduplication process means that there will always be some performance trade-off for the benefits of increased disk space utilization.

With each Virtual Library or NAS Share created there is an associated dedicated deduplication store. If Global deduplication across all backups is required, this will only happen if a single virtual library or NAS share is configured and all backups are sent to it.

The best deduplication ratio will be achieved by configuring a minimum number of libraries/shares. Best performance will be gained by configuring a larger number of libraries/shares and optimising for individual deduplication store complexity.

If servers with lots of similar data are to be backed up, a higher deduplication ratio can be achieved by backing them all up to the same library/share. If servers contain dissimilar data types, the best deduplication ratio/performance compromise will be achieved by grouping servers with similar data types together into their own dedicated libraries/shares.

For example, a requirement to back up a set of exchange servers, SQL database servers, file servers and application servers would be best served by creating four virtual libraries or NAS shares; one for each server set.

When restoring data from a deduplicating device it must reconstruct the original un-deduplicated data stream from all of the data chunks. This can result in lower performance than that of the backup.

Full backup jobs will result in higher deduplication ratios and better restore performance (because only one piece of media is needed for a full restore). Incremental and differential backups will not deduplicate as well

QUESTION 76

A customer has a small computer room with an existing HP BladeSystem c-Class Enclosure. The customer has 10 U of free space in their existing rack and would like to add an enterprise-class storage system. To keep costs down the customer would like a Flat SAN and a storage system that can be scaled up in the future into their existing rack space.

What should you recommend?

- A. HP 3PAR StoreServ 10000
- B. HP 3PAR StoreServ 7000
- C. HP StoreVirtual 4130 FC
- D. HP StoreAll 9300

Correct Answer: B

Section: HP0-J64

Explanation

Explanation/Reference:

Flat SAN

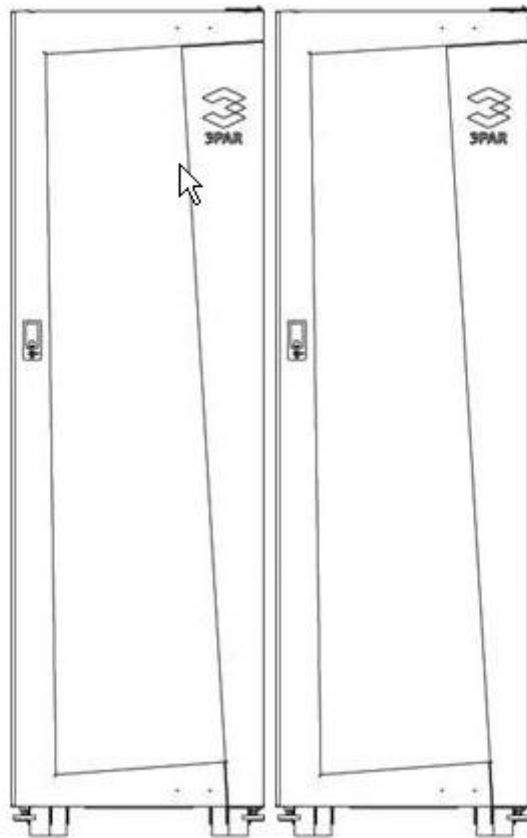
HP Virtual Connect for 3PAR with Flat SAN technology

In virtual and cloud data centers today, up to 80% of the network traffic is server-to-server and server-to-storage. Legacy, multi-tier fibre-channel network architectures require a complex web of network cards, interconnects, cables, and switches in order to keep pace with this changing traffic. This approach creates performance bottlenecks and drives higher costs and complexity to build, maintain and secure at scale.

Customer has a small computer room with an existing HP BladeSystem c-Class Enclosure and the customer has 10 U of free space in their existing rack

HP 3PAR StoreServ 10000

<http://h18004.www1.hp.com/products/quickspecs/productbulletin.html#spectype=worldwide&type=html&docid=14103>



HP 3PAR StoreServ 10000 Storage

HP 3PAR StoreServ 7000

<http://www8.hp.com/pt/pt/products/disk-storage/product-detail.html?oid=5335712#!tab=features>

**QUESTION 77**

HP 3PAR Remote Copy is supported in synchronous and asynchronous periodic modes. Which protocol is supported only by asynchronous periodic replication?

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

Correct Answer: A

Section: HP0-J64

Explanation

Explanation/Reference:

<http://h20195.www2.hp.com/v2/GetPDF.aspx%2F4AA3-3053ENW.pdf>

Multi-protocol support With Native IP as well as Fibre Channel (FC) support, HP 3PAR Remote Copy Software delivers out-of-the-box connectivity over your IP network, enabling you to replicate data more cost-effectively by leveraging your existing infrastructure. Achieve robust DR without the expensive converters and management of a separate, special-purpose infrastructure.

Connectivity choices HP 3PAR Remote Copy offers two native methods of connectivity in order to satisfy the varying business or technical needs of users: traditional Fibre Channel and TCP/IP over Gigabit Ethernet. With suitable switches, Fibre Channel over IP(FCIP) is also supported, allowing asynchronous periodic Remote Copy over longer distances without introducing GigabitEthernet into the SAN.

<http://webcache.googleusercontent.com/search?q=cache:TVcyLxsMW8AJ:h20195.www2.hp.com/V2/GetPDF.aspx%252F4AA3-8318ENW.pdf+%&cd=1&hl=pt-PT&ct=clnk&gl=pt>

QUESTION 78

Your customer has been working with a member of your technical team to size a new HP StoreOnce Backup System in an HP Data Protector 7 environment. The engineer is out of the office but provides you with the report that they generated from the HP Storage Sizing Tool.

StoreOnce System Overview							
Sizing Mode => Type: BasicDeDupe							
Product Line => HP StoreOnce Multi-Node							
Target Emulation => Catalyst Highbw							
Total Usable Capacity sized in StoreOnce => 67336 GB							
Peak Throughput required => 2010 MB/sec							
StoreOnce Dedupe Retention Table							
Job Name	Job SizeGB	SizedFor Years	Housekeeping Hours*	Block ChangeRate	Compaction Ratio	Total StoreGB	NAS Overhead**
BasicJob	57881.00	3	3.05	2 % - Medium Band2	8.52	67335.77	0.00
Category	JobName	SetName	BackupType	ChangeRate	Retention	Differentials	
Advanced	BasicJob	Daily	Incremental	20 %	5	N/A	
Advanced	BasicJob	Weekly	Full	N/A	8	N/A	
Advanced	BasicJob	Monthly	Full	N/A	1	N/A	
* These housekeeping hours are worst case and apply only when tapes are overwritten and this will vary according to rotation policy and retention period in the backup schedule. To reduce the level of housekeeping activity, it is strongly recommended to not reformat cartridges and instead use overwrite on expiry mode and not use appends to tape modes. See best practices for performance optimization whitepaper on hp.com for more details.							
** This is the capacity overhead associated with the additional Metadata used in the StoreOnce NAS Store, it will vary according to Backup applications and Backup Size.							
StoreOnce B6200 Backup Sizing Overview							
Sizing	Couplet	Nodes	Pairs1	Pairs2	Thrput	Streams	
	1	2	3	0	0	0	

StoreOnce B6200 Backup Sizing Overview

Sizing	Couplet	Nodes	Pairs1	Pairs2	Thrput	Streams
Capacity	1	2	3	0	0	0
Performance	1	2	4	0	2222	48
Combined	1	2	4	0	0	0

Sizing - Performance is based on backup window and scheduling

Couplet - Pair of nodes

Nodes - Total number of nodes across all couplets

Pairs1 - Pair of disk shelves with 28.8TB usable - using 2TB raw disk type

Pairs2 - Pair of disk shelves with 14.4TB usable - using 1TB raw disk type

Thrput - Max potential backup throughput of this multi node configuration in MB/sec

Streams - Total number of streams across all nodes - equal number of streams per node

Which planning and configuration guideline has to be adhered to so this StoreOnce B6200 Backup System works as desired?

- A. A catalyst license is configured per node.
- B. Source Side Deduplication in Data Protector is disabled.
- C. The usage of VTLs and shares is avoided.
- D. An adequate number of streams are configured.

Correct Answer: D

Section: HP0-J64

Explanation

Explanation/Reference:

An adequate number of streams are configured

QUESTION 79

The customer wants to implement an HP StoreOnce solution for the environment show. You have been given the following information:

Each branch office has approximately 100 GB of data.

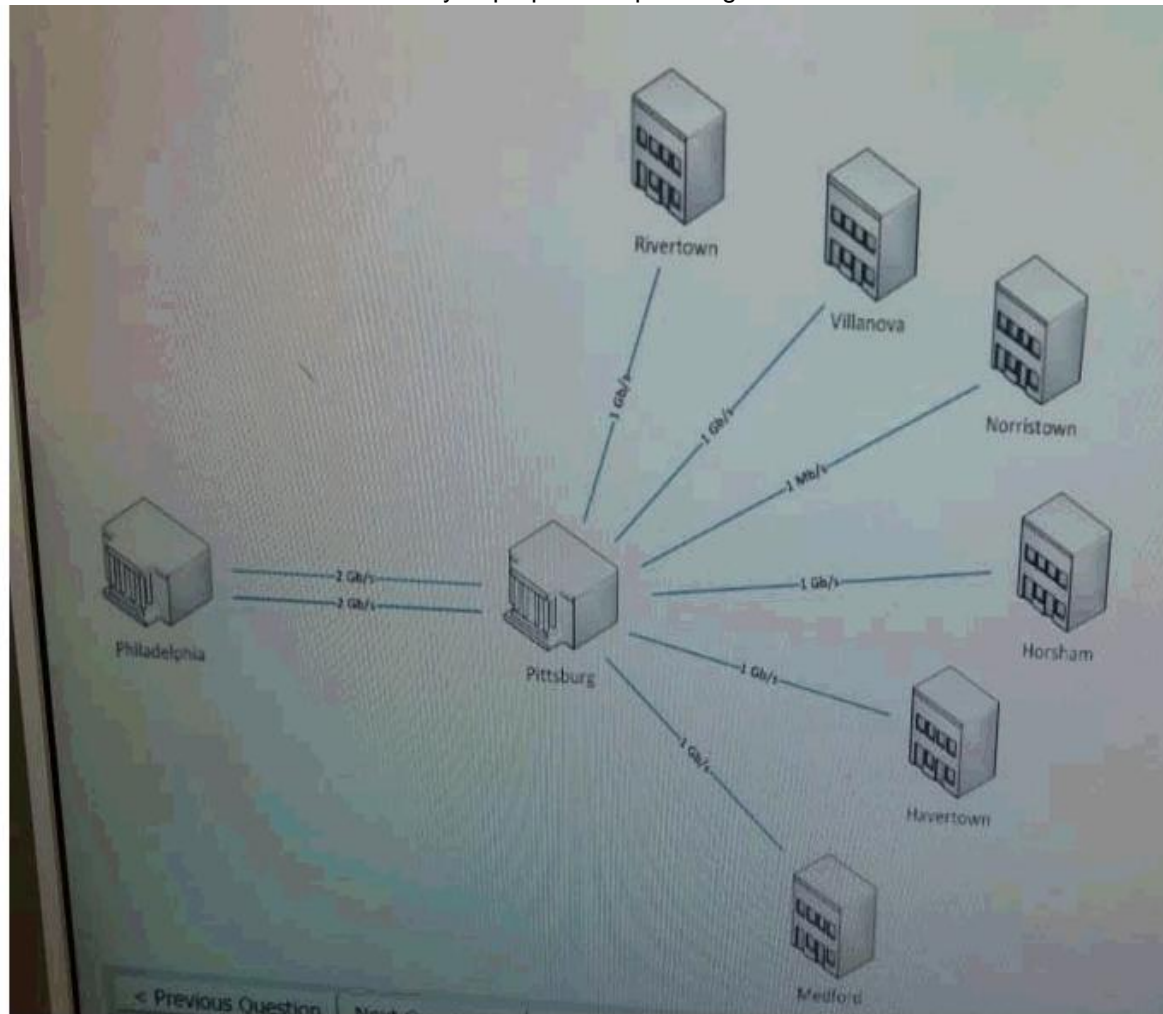
Philadelphia has approximately 2 TB data.

Pittsburg has approximately 1 TB data.

All backup data will be replicated back to the data center in Pittsburg. Costs should be kept to a minimum but allow for the possibility of adding three

more sites.

Which HP StoreOnce solution should you propose for pittsburg?



- A. HP StoreOnce B6200 Backup
- B. HP StoreOnce 4220 Backup
- C. HP StoreOnce 4420 Backup
- D. HP StoreOnce 2620 Backup

Correct Answer: B

Section: HP0-J64

Explanation

Explanation/Reference:

Replication Licensing:

HP delivers replication by license, either as a standalone replication solution, or as part of the HP StoreOnce Catalyst licensing (see the following section below). With HP StoreOnce Backup, replication is licensed by VTL/NAS target, this means that with one replication license:

1 source appliance can replicate to a single HP StoreOnce VSA*

8 source appliances can replicate to a single HP StoreOnce 2620

24 source appliances can replicate to a single HP StoreOnce 4210 or 4220

50 source appliances can replicate to a single HP StoreOnce 4420 or 4430

96 source appliances can replicate to a single HP StoreOnce B6200 48 TB target

http://h18004.www1.hp.com/products/quickspecs/14450_div/14450_div.pdf

In this time you have 8 source appliances can replication and future you need adding three more sites. ($8 + 3 = 11$ minimum source)

Block 4

QUESTION 1

Scenario

Following the merger of two financial companies, management is considering combining the two distinct customer call centers into a single physical location. In addition to the overall call center head count increasing by 30%, the support for two distinct customer bases presents the potential of having two different desktop PC's on the desk of each call center employee. Instead of correspondingly increasing IT support head count to manage the single, larger call center and call center infrastructure, management believes they can reduce the required time to support call center operations by 40% if they employ virtual desktop technology.

An initial assessment has identified the need for a centralized storage solution that could support 500 virtual desktops running a variety of applications that can scale quickly to accommodate an expected increase in call center staff. The customer is already an HP Blade System customer using HP Virtual Connect Flex-10.

- * Some of the additional business criteria identified in customer planning interviews includes:
- * Use client virtualization for the desktops.
- * Achieve the highest possible density and performance for the virtual desktops, but keep the virtual desktop storage traffic off the network due to a current, existing limitation of only 1GbE.
- * Do not use standalone, network-attached storage.
- * Limit the impact of additional rack space.
- * Minimize the risk of additional help-desk tickets.
- * Present multiple solutions, prioritized with a recommendation.

Hot Area:

Correct Answer:

Section: (none)

Explanation

Explanation/Reference:

QUESTION 2

1 of 7

Refer to the scenario.

Your proposed design includes a VMware View environment using HP StoreVirtual 4800. What has to be considered when designing a solution?

- A. Offer asynchronous replication to keep the virtual desktops up and running in case of a component failure.
- B. Use VMware View provisioning servers outside the blade to minimize LAN traffic to the enclosure.
- C. Avoid boot storms and insufficient response times during critical shift change hours.

D. Include HP virtual Connect FlexFabric to connect to the HP StoreVirtual environment.

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

HP P4800 G2 31.5TB SAS SAN BladeSystem

Capacity 31.5TB Starting, 504TB Maximum

Drive description (70) LFF SAS

Host interface 10 GbE iSCSI (4) Ports

Replication support SAN/iQ Remote Copy Asynchronous Replication with Bandwidth Throttling; Multi-Site/Disaster Recovery

Thin provisioning support SAN/iQ Thin Provisioning

www.hp.com/go/P4000Compatibility www.hp.com/go/P4000Compatibility Hyperlink

VMware® Horizon View™ (formerly **VMware View**) is a virtual desktop infrastructure solution that simplifies desktop

The customer is already an HP Blade System customer using HP Virtual Connect Flex-10

(Not It makes no sense answer D), HP Virtual Connect Flex-10 10Gb Ethernet Modules for c-Class BladeSystem simplify networks by reducing cables without adding switches to manage; They provide 4:1 consolidation of interconnect equipment: Each VC Flex-10 module can replace up to four Ethernet switches supporting data and iSCSI storage traffic.

A "boot storm" is the tremendous performance drain experienced when hundreds or thousands of users logon at, or near, the same time in VDI environments. The drag on network throughput, host performance and SAN I/O can be devastating to an unprepared VDI installation. Some of the pressure can be eased by building the environment according to some best practices laid out by virtualization vendors. But, there are a few areas that you might not have considered when constructing your VDI infrastructure.

<http://www.zdnet.com/blog/virtualization/boot-storms-and-how-to-avoid-them/4767>

QUESTION 3

2 of 7

Refer to the scenario.

The customer is concerned about data migration from their third-party storage array to a new solution. How do you solve this concern.

- A. Focus on an HP StoreServ 7000 Storage solution to use the online import from data migration.
- B. Advise a new backup and recovery concept using HP StoreOnce Backup Systems to avoid data loss.
- C. Present HyperVisor storage migration functionalities to migrate data online.
- D. Include HP Virtual Connect FlexFabric modules in the design to keep all migration paths open.

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

Present HyperVisor storage migration functionalities to migrate data online

QUESTION 4

3 of 7

Refer to the scenario.

You suggest VMware View as a solution component to solve some of the customer business challenges. Which step should you take next to ensure that the solution meets HP best practices for VMware View?

- A. Validate compatibility using HP Single Point of Connectivity Knowledge(SPOCK).
- B. Validate configuration using the HP SAN Design Reference Guide.
- C. Create the HP Virtualization Bundle configuration in SalesBUILDER for Windows to validate connectivity.
- D. Compare the design to the HP Client Virtualization Enterprise Reference Architecture.

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

<http://h20195.www2.hp.com/V2/GetPDF.aspx%2F4AA3-5327ENW.pdf>

Enterprise Reference Architecture for Client Virtualization for HP VirtualSystem Implementing the HP Architecture for Citrix XenDesktop on Microsoft Windows Server 2008 R2 Hyper-V.

<http://h20195.www2.hp.com/V2/GetPDF.aspx%2F4AA4-2003ENW.pdf>

HP Gen8 Client Virtualization Enterprise Reference Architecture for VMware View 5.1

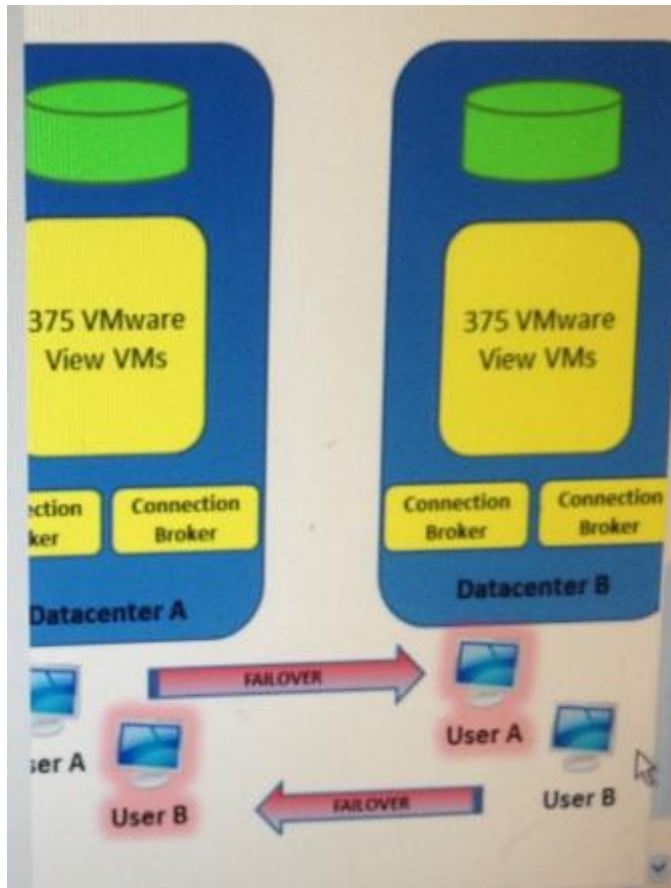
QUESTION 5

4 of 7

Refer to the scenario.

The customer realized that they did not include any requirements for high availability. They need to ensure that at least 75% of the users can be supported from any location in the event of a disaster while keeping implementation costs as low as possible. They tell you that all users are non-persistent, use the same desktop image, and that the network can be upgraded to 10Gb.

Which diagram demonstrates how the solution should be modified to meet the new requirements?



A.

Correct Answer:

Section: (none)

Explanation

Explanation/Reference:

You have 4 diagram, that is the correct:

User A in DataCenter A (375 VmWare) transfer to DataCenter B

User B in DataCenter B (375 VmWare) transfer to DataCenter A

Not replication between DataCenter A and DataCenter B

QUESTION 6

5 of 7

Refer to the scenario.

The company preferred to implement an iSCSI storage solution to reduce implementation costs. Which addition benefit of an HP StoreVirtual Storage solution should you emphasize in your proposal?

- A. scale-up architecture
- B. support for multiple workload's
- C. built-in replication disaster recover
- D. thin convergence

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

The company preferred to implement an iSCSI storage solution to reduce implementation costs

You need affordable storage designed for a virtualized infrastructure that's easy to manage, supports continuous data growth, and keeps your business up and running. 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.

Intuitive, common management and storage federation meet the need for simplicity and flexibility in today's virtual datacenters. It allows data mobility across tiers, locations, and between physical and virtual storage.

HP StoreVirtual is the most versatile storage platform on the market today. Its software-defined storage VSA software, and ProLiant rack and BladeSystem-based hardware models provide options to fit any infrastructure and budget.

Enterprise-class storage software functionality and leading virtualization software integration are built-in. This makes StoreVirtual the ideal platform for supporting virtualization growth at all stages.

HP P4800 G2 31.5TB SAS SAN BladeSystem, Thin provisioning support SAN/iQ Thin Provisioning. LeftHand Remote Copy lets you asynchronously replicate thin provisioned, (Not Answer D,)

QUESTION 7

6 of 7

Refer to the scenario.

How should you prepare your presentation to convince the customer that operational expenditures are reduced?

- A. Focus on shared storage usage and availability of the proposed solution.
- B. Point out reclaimed annual productivity time through client virtualization.
- C. Emphasize reappraising the existing HP BladeSystem in the new solution design.
- D. Mitigate risk by proposing an HP Converged Infrastructure solution.

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

Scenario Question 21

An initial assessment has identified the need for a centralized storage solution that could support 500 virtual desktops running a variety of applications that can scale quickly to accommodate an expected increase in call center staff. The customer is already an HP Blade System customer using HP Virtual Connect Flex-10.

QUESTION 8

7 of 7

Refer to the scenario.

One proposed solution is based on a Fibre Channel infrastructure using HP BladeSystem Virtual Connect technology and focuses on reducing management complexity when a blade server fails.

Which additional customer-related value can you emphasize when implementing this concept in conjunction with an HP 3PAR StoreServ solution?

- A. uses Virtual Connect Enterprise Manager to raise storage and management efficiency by establishing unified management
- B. maximizes future expandability by introducing scale out storage node increments
- C. avoids performance bottlenecks and management complexity by introducing multitenancy
- D. reduces capital and operational expenditures by flattening the SAN

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

P 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.

<http://h18004.www1.hp.com/products/blades/components/ethernet/vcem/index.html>

<http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA4-1503ENW.pdf>