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Exam Code: HP0-J65

Exam Name: Designing HP SAN Networking Solutions

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Block 3 - Question One

QUESTION 1
Which features are included at no cost with the HP StorageWorks 8/24 SAN switch? (Select two.)

A. hardware enforced zoning
B. Adaptive Networking
C. web tools
D. ISL trunking
E. fabric watch
F. extended fabric

Correct Answer: AC
Section: (none)
Explanation

Explanation/Reference:
Designing HP SAN Networking Solutions - Page 35

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1. Which features are included at no cost with the HP StorageWorks 8/24 SAN switch? (Select two.)

   a) hardware enforced zoning
   b) Adaptive Networking
   c) web tools
   d) ISL trunking
   e) fabric watch
   f) extended fabric

   REFERENCE:
   Designing HP SAN Networking Solutions - Page 35

QUESTION 2
When connecting an HP Proliant BL460c Gen8 server with an 8Gb Emulex HBA installed, what is the recommended SAN switch port speed setting for a B-Series 8/24 SAN switch?

A. 2 GB
B. 4 GB

C. 8 GB

D. Auto-Negotiale

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Designing HP SAN Networking Solutions · Page 18

8Gb Emulex HBA (Support SPF (4Gb/s) and SPF+ (8Gb/s))
B-Series 8/24 SAN switch (Only Support SPF with 2,4 and 8Gb/s)

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2. When connecting an HP ProLiant BL460c Gen8 server with an 8Gb Emulex HBA installed, what is the recommended SAN switch port speed setting for a B-Series 8/24 SAN switch?

a) 2Gb
b) 4GB
c) 8Gb
d) Auto-Negotiate

REFERENCE:
Designing HP SAN Networking Solutions - Page 18

QUESTION 3
A customer wants to migrate away from their existing M-Series SAN Fabric. Which supported configuration should you recommend lo allow the customer to migrate to a new platform? (Select two.)

A. Connect the new fabric to the existing fabric using a B-Series router

B. Connect the new fabric lo the existing fabric using C-Series ISL trunking

C. Create a new B-Series SAN fabric.

D. Create a new C-Series SAN fabric

E. Create a new H-Series SAN fabric.

F. Connect the new fabric to the existing fabric using an H-Series router.

Correct Answer: AC
Section: (none)

Explanation

Explanation/Reference:
Designing HP SAN Networking Solutions v12.11 · page 353-355

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3. A customer wants to migrate away from their existing M-Series SAN Fabric. Which supported configuration should you recommend to allow the customer to migrate to a new platform? (Select two.)

a) Connect the new fabric to the existing fabric using a B-Series router.
b) Connect the new fabric to the existing fabric using C-Series ISL trunking.
c) Create a new B-Series SAN fabric.
d) Create a new C-Series SAN fabric.
e) Create a new H-Series SAN fabric.
f) Connect the new fabric to the existing fabric using an H-Series router.

REFERENCE:
Designing HP SAN Networking Solutions v12.11 - page 353-355

QUESTION 4
Which information resource should you utilize lo find late-breaking and supplemental information for a specific version of a product?

A. Release notes
B. Operating System Features Guide
C. Operating System Command Reference Guide
D. Product installation Guide

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Designing HP SAN Networking Solutions, page 80

4. Which information resource should you utilize to find late-breaking and supplemental information for a specific version of a product?

a) Release notes
b) Operating System Features Guide
c) Operating System Command Reference Guide
d) Product Installation Guide

REFERENCE:
Designing HP SAN Networking Solutions, page 80

QUESTION 5
A customer has bought another company and wants to merge both SANs_ Both SANs are B-Series based and were modernized a year ago. You are asked to plan the new consolidated SAN and to propose a migration strategy.

In this scenario, what else should you recommend t o the customer in advance of the merger?

A. Use the same zoning configuration in both SANs
B. Use the same Domain IDs in both SANs
C. Use the same switch models in both SANs
D. Use the same topology in both SANs

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
HP SAN Design Reference Guide; S. 406

5. A customer has bought another company and wants to merge both SANs. Both SANs are B-Series based and were modernized a year ago. You are asked to plan the new consolidated SAN and to propose a migration strategy.

In this scenario, what else should you recommend to the customer in advance of the merger?

a) Use the same zoning configuration in both SANs.
b) Use the same Domain IDs in both SANs.
c) Use the same switch models in both SANs.
d) Use the same topology in both SANs.

REFERENCE:
HP SAN Design Reference Guide; S. 406

QUESTION 6
When considering a SAN design for a customer what benefit is achieved by minimizing the number of hops between switches where many devices share a single-switch ISL?

A. Selection Storage Presentation in a single SAN

B. Centralized Manageability

C. Oversubscription reduction

D. Data locality and performance

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Designing HP SAN Networking Solutions v12.11 page 334

6. When considering a SAN design for a customer what benefit is achieved by minimizing the number of hops between switches where many devices share a single-switch ISL?

a) Selection Storage Presentation in a single SAN
b) Centralized Manageability
c) Oversubscription reduction
d) Data locality and performance

REFERENCE:
Designing HP SAN Networking Solutioῇs v12.11 page 334

QUESTION 7
Your customer is an internet company which develops software far business platforms. Since they have high standards far the quality of their products, they have a separate test environment They have modernized their production SAN environment and they want to re-use their old switches to implement a core-edge topology far the test environment As a core switch they will use an HP 8/80 SAN Switch, and they have three HP StorageWorks 4/64 SAN Switches as edge switches. They have 150 test servers, two storage arrays and two small tape libraries in their test environment They are asking you how many ISLs they should use far the connection of one edge switch to the core switch. Based on HP best practices, how many ISLs do you recommend?

A. 2
B. 4
C. 6
D. 8

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
HP SAN Design Reference Guide; S. 32

7. Your customer is an internet company which develops software for business platforms. Since they have high standards for the quality of their products, they have a separate test environment. They have modernized their production SAN environment and they want to re-use their old switches to implement a core-edge topology for the test environment. As a core switch they will use an HP 8/80 SAN Switch, and they have three HP StorageWorks 4/64 SAN Switches as edge switches. They have 150 test servers, two storage arrays and two small tape libraries in their test environment. They are asking you how many ISLs they should use for the connection of one edge switch to the core switch.

Based on HP best practices, how many ISLs do you recommend?

a) 2
b) 4
c) 6
d) 8

REFERENCE:
HP SAN Design Reference Guide; S. 32

QUESTION 8
A customer wants lo migrate their servers from a network-based solution to a SAN-based solution. During your investigation of needed switch ports you discover the customer has approximately 400 servers and expects to grow to 1000 servers within the next five years. In the proposal, the customer wants redundant connections far each server to the SAN.

Which switch series should you consider in your proposal?

A. B-Series
B. M-Series
C. H-Series
D. C-Series

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Designing HP Networking Solutions v12.11 page 340-342

8. A customer wants to migrate their servers from a network-based solution to a SAN-based solution. During your investigation of needed switch ports you discover the customer has approximately 400 servers and expects to grow to 1000 servers within the next five years. In the proposal, the customer wants redundant connections for each server to the SAN.

Which switch series should you consider in your proposal?

a) A. B-Series
b) B. M-Series
c) C. H-Series
d) D. C-Series

REFERENCE:
Designing HP Networking Solutions v12.11 page 340 - 342

Block 3 - Question Two

QUESTION 1
Which protocol is used when configuring network monitoring on an HP B-series SAN Switch in Access Gateway

A. SFTP
B. SMI-S
C. SNMPv1
D. SNMPv2

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
SMI-S (Storage Management Initiative Specification) is a standard developed by the Storage Network Industry Association (SNIA) that is intended to facilitate the management of storage devices from multiple vendors in storage area networks (SANs). The specification was formerly called Bluefin. SMI-S was designed according to an initiative called Web-Based Enterprise Management (WBEM).

QUESTION 2
You are presenting the value of the HP Converged Network strategy to the CEO of a company that has a remote-office, branch-office business, the company is consolidation desktop using virtualization and is planning to expand the business into new market with the new solution. Vendor proposition for the HP Virtual Connect FlexFabric solution is most appropriate to presented to the CEO?

A. All-inclusive software suite licensing network management reduces costs and complexity.
B. Proven Fire 9s of availability provides unmatched business continuity
C. Simple and converged management for virtualized network environments offers broad environment visibility and quick response tool
D. Flexibility and scalability of the solution offers decreased time to market for new services

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
CEO - Competitive business advantage; business opportunities
CFO - Cost and risk control
CIO - IT operating costs; application development backlog
Clients - Users; service-level consistency or improvement

Working with CxOs to deliver an appropriate IT solution requires the following skills:

- Uncovering and creating business needs
- Proactively seeking new business
- Planning for world-class customer meetings
- Qualification
- Deal planning

QUESTION 3
A company is reviewing proposals to upgrade their existing Fibre Channel SAN to a new core-edge design based on HP B-series switches proposal is HP SAN Network Advisor Enterprise Software.

How can this product simplify the administration of the B-series SAN? (Select two)

A. firmware management for SAN attached servers
B. automated VM provisioning via VMware connector
C. simplified firmware management on switches
D. automated zoning of newly-detected devices via wizard
E. scheduled configuration backup on switches

Correct Answer: DE
Section: (none)
Explanation

Explanation/Reference:
http://h18000.www1.hp.com/products/quickspecs/13169_na/13169_na.pdf

HP B-series SAN Network Advisor provides comprehensive management of data center fabrics-including configuration, monitoring, and management of all B-series Directors, Switches, and HBAs. It provides support for FC SANs with configuration, zoning, and visualization capabilities, including HBA, storage, SAN fabric, and Layer 2 switch topology views. SAN diagnostics help meet SLAs via proactive alerting and advanced SAN diagnostic capabilities, including SAN port diagnostics, bottleneck detection, and best-practices validation of SAN configurations.

HP SAN Network Advisor Features:

Change management: Tracks device configuration changes through the integrated Change Manager and image management, which enables the viewing, retrieval, and restoration of configuration files. Configuration backups can be performed manually or scheduled to run automatically.

Configuration management: Utilizes an easy-to-use Device Configuration wizard to configure and manage dynamic groups of devices

QUESTION 4
Customer has made the decision to expand their SAN. The customer does not want to merge the existing SAN with the new SAN, but does want the two SANs to interoperate. The customer wants a no-cost management tool that will work with the new SAN switches and their existing HBAs.

Which HP SAN switch should you recommend to the customer?

A. HP SN3000B Fibre Channel Switch
B. HP 1606 Extension SAN Switch
C. HP SN8000C Director Switch
D. HP SN6000 Stackable Fibre Channel Switch

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
http://h18000.www1.hp.com/products/quickspecs/13553_na/13553_na.pdf

The HP SN6000 Stackable 8Gb Fibre Channel switch simplifies SAN deployment in SMB to Enterprise environments with an affordable and easy to manage SAN solution, while delivering scaling efficiency that keeps up with fibre channel port growth as the network expands. Built with low-cost, high-performance scalability in mind, each SN6000 features up to 20 FC device ports enabled supporting 8/4/2 Gbps speeds, plus 4 dedicated high-speed 10/20 Gbps stacking ports for linking/stacking SN6000 switches. Heterogeneous fabric connection is simplified too with Transparent Router (TR) functionality, standard in H-series switches (SN6000 and 8/20q), by providing seamless, non-disruptive interoperability and access to servers and storage on HP B-series and HP C-series SANs. The economical H-series SAN solution includes SAN Connection Manager (SCM) software for complete end-to-end fabric management. With SSCM software it's easy to provision storage as well as manage HBAs and switches from a single screen that offers a comprehensive topology view of the SAN. SCM software simplicity does not end with H-series switches. The software integrates with HP Virtual Connect Enterprise Manager (VCEM) environments by providing an end-to-end integrated solution to manage HP Bladesystem c-class via, HP Virtual Connect Enterprise Manager (VCEM), and P2000 MSA storage array/EVA storage with SN6000 switches via one management interface.

QUESTION 5
What is a design consideration when adding an HPUX-based server to a current Brocade fibre solution.

A. Initiator zoning is needed
B. The domain ID 8 must not be used on any switch
C. The B-series Switch Adaptive Networking license is needed
D. The HPUX server must be within three hops of the SAN Storage

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Zoning by HBA:
For zoning by HBA, each zone has only one HBA (initiator); each of the target devices is added to the zone.
Typically, a zone is created for the HBA and the disk storage ports are added. If the HBA also accesses tape devices,
HP recommends that a second zone be created for the HBA and associated tape devices. For zoning requirements
with different HBA models on the same server

Setting the Domain ID:
Each switch in the fabric must have a unique domain ID. The domain ID can be manually set through the configure command or can be automatically
set. The default domain ID for the Brocade DCX 8510-8 is 1. Use the fabricShow command to view the already assigned domain IDs.

http://h30499.www3.hp.com/t5/Storage-Area-Networks-SAN/domain-id-8-conflict-with-hpux/td-p/3647937#.UrD2VNJdWSo

Domain id 8 conflict with hpux:
DON'T* use domain ID 8 with HP-UX!
In the way like HW-Pathes are build and drivers work, the "8" indicates FC_AL mode, even if your SAN is fabric, because the "8" stands for "storage" in
FC_AL. Switch to another ID!.
If you are going to swap your switches, make sure to use the same domain ID and port number to connect the storage devices, because HP-UX is using
both to build the hardware path.

Specifically, don't use domain id 8 ("Do not configure switches with a domain of 8. This configuration is unsupported and will not work. HP systems
reserve domain 8 for Private Loop devices.") and use vgexport/vgimport to associate LUN with the new device files you will have after the change.

QUESTION 6
You are designing an HP SAN networking solution for a local government, The network security policies forbid the use of certain communication the
design phase. You must create a list of protocols to use in the proposed environment.

Which protocol is used when the HP B-series SAN Network Advisor is configured to monitor FCIP statistics?

A. SNMP

B. WMI

C. SMI-S

D. SFTP

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
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_kbDoc
Display=wsrp-resourceState%3DdocId%253Demr_na-c03294042-2%257CdocLocale%
253Den_US&javax.portlet.endCacheTok=com.vignette.cachetoken

FCIP statistics (SNMP)

Latency	FCIP	SNMP	.1.3.6.1.4.1.1588.4.1.1.5
Dropped Packets	FCIP	SNMP	.1.3.6.1.4.1.1588.4.1.1.3
Link Retransmits	FCIP	SNMP	.1.3.6.1.4.1.1588.4.1.1.2
Timeout Retransmits	FCIP	SNMP	.1.3.6.1.4.1.1588.4.1.1.9
Fast Retransmits	FCIP	SNMP	.1.3.6.1.4.1.1588.4.1.1.10
Duplicate Ack Received	FCIP	SNMP	.1.3.6.1.4.1.1588.4.1.1.11
Window Size RTT	FCIP	SNMP	.1.3.6.1.4.1.1588.4.1.1.12
TCP Out of Order Segments	FCIP	SNMP	.1.3.6.1.4.1.1588.4.1.1.13
SlowStart Status	FCIP	SNMP	.1.3.6.1.4.1.1588.4.1.1.14
CRC Errors	EE Monitors	HTTP	PortCRC (variable from the return html file)

QUESTION 7
Which benefits to the customer support the business value of your solution and should be presented during a CxO meeting? (Select two).

A. Increasing market share

B. Competitive positioning

C. Reduced rack space usage

D. reduced management complexity

E. 24x7 availability

Correct Answer: BD
Section: (none)
Explanation

Explanation/Reference:
CEO - Competitive business advantage; business opportunities
CFO - Cost and risk control
CIO - IT operating costs; application development backlog
Clients - Users; service-level consistency or improvement

Working with CxOs to deliver an appropriate IT solution requires the following skills:

- Uncovering and creating business needs
- Proactively seeking new business
- Planning for world-class customer meetings
- Qualification
- Deal planning

QUESTION 8
A company has a large Fibre Channel Infrastructure that has grown continuously over the last two years. The company was implementing a core-edge design and director-class switches. Which course of action should the company follow to accept.

A. Verify that all switches have the same domain ID

B. Add top-of-rack FCoE switches

C. Generate a cabling infrastructure plan

D. Integrate HP Intelligent Management Center

Correct Answer: C

Section: (none)
Explanation

Explanation/Reference:
Da hp, verificare.
G diceva D.

QUESTION 9
You are designing a new SAN fabric for a customer environment. The customer want the design to provide easy of scalability, multiple resiliency, and support for a mix of local and distributed access. Which Fibre Channel topology should you recommend?

A. meshed

B. core-edge

C. cascaded

D. ring

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Cascaded fabric Benefits
The benefits of a cascaded fabric include:
• Ability to connect SANs in diverse geographic locations
• Ease of scalability for increased server and storage connectivity
• Shared backup and management support
• Optimum local performance when communicating devices are connected to the same switch
in the cascaded fabric
• Cost efficiency due to the large number of switch ports available
• Support for local data access and occasional centralized data access

Meshed fabric Benefits
The benefits of a meshed fabric include:
• Ability to meet multiple data access needs
• Multiple paths for internal fabric resiliency
• Ease of scalability
• Shared backup and management support
• Support for a mix of local and distributed data access (see "Topology data access" (page 33))
• Less impact on performance due to intraswitch traffic

Ring fabric Benefits

The benefits of a ring fabric include:
• Modular design and ease of scalability by adding a switch and other devices
• Multiple paths for internal fabric resiliency
• Support for a mix of local data access and occasional centralized data access

Core-edge fabric Benefits
The benefits of a core-edge fabric include:
• Typically, a maximum of two hops between switches
• Equal, centralized access to devices in the core
• Increased fabric and switch redundancy with two or more switches in the core
• Full many-to-many connectivity with evenly distributed bandwidth
• Support for centralized and distributed data access needs
• Ability to designate an optimally located

Single-switch fabric Benefits
The benefits of a single-switch fabric include:
• Easy installation and configuration of servers and storage
• Maximum fabric performance because all communicating devices connect to the same switch
• Support for local, centralized, and distributed data access needs

QUESTION 10
You need to monitor and diagnoses the physical layer of a SAN in real time and collect information on the small form-factor plugging H-series and B-series Fibre Channel switches.

Which assessment tool should you use?

A. HP Intelligent Infrastructure Analyzer Software

B. HP Systems Insight Manager

C. HP SAN Visibility

D. HP SAN Network Advisor

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
HP SAN Network Advisor

Hardware Pre-Requisites: SAN Network Advisor: B-Series 2 Gb/s , 4 Gb/s, 8 Gb/s, and 16 Gb/s Switches

HP Intelligent Infrastructure Analyzer Software
Support for transceiver monitoring and diagnostics on HP 3PAR StoreServ Storage and HP Fibre Channel Host Bus Adapters.
Transceiver monitoring and diagnostic support for up to 1024 ports in a SAN across HP Fibre Channel Adapters, 3PAR StoreServ Storage and B-series and H-series SAN Switches.

QUESTION 11
You are designing a new SAN fabric for a customer environment. The customer wants to ensure that the design provides many-to-many and evenly-distributed bandwidth across the fabric.

Which Fibre Channel topology should you recommend?

A. ring
B. meshed
C. cascaded
D. core-edge

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Cascaded fabric
• Ability to connect SANs in diverse geographic locations
• Ease of scalability for increased server and storage connectivity
• Shared backup and management support
• Optimum local performance when communicating devices are connected to the same switch
in the cascaded fabric
• Cost efficiency due to the large number of switch ports available
• Support for local data access and occasional centralized data access

Meshed fabric
• Ability to meet multiple data access needs
• Multiple paths for internal fabric resiliency
• Ease of scalability
• Shared backup and management support
• Support for a mix of local and distributed data access
• Less impact on performance due to intra-switch traffic

Ring fabric
• Modular design and ease of scalability by adding a switch and other devices
• Multiple paths for internal fabric resiliency
• Support for a mix of local data access and occasional centralized data access

Core-edge fabric (called core switches)
• Typically, a maximum of two hops between switches
• Equal, centralized access to devices in the core
• Increased fabric and switch redundancy with two or more switches in the core
• Full many-to-many connectivity with evenly distributed bandwidth
• Support for centralized and distributed data access needs
• Ability to designate an optimally located

Topology data access
Local (one-to-one) Data access between a local server and a storage system connected to
the same switch

• Centralized (many-to-one) Data access between multiple, dispersed servers and one centrally
located storage system

• Distributed (many-to-many) Data access between multiple, dispersed servers and storage
systems

SAN topology	Data access performance		
	Local	Centralized	Distributed
Single-switch fabric	Highest	Highest	Highest
Cascaded fabric	Highest	Not recommended	Not recommended
Meshed fabric	Medium	Medium	High
Ring fabric	Highest	Medium	Not recommended
Core-edge fabric (15:1, 7:1)	Medium	High	High
Core-edge fabric (3:1, 1:1)	High	Highest	Highest

QUESTION 12
You have proposed a new HP storage solution that consists of an HP 3PAR StoreServ 10000 disk array. Which select confirm architecture and hardware interoperability for the disk array, SAN switches, and operating systems?.

A. HP Product Bulleting
B. Active Answers
C. HP Channel Service Networks
D. HP SAN Design Reference Guide

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
http://h20628.www2.hp.com/km-ext/kmcsdirect/emr_na-c00403562-57.pdf

Active Answers
http://h71019.www7.hp.com/ActiveAnswers/cache/71108-0-0-225-121.html
Welcome to ActiveAnswers the online solutions authority where HP shares its experience and best practices for planning, deployment and operation of Enterprise Solutions. It includes up-to-date technical information, the system configurator, server sizers and storage and performance tools

HP Channel Services Network
http://h20345.www2.hp.com/CSNMCMSDOCS/marcomm/CSNMARKETING/0_1626_web_page_id_15039_3_00.htm#What_is_HPCSN
HP Channel Services Network is a virtual, global community made up of HP customers, HP service channel partners and HP. The HP Channel Services Network provides partners opportunities to enhance business capabilities to sell and deliver global IT services through a Web-based management system. Utilizing the expertise and resources of partners, the HP Channel Services Network ensures that HP customers receive state-of-the-art IT solutions more efficiently, skillfully and competitively

QUESTION 13
Which HP documentation should you use when you are designing a new SAN and need to confirm available topology option.

A. HP SAN Design Reference Guide
B. HP Single Point of Connectivity knowledge
C. HP SAN Information Library

D. HP Product Bulletin

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
HP SAN Design Reference Guide SANs provide the data communication infrastructure for advanced, cost-efficient storage systems. SAN technology offers investment protection, management features, and I/O price performance to minimize capital expense. HP SAN architecture provides open network storage solutions for all sizes and types of businesses, including small-to-medium-sized IT departments and enterprise environments.

http://h20628.www2.hp.com/km-ext/kmcsdirect/emr_na-c00403562-57.pdf

QUESTION 14
You are proposing an HP StoreVirtual 4000 cluster solution involving many LUNs. You need to minimize the number of iSCSI session for news hosts while using all paths for load balancing.

Which multipathing configuration should you include in your proposal?

A. HP DSM for MPIO with round robin load balancing
B. MS DSM for MPIO with round robin load balancing
C. MS DSM with shortest queue service time load balancing
D. HP DSM for MPIO with no load balancing

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
http://h20566.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_ba847bafb2a2d782fcbb0
710b053ce01=docDisplayResURL&javax.portlet.rst_ba847bafb2a2d782fcbb0710b053ce01=wsrp-resourceState%3DdocId%253Demr_na-c03687491-
1%257CdocLocale%
253Den_US&javax.portlet.tpst=ba847bafb2a2d782fcbb0710b053ce01_ws_BI&ac.admitted=1389803914839.876444892.199480143

http://h20195.www2.hp.com/V2/GetPDF.aspx%2F4AA2-5615ENW.pdf
(pag 17)

QUESTION 15
You are designing a SAN solution to expand a customer's SAN fabric, which contains a large number of switches and device ports.

Which technology will allow you to increase the number of fabric ports and reduce the number of domains?

A. remote switch
B. ISL trunking
C. Access Gateway mode
D. FCIP trunking

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
What is Brocade Access Gateway mode?
Brocade Access Gateway mode can make a switch appear transparent to hosts or the network fabric. With a switch configured in Access Gateway mode, F_Ports connect to the fabric as N_Ports rather than E_Ports. This allows more hosts (and virtual machines) to access the fabric without increasing the number of switches—thereby simplifying configuration and reducing the number of Domain IDs to manage. Access Gateway enhancements in Brocade Fabric OS® 6.1 or later include trunking, device security policies, and 16-bit routing for use in other vendor fabrics.

QUESTION 16
An automotive company has a fabric with several Fibre Channel storage arrays. They want to protect their intellectual property of a new development, from their competitors.

Which solution should they use to secure their on the development department array?

A. HP B-series Encryption SAN Switch
B. HP C-series Storage Media Encryption
C. HP C-series Nexus 5000 Encryption Module
D. HP H-series SN6000 Fibre Channel Switch

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
HP C-series Storage Media Encryption
SME is a standards-based encryption solution for heterogeneous and virtual tape libraries. SME is managed with the Cisco Fabric Manager web client and a command-line interface, which supports unified SAN management and security provisioning. SME is a comprehensive network-integrated

encryption service with key management that works transparently with new and existing SANs. This solution has advantages over competitive solutions, such as:
• Supports nondisruptive installation and provisioning. You do not need to rewire or reconfigure your SAN.
• Encryption engines are integrated on the MDS 9000 18/4-port Multiservice Module (MSM-18/4) and the MDS 9222i Multiservice Fabric Switch. You do not need to purchase and manage additional switch ports, cables, and applications.
• All VSAN traffic can be encrypted. This enables automated load balancing through network traffic management across multiple SANs.
• No additional software is required for key and user management or provisioning. SME is integrated with the Cisco Fabric Manager, which reduces operating expenses.

HP B-series Encryption SAN Switch
The B-series Encryption Switch is a high-performance, 32-port autosensing 8 Gb/s Fibre Channel switch with data encryption/decryption and data compression capabilities. The switch is a network-based solution that secures data-at-rest for tape and disk array LUNs using IEEE standard
AES 256-bit algorithms. Encryption and decryption engines provide in-line encryption services with up to 96 Gb/s throughput for disk I/O (mix of ciphertext and cleartext traffic).
▪ High-performance, scalable fabric-based encryption to enforce data confidentiality and privacy requirements
▪ Unparalleled encryption processing at up to 96 Gb/s to support heterogeneous enterprise data centers
▪ Integration with HP Secure Key Manager, providing secure and automated key sharing between multiple sites to ensure transparent access to encrypted data
• Industry-standard AES 256-bit encryption algorithms for disk arrays on a single security platform for SAN environments
• Frame Redirection technology that enables easy, nonintrusive deployment of fabric-based security services
• Plug-in encryption services available to all heterogeneous servers, including virtual machines, in data center fabrics
• Scalable performance with on-demand encryption processing power to meet regulatory mandates for protecting data

QUESTION 17
Which B-series feature license is need to connect B-series and M-series fabrics together without merging them?

A. Adaptive Networking
B. Integrated Routing
C. Access Gateway
D. Advanced Zoning

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
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_kbDoc
Display=wsrp-resourceState%3DdocId%253Demr_na-c01937838-1%257CdocLocale%253D&javax.portlet.endCacheTok=com.vignette.cachetoken

QUESTION 18
A customer currently has a single fabric switch. They are planning to expand their fabric to a total of five switches

Which topology meets this requirement?

A. Cascade
B. Flat SAN
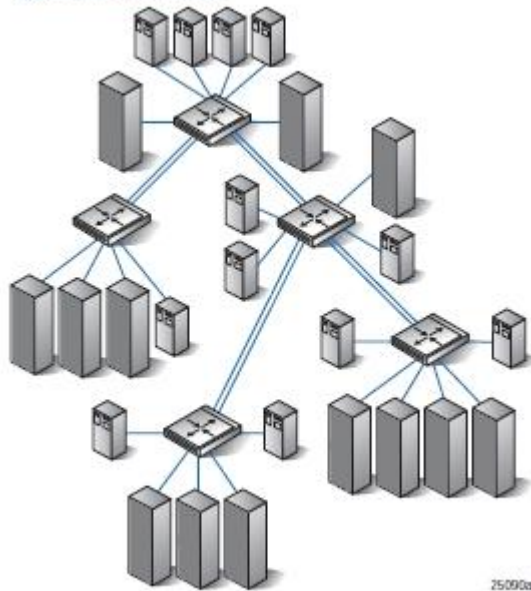C. Core-edge
D. Ring

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Cascaded fabric
• Ability to connect SANs in diverse geographic locations
• Ease of scalability for increased server and storage connectivity
• Shared backup and management support
• Optimum local performance when communicating devices are connected to the same switch
in the cascaded fabric
• Cost efficiency due to the large number of switch ports available
• Support for local data access and occasional centralized data access
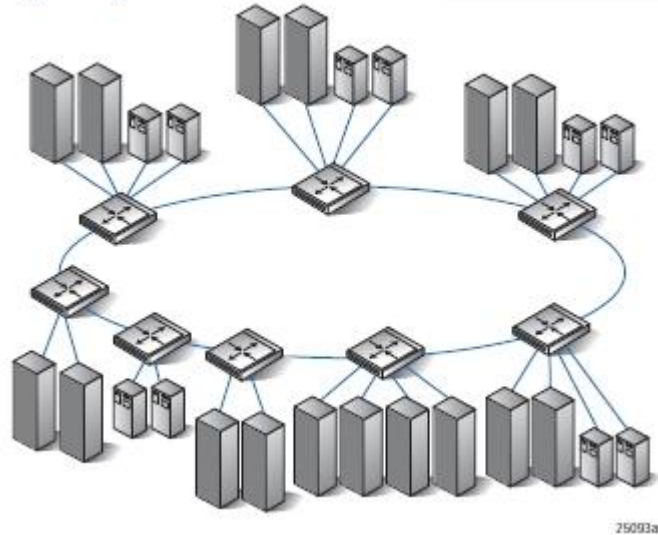
Figure 2 Cascaded fabric

Ring fabric
• Modular design and ease of scalability by adding a switch and other devices
• Multiple paths for internal fabric resiliency
• Support for a mix of local data access and occasional centralized data access
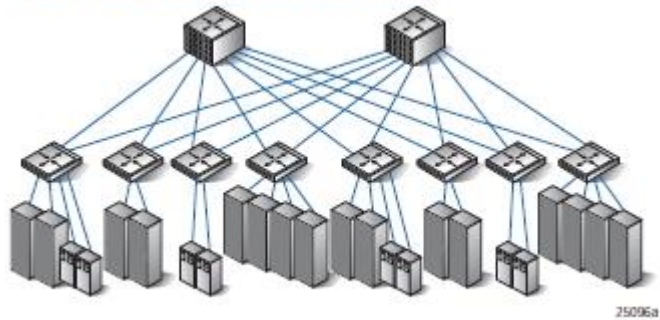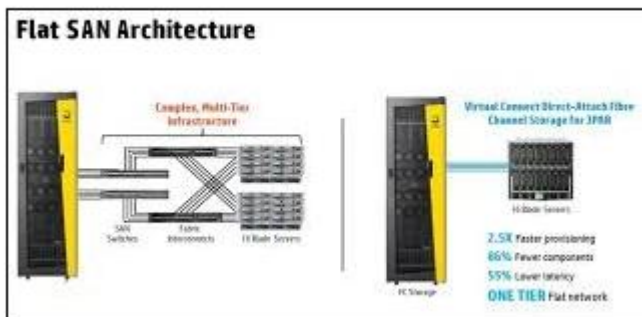
Figure 5 Ring fabric 1 - 5 of 47

25093a

Core-edge fabric (called core switches)
• Typically, a maximum of two hops between switches
• Equal, centralized access to devices in the core
• Increased fabric and switch redundancy with two or more switches in the core
• Full many-to-many connectivity with evenly distributed bandwidth
• Support for centralized and distributed data access needs
• Ability to designate an optimally located

Figure 8 Core-edge fabric (hierarchical depiction)

25096a

Flat SAN

Flat SAN Architecture

Complex, Multi-Tier Infrastructure

Virtual Connect Direct-Attach Fibre Channel Storage for 3PAR

2.5X Faster provisioning
66% Fewer components
55% Lower latency
ONE TIER Flat network

QUESTION 19
A customer has an existing H-series, single-fabric SAN. They want to create a dual heterogeneous SAN fabric.

Which configuration should you reselection

A. HP B-series and HP C-series SAN Switches
B. HP H-series and HP B-series SAN Switches
C. HP B-series SAN Switches
D. HP H-series SAN Switches

Correct Answer: B

Section: (none)
Explanation

Explanation/Reference:

Interoperable, heterogeneous switch fabrics

An interoperable, heterogeneous switch fabric can contain different series of switches.
Table 88 (page 163) lists the switch combinations.

Table 88 Heterogeneous switches in the same fabric

Heterogeneous switch combinations	Reference
C-series and B-series	Fabric Interoperability: Merging Fabrics Based on C-series and B-series Fibre Channel Switches Application Notes
C-series and M-series	Fabric Interoperability: Merging Fabrics Based on C-series and M-series Fibre Channel Switches Application Notes
M-series and B-series	Fabric Interoperability: Merging Fabrics Based on M-series and B-series Fibre Channel Switches Application Notes

The documents referenced in Table 88 (page 163) are available on the HP SAN Infrastructure
website:

http://h20628.www2.hp.com/km-ext/kmcsdirect/emr_na-c00403562-57.pdf

QUESTION 20
A customer chooses to connect an HP M-series SAN fabric to an HP B-series SAN fabric.

What is the maximum number of switch hope fabric design?

A. two
B. three
C. four
D. seven

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

Table 68 M-series fabric rules

Rule number	Description
1	A maximum of 24 switches, 1,632 total ports, and 1,500 user ports are supported in a single fabric. See Table 70 (page 151). 1 Gb/s, 2 Gb/s, and 4 Gb/s switches are supported in the fabric if you do not exceed the following limit: • For a fabric that contains the McDATA 4 Gb SAN Switch for HP p-Class BladeSystem, a maximum of 24 switches and 600 user ports (firmware 6.4.x.xx.xx)
2	The supported limit of interconnected switches in a single fabric is 31, provided that any edge switch in the fabric is deployed at the edge of the fabric.
3	A maximum of three switch hops (four switches) is supported between any two devices.
4	A ring fabric topology is supported with a maximum of seven M-series switches.
5	Assign a unique domain number (domain ID) and a unique WWN to each switch. The switch configuration parameters must be the same for each switch. Do not configure any switches with a domain ID of 8, which is reserved for HP-UX.
6	HP requires that all switches in a single-fabric SAN or multi-fabric SAN use the same firmware version for the same switch models. You can use two successive switch firmware versions temporarily in one fabric or multiple fabrics when updating switch firmware.

QUESTION 21
Which resource gives the most comprehensive interoperability information for the Backup, Restore, and Archive (BuRA) component of a storage.

A. HP SAN Design Reference Guide
B. HP Single Point of Connectivity Knowledge
C. HP Product Bulletin
D. HP EBS Compatibility Matrix

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

Step 1: Design

Questions to ask:
- What tape technologies are available in HP automation?
- How many tape drives do I need?
- How much capacity do I need?
- What hardware works with what?
- Is my backup application supported?

Refer to:
- EBS Compatibility Matrices: **http://h18000.www1.hp.com/products/storageworks/ebs/matrix_archives.html**
- HP Storage Sizer Tool: **http://www.hp.com/go/storageworks/sizer**
- HP Storage Product Selector: **http://h18000.www1.hp.com/storage/productselector/index_tape-cframe.html**

QUESTION 22
A customer needs a C-series switch with a two slot configuration.

Which switch series fits this need?

A. MDS 9100 series
B. MDS 9509 series
C. MDS 9200 series
D. MDS 9500 series

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

- C-series Fabric Switches
  - HP SN6000C 8Gb 32-port Fibre Channel Switch (AW586A)
  - HP SN6000C 8Gb 16-port Fibre Channel Switch (AW585A)
  - Cisco MDS 9222i Multiservice Modular Fabric Switch
  - Cisco MDS 9124 Fabric Switch
  - HP Nexus 5020 Converged Network Switch (AP776A)
  - HP Nexus 5010 Converged Network Switch (AP775A)
- C-series Embedded and BladeSystem Switches
  - Cisco MDS 9124e Fabric Switch for HP c-Class BladeSystem
  - Cisco MDS 8Gb Fabric Switch for HP BladeSystem c-Class

QUESTION 23
You are designing an HP Converged Infrastructure soluition for your customer, which consists of four fully populated HP BladeSystem with HP Virtual

Connect FlexFabric, two HP 3PAR StoreServ 7400 storage arrays, and four HP 8/40 SAN switches.
The customer wants to monitoring solution for their hardware equipment. Which HP solutions should you advise?

A. HP Insight Remote Support Advanced
B. HP Insight Online
C. HP Insight Remote Support Standard
D. HP Insight Control Environment

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
HP Insight Remote don't work with 3PAR 7400

HP Insight Remote Support Advanced
http://www8.hp.com/us/en/business-services/it-services.html?compURI=1078312#.UtrR69Kp3n4

http://h20195.www2.hp.com/V2/GetDocument.aspx?docname=c01683077&cc=us&lc=en

HP Insight Online, which is located on HP Support Center can automatically display devices remotely monitored by HP Insight Remote Support 7.x (7.0.5 and higher). It allows you and HP / your HP Authorized Channel Partner to easily track service events and related support cases, view device configurations and proactively monitor your HP contracts and warranties from anywhere and anytime.

QUESTION 24

A customer wants to connect three separate fabrics together by using the LSAN feature. They do not want to merge the fabrics.
Which proposal this task?

A. HP 2404 FCoE Converged Network Switch
B. HP MDS 9500 Supervisor Module
C. HP 8/24 SAN Switch
D. HP 8/40 SAN Switch

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
LSAN — LSANs are essentially zones that span fabrics. When devices on different fabrics are allowed to communicate, the resulting connectivity group is known as a logical SAN (LSAN). LSANs enable selective resource sharing across multiple SANs by leveraging current zoning tools and methodologies. Note: LSAN is a term developed by Brocade.

Logical SAN (LSAN) – Provides access to devices in different fabrics. LSAN zones are created the same as regular zones with the difference being they span multiple fabrics and must be replicated on all fabrics that comprise the LSAN. LSAN zone names always begin with 'LSAN'LSAN's are used to configure Fibre Channel routing.

HP 2404 FCoE Converged Network Switch (BROCADE)
HP MDS 9500 Supervisor Module (CISCO)
HP 8/24 SAN Switch (BROCADE)
HP 8/40 SAN Switch (BROCADE)

Plus Software
• Power Pack+ Bundle
  – ISL Trunking
  – Fabric Watch
  – Extend Fabric
  – Advanced Performance Monitoring
  – Adaptive Networking
  – Server Application Optimization

HP 8/24 SAN Switch

- HP SAN Network Advisor Enterprise
  Software
- HP SAN Network Advisor Professional
  Plus Software
- HP Power Pack+ Bundle
  − Adaptive Networking
  − ISL Trunking
  − Fabric Watch
  − Extend Fabric
  − Advanced Performance Monitoring
  − Server Application Optimization
- FICON CUP
- Integrated Routing

HP 8/40 SAN Switch

QUESTION 25
You are designing a C-series HP SAN storage networking solution for a fast-growing customer.

Which feature of the MDS 9200 series should you emphasize?

A. the ability to add two additional power within the chassis
B. four additional flex ports per module to connect to core switches
C. an intelligent fabric-wide re-routing functionality in case of module failure
D. a two-slot configuration with on slot for adding additional modules

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
 fast-growing customer

- MDS 9216i switches have 2 slots:
  - One slot is a fixed configuration with a 14/2 Multiprotocol Services Module.
  - The second slot can accommodate a 16-port or 32-port 2 Gb/s Fibre Channel Switching Module; 12, 24, or 48-port 4 Gb/s Fibre Channel Switching Module; 4-port 10 Gb/s Fibre Channel Switching Module; IPS-4, IPS-8, 14/2 Multiprotocol Services Module, or 18/4 Multiservice Module for iSCSI and FCIP support; and the 32-port 2 Gb/s SSM.
- MDS 9222i switches have 2 slots:
  - One slot is a fixed configuration with a 18/4 Multiservice Module.
  - The second slot can accommodate a 48-port 8 Gb/s Host-Optimized Fibre Channel Switching Module; 12, 24, or 48-port 4 Gb/s Fibre Channel Switching Module; 4-port 10 Gb/s Fibre Channel Switching Module; IPS-8 or 18/4 Multiservice Module for iSCSI and FCIP support; and the 32-port 2 Gb/s SSM.

QUESTION 26
What is the recommended zoning method when designing fabrics for stand-alone and clustered environments?

A. single initiator
B. operating system
C. application
D. port

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
When there is one HBA or initiator to a single storage processor port or target zone, it is commonly referred to as single zone.

Zoning guidelines

Use one of the following zoning methods:
- Operating system (minimum level required)
- Host bus adapter (HBA)
- Application
- Port allocation

Zoning by operating system

Zoning by operating system is the minimal required zoning method. This method allows multiple HBAs with the same operating system to be grouped with the accessed storage ports. Zoning by operating system prevents the interaction of HBAs with incompatible operating systems. This method limits the number of zones in a fabric. A large zone can be divided into multiple zones within the operating system type. Zoning by operating system type limits disruptions and the number of fabric change notifications. Certain situations require zoning by HBA, for example, configuring server access to multiple storage types.

Zoning by HBA (or Single initiator)

For zoning by HBA, each zone has only one HBA (initiator); each of the target devices is added to the zone. Typically, a zone is created for the HBA and the disk storage ports are added. If the HBA also accesses tape devices, HP recommends that a second zone be created for the HBA and associated tape devices. For zoning requirements with different HBA models on the same server. This zoning philosophy is the preferred method for both standalone and clustered systems; zoning by single HBA requires the creation of numerous zones; each containing only a few members. Zone changes affect a small number of devices, minimizing the effect of an incorrect zone change.

Zoning by application

Zoning by application configures multiple, sometimes incompatible, operating systems into the same zones. This method allows the potential for disruptions among servers, such as a web server disrupting a data warehouse server. A zone with a large number of members is susceptible to more administrative errors, such as distribution of RSCNs to a larger group than necessary.

Zoning by port allocation

Avoid zoning by port allocation unless you have strictly enforced processes for port and device allocation in the fabric. There is no consequence for the change of WWN when a storage port, server HBA, or tape drive is replaced. If the new device connects to the original port, it continues to have the same access rights. You can preassociate switch ports with storage ports, and therefore control the server-to-storage ratio. This technique prevents overloading of a storage port by allowing you to limit the number of servers that are allowed access.

QUESTION 27
Which tool is used during the demonstration of a solution that includes the HP 2408 FCoE Converged Network Switch?.

A. SAN Network Advisor
B. SAN Connection Manager
C. Fabric Manager Server
D. HP Intelligent Infrastructure Analyzer

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
HP Intelligent Infrastructure Analyzer
The HP Intelligent Infrastructure Analyzer Software enables the discovery of SAN components and provides users with the ability to monitor the optical parameters of SFPs, states of ports and SFPs of HP Fibre Channel HBAs, HP B-series and H-series switches and HP 3PAR StoreServ Storage.

SAN Network Advisor and DCFM
Don't you want to manage your B-series hardware seamlessly? 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.

Question "Demonstration of a solution that includes the HP 2408 FCoE"
Answer: HP Intelligent Infrastructure Analyzer

QUESTION 28
Your are designing a complex HP SAN networking solution. To provide comprehensive management of data center fabrics including configuration,monitoring, and management, you add HP SAN Network Advisor to your solution. Your inside sales representative asks which edition of this software should be proposed.

What differentiates the available edition? (Select two.)

A. number of ports
B. use of ISL monitor
C. number of fabrics
D. number of administrative users
E. use of Zoning Manager

Correct Answer: AC
Section: (none)

Explanation

Explanation/Reference:

Management with SAN Network Advisor

SAN Network Advisor is available in three types of bundles:

- **HP SAN Network Advisor Professional** — Up to 1,000 switch ports, one fabric, B-series Fabric OS only.
- **HP B-series SAN Network Advisor Professional Plus** — Up to 2,560 switch ports and four fabrics.
- **HP B-Series SAN Network Advisor Enterprise** — Up to 9,000 switch ports and 24 fabrics. This bundle is required for B-series Director and FICON management.

QUESTION 29
When deploying HP 8/64 blades in an HP SN8000B switch, what must you consider?

A. The HP SB8000B blade uses mSFP connectors
B. An HP SN8000B cannot be fully populated with this blade
C. The HP SN8000B blade operates only at 8 Gbps
D. The HP SN8000B slot is oversubscribed by this blade

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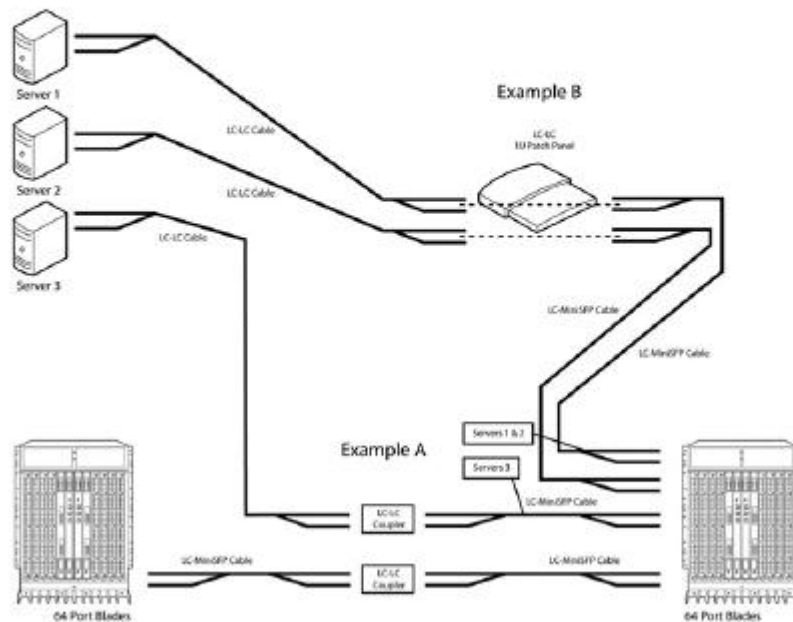**Section: (none)**
Explanation

Explanation/Reference:

HP 8/64 Blade for DC SAN Directors

The HP 8/64 Blade for DC SAN Directors:

- Allows the DC SAN Backbone to scale up to 512 ports
- Allows the DC04 SAN Director to scale up to 256 ports
- Includes 64m SFPs
- Requires high density cables or adaptors
- Part number BK798A

HP 64-port Blade for DC SAN Directors — Patch panel

QUESTION 30
A company runs a data center for smaller customers. Some of their customers require 24x7 availability, 1 Gb Ethernet and 4 Gb Fibre Channel networks.

- Their SAN consists of a dual redundant fabric with six HP StorageWorks 4/32 SAN Switch in each fabric, The fabrics have a full-mesh topology with two ISLs for each mesh link. They have only two available free ports on each switch.
- The have 20 VMware-based servers and 7 Windows 2008 servers, which are attached with redundant paths to their SAN.
- They also have three HP EVA 6xxx and two tape libraries with 4 drives of HP Ultrium 4 FC drives in each tape library.

- Recently they added two HP 3PAR StoreServ 10400 Storage System. The Servers and storage devices are distributed on the switches.
- All of the devices are distributed between two data centers which are 1 km apart.

The company has not experienced any performance issues.They plan to acquire addition customer support future growth.
You are asked to present a possible solution to the IT Director of the company.

Which drawback presentation (Select two.)

A. number of ports available for adding new switches
B. number of ports uses for ISLs
C. number of domains in the fabric
D. amount of available bandwidth for interswitch traffic
E. number of hosts between the devices on different switches

Correct Answer: AD
Section: (none)
Explanation

Explanation/Reference:

QUESTION 31
Your customer wants to implement a high availability connection on their hosts to the local storage. They have implemented a multi-vendor firmware issues. The current configuration is as follows:

- Microsoft Windows Server 2008 hosts with 1 QLogic HBA and 1 Emulex HBA
- Fabric A contains a Brocade 4/24 port switch.
- Fabric B contains a Cisco 9216 with 4 Gb fabric card.
- Brocade 1606 routers connect their disaster recovery site.
-
What is required for heterogeneous implementation?

A. Both fabrics must have the same zoning rules
B. Both fabrics must have the same HBAs
C. Both fabrics must have the same switch types
D. Both fabrics must be able to support trunking

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
HP SAN Design Reference Guide, pag 166

Rule number	SAN platform configuration
1	Any combination of heterogeneous clustered or standalone servers with any combination of storage systems is supported. The configuration must conform to requirements and rules for each SAN component, including: • Operating system • Fabric • Storage system • Mixed storage system types
2	All HP and multivendor hardware platforms and operating systems that are supported in a homogeneous SAN are also supported in a heterogeneous SAN. In a heterogeneous SAN, define zones by operating system. Storage systems can be in multiple operating system type zones.
3	Servers can connect to multiple fabrics. The number of supported fabrics per server depends on the maximum number of Fibre Channel HBAs supported for the server. See "EVA single-server maximum configurations" (page 225).

QUESTION 32
An existing EVA customer is preparing to deploy HP 3PAR StoreServ 7000 Storage. The customer previously purchased a par of MPX200 blades for a project, but the blades were never deployed. The customer wants to migrate data online and require LUN by LUN control because infrequently used data will be left on the EVA. Synchronization must be maintained between the EVA and 3PAR LUNs until all a particular host are migrated.

Which solution will meet the customer requirements?

A. Use the HP 3PAR StoreServ 7000 Storage Online import license to transfer data form the EVA to the 3PAR array.
B. Obtain an HP MPX200 Full Chassis 1 Array Data Migration license, and migrate data through the MPX200.
C. Connect the HP 3PAR Remote Copy IP connection to the MPX200, and migrate data through the MPX200.
D. Present LUNs from the HP 3PAR StoreServ 7000 Storage to the servers, and use the operating system to transfer data.

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

Before migrating data from an EVA to a 3PAR storage system using EVA to 3PAR Online Imp
the system environment must meet the following requirements:

- Source EVA storage system must be running a supported firmware level. See the SPOCK
website for supported firmware versions.

- Source EVA storage systems must be managed by Command View 10.2.

- The destination 3PAR storage system must have a Peer Motion license installed.

- The destination 3PAR storage system must be at InForm OS level 3.1.2. or later.

- Source EVA storage systems must have external, not internal, FC switches.

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http://h20195.www2.hp.com/v2/GetPDF.aspx%2F4AA4-5639ENW.pdf

http://h20566.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_ba847bafb2a2d782fcbb0
710b053ce01=docDisplayResURL&javax.portlet.rst_ba847bafb2a2d782fcbb0710b053ce01=wsrp-resourceState%3DdocId%253Demr_na-c03597451-
2%257CdocLocale%
253Den_US&javax.portlet.tpst=ba847bafb2a2d782fcbb0710b053ce01_ws_BI&ac.admitted=1390155110539.876444892.199480143
http://h20566.www2.hp.com/portal/site/hpsc/template.BINARYPORTLET/public/kb/docDisplay/resource.process/?
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2%257CdocLocale%
253Den_US&javax.portlet.tpst=ba847bafb2a2d782fcbb0710b053ce01_ws_BI&ac.admitted=1390155110539.876444892.199480143

QUESTION 33
A customer has heard about new technologies and asked you to present a possible solution based on a converged advantages of such a solution

should you emphasize in your presentation? (Select two)

A. provides a common, high performance network that can server both storage and networking demand
B. IT infrastructure that is more flexible and responsive to changing business needs
C. integrates seamlessly into existing Fibre Channel environments

D. allows the possibility of investing savings in innovation to better compete

E. increase CapEx and OpEx while simplifying data center configurations

Correct Answer: AB
Section: (none)
Explanation

Explanation/Reference:
For the SMB, the benefits of a flexible SAN that is easy to deploy, scalable and affordable is a high priority for the business. Small and mid-size businesses will enjoy the benefits of deploying high-performance, highly scalable, and secure Fibre Channel SAN infrastructure without having to hire a "SAN Expert". Ordering, deploying, and managing a Fibre Channel SAN is simple with HP StorageWorks P2000 G3 FC Dual Controller SMB SAN Starter Kit. With the inclusion of H-series Fibre Channel switches and HP Simple SAN Connection Manager enterprise software, the number of applications and steps needed are greatly reduced when compared to traditional approaches as we have shown. SSCM enterprise software reduces the number of steps required to deploy and manage the SAN by 50 percent and reduces the number of applications required by at least 40 percent. Customers can start small, supporting just a few servers accessing 1-2 TB of disk storage, and then scale up to as much as 192 TB supporting over 100 connections to the SAN with this solution. And the entire SAN can be setup and deployed in under 30 minutes with SSCM. There simply is no better solution on the market today that provides busy storage administrators with the tools to reduce SAN configuration by 40 percent or greater.

QUESTION 34
You are designing a core-edge solution. Your customer has an existing HP C-series MDS 9500 Director Switch and wants to one HP B-series 8/24c SAN Switches.

What must you consider for proper interoperability? (Select two.)

A. The B-series switches should be in Access Gateway mode

B. The B-series switches should be in standard switch mode

C. The C-series core switches should support NPIV

D. The C-series core switches should be in interopmode 1

E. The C-series core switches should be in interopmode 2

Correct Answer: AC
Section: (none)
Explanation

Explanation/Reference:
When creating a dual interoperable, heterogeneous SAN, consider the following:
- HP recommends that you use the same fabric topology and configuration in both fabrics to maintain balanced SAN performance.
- Design both fabrics using the lowest common denominator. For example, B-series switches support seven switch hops and M-series switches support three switch hops. Therefore, design both fabrics with a maximum of three switch hops.
- HA configurations require support for common host bus adapter (HBA), driver, multipathing software, and storage array firmware versions because servers and storage connect to both fabrics.

To merge B-series and M-Series fabrics, you must use the proper mode. For M-Series, use the "Open Fabric Mode." For B-series, you must use INTEROPMODE 1. Perform these steps:

B-series Access Gateway
Access Gateway (AG) mode provides connectivity to B-series or other switch-series fabrics that support N_Port ID Virtualization (NPIV).
The following B-series Fibre Channel switches support running in Access Gateway Mode:
• Brocade 8Gb SAN Switch for HP BladeSystem c-Class
• HP SAN Switch 8/24, 8/40 (with 40 ports enabled and 6.2.0a or later)
• HP 2408 FCoE Converged Network Switch (Fibre Channel ports with 6.3.1a or later)
• HP SN6000B 16Gb FC Switch
• HP 4/16 SAN Switch (Brocade 200e)
• Brocade 4Gb SAN Switch for HP c-Class BladeSystem (Brocade 4024)

CISCO MDS 9000 N-PORT VIRTUALIZATION (NPV) MODE

N-Port Virtualization (NPV) Mode is a software feature that can be optionally enabled on the C-series MDS 9124, MDS 9134, MDS 9124e, and SN6000C Fabric Switches. Switches operating in NPV mode do not join a fabric; rather, they pass traffic between NPV core switch links and end devices.

NPV technology addresses the increase in the number of domain IDs needed to deploy a large number of ports by making the MDS 9124, MDS 9134, MDS 9124e, and the SN6000C behave as a host to the core FC switch. NPV aggregates multiple locally connected N-ports into one or more external NP link(s), which share the domain ID of the NPV core switch. NPV also allows multiple devices to attach to the same port on the NPV core switch, thereby reducing the need for more ports on the core switch. NPV makes use of N-port ID virtualization (NPIV) to receive multiple FCIDs allocated from the core switch on the NP port. Refer to the *Cisco MDS 9000 Family Configuration Guide* for instructions on how to configure NPV.

In addition to being supported in Cisco fabrics, NPV is supported for connectivity to B-Series and M-Series fabrics. Refer to the *hp StorageWorks Fabric Interoperability: Merging Fabrics Based on C-series and B-Series Fibre Channel Switches* and *hp StorageWorks Fabric Interoperability: Merging Fabric Based on C-series and M-Series Fibre Channel Switches* for specific supported B-Series and M-Series software versions.

QUESTION 35
You are creating and implementation plan with the system engineers for a newly designed infrastructure solution using HP StoreVirtual 4330 Storage width VMware vSphere. The proposed backup strategy includes HP Data Protector using the VMware vStorage API for Data Protection on a native Windows 2008 R2 host. An HP StoreEver MSL4048 Tape Library is directly attached to the backup server.

Which statement is true about this implementation plan?

A. MS MPIO should be recommend for the solution
B. The iSCSI network switches should use Spanning Tree
C. A 10 GB NIC is required for the backup host
D. The MSL4048 has to be connected redundantly to the Windows server

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
EBS features and benefits
EBS is a complete backup and restore solution featuring HP Tape Storage & Media (ESL E-series, EML E-series, MSL, Virtual Library Systems, and Autoloaders), including a variety of servers, operating systems, host bus adapters, switches, disk arrays, and software. It is a single point of reference for the latest support information found in the EBS Compatibility Matrices which contain all the solution interoperability and device compatibility details

Supported topologies:
Serial-attach SCSI, Direct-attach SCSI or Direct-attach SAS, Point-to-point, Switched fabric

Direct-attach SCSI
Direct-attach SCSI (DAS) is the most common form of attachment to both disk and tape drives. Direct-attach SCSI allows a single server to communicate directly to the given target device over a SCSI cable. These configurations do not allow for multi-hosting a single target device, because the target device is dedicated to the server.

Why not arbitrated loop? Any disruption of the loop causes disruption in the backup and backup jobs fail

Recommended uses for HP DSM for MPIO:
• For maximum possible performance for specified configurations.
• With Multi-Site SAN storage clusters, the HP DSM for MPIO with site preference is recommended,
particularly if the inter-site link is significantly slower than local access. This configuration will
ensure that reads are performed with a local replica when one is available. This is particularly
useful for Microsoft clusters where a Microsoft cluster node is on each side of the inter-site link.

QUESTION 36
A large customer has a SAN infrastructure with six HP 8/40 SAN switches in each redundant fabric. To accommodate growing workload's and expected growth on the SAN, the customer wants to replace their switches. They also want to reduce associated costs for power, cooling, and management. The IT Director wants additional capabilities for monitoring and alerting in the new environment.

Which SAN infrastructure solution should you recommend in your proposal?

A. HP SN8000C Director with Cisco Fabric Manager Server
B. HP SN8000B 8-Slot Power Pack + SAN Director
C. HP SN8000B 8-Slot SAN Director
D. HP SN8000B 4-Slot Power Pack + SAN Director

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
HP 8/24 SAN Switch: Consolidates data center connectivity for small to medium sized enterprises delivering 8 Gb/s highly available, lossless networking between applications and data, as well as between servers and storage networks.

HP SN8000C Director: 13-Slot Supervisor 2A Fabric 2 Director Switch (AJ905C)
Cisco Fabric Manager: The Cisco Fabric Manager is a set of network management tools that supports Secure Simple Network Management Protocol version 3 (SNMPv3) and legacy versions.

SAN Director: Is the name and category of switch SAN, not software with capabilities for monitoring and alerting

---

SFP support

B-series switches use B-series branded SFPs. The SN8000B 8-Slot SAN Director Power Pack+ features up to 512 SFP ports. The SN8000B 4-Slot SAN Director and 4-Slot SAN Director Power Pack+ feature up to 256 SFP ports.

Note: SFP+ is the expanded standard for 8 Gb Fibre Channel support.

The 8/40 SAN Switch enables you to use 4 Gbit/sec SFPs today and upgrade to 8 Gbit/sec SFPs when required. Customers must purchase B-series branded SFPs for the HP 8/40 and HP 8/40 SAN Switch Power Pack+.

Note: HP Fibre Channel transceivers and cable compatibility can be confirmed using the HP Storage SAN Compatibility Tool at **http://www.hpsancompat.com**

HP SN8000B 8 & 4-Slot SAN Directors

Non-stop access to information

- **Purpose-built for the virtual data center**
  - Provides industry leading FC SAN capability for highly virtualized environments and critical workloads
- **Lowest cost of ownership**
  - Lowest CAPEX and OPEX with industry leading power and cooling efficiencies
- **Unprecedented performance and scale**
  - Bladed architecture allows scaling with fully provisioned 16 Gbps performance at every port
- **Unmatched application availability**
  - Advanced SAN traffic monitoring and alerting
- **Distance Extension**
  - High-performance SAN extension moves more data faster and further over an IP WAN connection
- **Secure information infrastructure**
  - Meets SAN security requirements for data-at-rest encryption for disk and tape

QUESTION 37
A broadcasting company has an aged Fibre Channel-based storage networking infrastructure. They have three EMC CX-series arrays, each with 50 TB, two HP EVA 8100, each with 80 TB. They want to update their environments with two new HP 3PAR StoreServ 7400 arrays. Due to their availability requirements, complexity, and the need to avoid downtime for applications, the company would like to implement online migration using only proposal.

Which solution should you recommend to the customer?

A. HP MPX200 Multifunction Router
B. HP Continuous Access EVA Data Migration
C. HP 3PAR StoreServ External Storage Option
D. HP 3PAR StoreServ 7400 peer Motion Online Import

Correct Answer: A

Section: (none)
Explanation

Explanation/Reference:
EMC CX-Series to 3PAR StoreServ
http://www.qlogic.com/OEMPartnerships/HP/Documents/DataMigration/wp_4AA2-1687ENW.pdf

QUESTION 38
A fast-growing company is planning an acquisition that will add significantly to their customer base and their data center workload. Environment with 1 Gb Ethernet and 8 Gb Fibre Channel networks in place. They are open to new technologies and are willing to reduce cost-effective over time.

Which infrastructure purchases should you include in your proposal?

A. Converged Network Switches and implementing FCoE
B. 10 Gb Ethernet switches and implementing iSCSI
C. 10 Gb Ethernet switches and implementing NFS
D. 16 Gb Fibre Channel switches and implementing FCIP

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
FCoE fabric topologies
FCoE technology allows you to converge Ethernet and Fibre Channel technology, providing significant cable, adapter, and switch consolidation. All HP-supported Fibre Channel topologies are supported integrated with FCoE at the Fibre Channel fabric edge. HP also supports end-to-end FCoE solutions for the P63*xx*/P65*xx* EVA storage systems with the FCoE target interface and P6000 (formerly EVA) storage using the MPX200 Multifunction Router.

Fibre Channel over Ethernet is a protocol in which Fibre Channel frames can be sent over Ethernet networks. This allows Fibre Channel to use 10-GbE networks while preserving the Fibre Channel protocol. The convergence of Ethernet and FC provides the same level of connectivity as each individual technology provides separately, but requires:
• 50% fewer switches in each server rack—Only two converged network ToR switches, compared with four switches per rack with separate Ethernet and FC switches (two network and two FC)
• 50% fewer adapters per server
• 75% fewer cable connections

QUESTION 39
You are designing an iSCSI-bases storage solution for a customer that wishes to utility obligation to ensure that the data going across the SAN network is secure.

Which proposal

A. SMI-S
B. IPsec
C. CHAP
D. SSL

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
IPsec
C-series IPsec features ensure secure transmissions at the network layer. IPsec protects and
authenticates IP packets between participating devices (peers) over unprotected networks

QUESTION 40
You are designing a storage solution for a customer who wants to simplify SAN management by create blades will meet these requirements?

A. HP StoreFabric 8/24 Bundled FC Switch
B. HP 8Gb Simple SAN connection Kit
C. HP Virtual Connect FlexFabric
D. HP 6Gb SAS Switch Singel pack for HP BladeSystem c-Class

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Virtual Connect FlexFabric 10Gb/24-port Module for c-Class BladeSystem

Using HP Virtual Connect FlexFabric 10Gb/24-port Modules is 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. Using Flex-10 technology with Fibre Channel over Ethernet and Accelerated iSCSI, these modules converge traffic over high speed 10 Gb connections to servers with HP FlexFabric Adapters. Each module provides four adjustable connections (three data and one storage or all data) to each 10 Gb server port. You avoid the confusion of traditional and other converged network solutions by eliminating the need for multiple Ethernet and Fibre Channel switches, extension modules, cables and software licenses. Also, Virtual Connect wire-once connection management is built-in, enabling server adds, moves, and replacement in minutes instead of days.

QUESTION 41

Which feature of a B_Series switch requires NPIV connectivity?

A. Advanced Zoning
B. FCIP trunking
C. Access Gateway node
D. Extended Fabrics

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
B-series Access Gateway
Access Gateway (AG) mode provides connectivity to B-series or other switch-series fabrics that support N_Port ID Virtualization (NPIV).

QUESTION 42
A customer currently has a single fabric switch. They are planning to expand their fabric to a total of five switches and connect not more between two switch and two switch hops

Which topology meets this requirement?

A. Cascade
B. Flat SAN
C. Core-edge
D. Ring
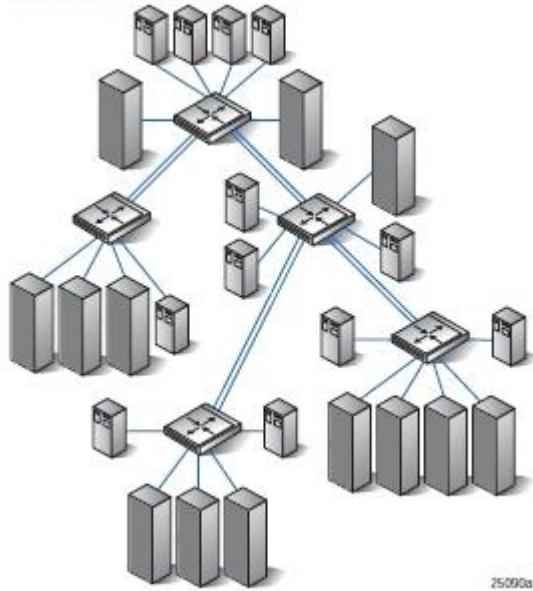
Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Cascaded fabric
• Ability to connect SANs in diverse geographic locations
• Ease of scalability for increased server and storage connectivity
• Shared backup and management support
• Optimum local performance when communicating devices are connected to the same switch
in the cascaded fabric
• Cost efficiency due to the large number of switch ports available
• Support for local data access and occasional centralized data access
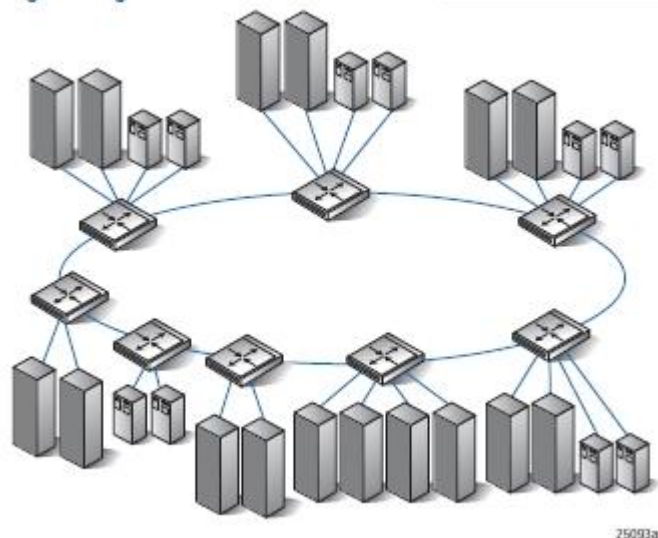
Figure 2 Cascaded fabric

Ring fabric
• Modular design and ease of scalability by adding a switch and other devices
• Multiple paths for internal fabric resiliency
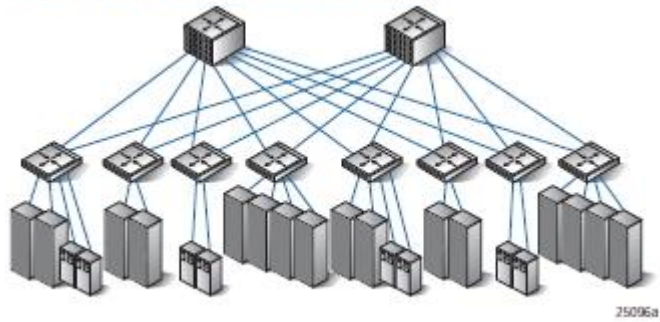• Support for a mix of local data access and occasional centralized data access

Figure 5 Ring fabric

25093a

Core-edge fabric (called core switches)
• Typically, a maximum of two hops between switches
• Equal, centralized access to devices in the core
• Increased fabric and switch redundancy with two or more switches in the core
• Full many-to-many connectivity with evenly distributed bandwidth
• Support for centralized and distributed data access needs
• Ability to designate an optimally located

Figure 8 Core-edge fabric (hierarchical depiction)

Flat SAN

Flat SAN Architecture
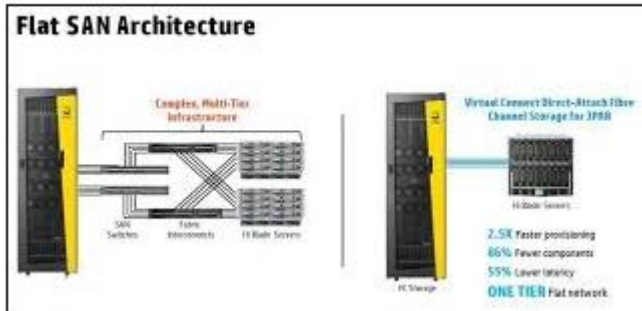
Block 3 - Question Three

QUESTION 1
A small production company is planning to consolidate their legacy direct attach storage solutions.They plan to implement one small storage array and four servers with VMware vSphere.They are not likely to grow much in the next three years and have limited financial resources.

Which SAN infrastructure solution should you recommend in your proposal?

A. HP 8Gb Simple SAN Connection Kit

B. HP 8/80 SAN Switch

C. HP Nexus 500 Converged Network Switches

D. HP SN8000B SAN Director

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 2
A major media company has recently acquired a distribution company. You have been asked to design a solution that will allow the two companies to connect their SAN fabrics in order to facilitate a data migration. The media company SAN fabric consist of HP H-series SN6000 SAN switches, and the distribution company utilizes HP B-Series SAN switches. You wish to control the access between the two fabrics during this transition.

Which feature allows this functionality without additional costs to the customer?

A. Extend Fabric

B. ISL trunking

C. LSAN

D. Transparent Router

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
LSAN Zones
A Logical SAN (LSAN) consists of zones in two or more edge or backbone fabrics that contain the same devices. LSANs essentially provide selective device connectivity between fabrics without forcing you to merge those fabrics. FC routers provide multiple mechanisms to manage inter-fabric device connectivity through extensions to existing switch management interfaces. For details of this FC-FC routing service, refer to the Fabric OS

Administrator's Guide.

http://www.brocade.com/downloads/documents/html_product_manuals/NOS_AG_300/wwhelp/wwhimpl/common/html/
wwhelp.htm#context=53_1002561_02&file=CH_zoning.13.11.html

B-series, C-series, and H-series routing differences

B-series 8 Gb/s switches with integrated Fibre Channel routing, 1606 Extension SAN Switches or DC Dir Switch MP Extension Blades, an MP Router, Virtual Fabrics with IFR, or VSANs with IVR can connect existing fabrics or VSANs. When existing fabrics are connected to an 8 Gb/s switch with Fibre Channel routing or MP Router, it creates a Meta SAN. Using B-series switches with Virtual Fabrics or C-series switches with VSANs, existing fabrics are physically connected, and the routing function in the switches is configured using IFR or IVR.

As shown in Figure 18 (page 50), an LSAN can include devices connected to different fabrics (for example, the LSAN Zone connects devices from Fabric 1 and Fabric 2).

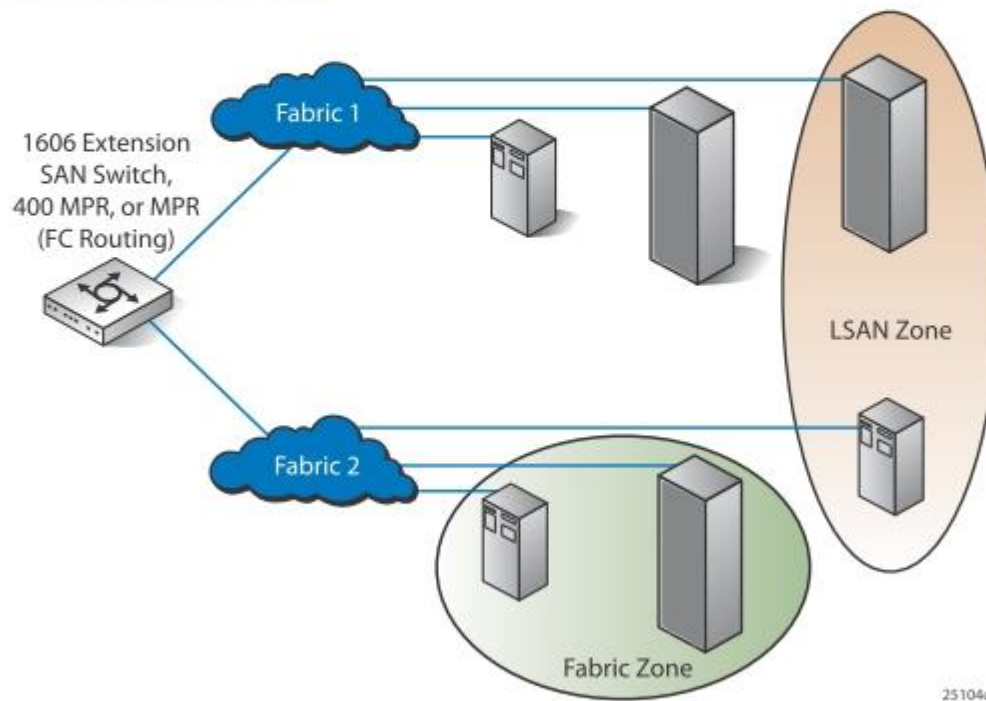**Figure 18 B-series routing**

Figure 19 (page 51) and Figure 20 (page 51) show the differences between B-series MP Router and C-series routing.

Figure 19 (page 51) shows how Virtual Fabrics can include devices that connect to a single switch or multiple switches in the SAN. Devices in different Virtual Fabrics communicate using IFR. Multiple switches can be connected in any supported fabric configuration.

QUESTION 3
Your customer has two data center that are approximately 8 kilometers (5 miles) apart. They want to connect the data centers with a direct fibre channel connection. Because they are using a leased line, they are concerned about the security of the data traveling between the data centers.

Which switch type should they use to secure the traffic between their data centers?

A. HP SN6000B Fibre Channel Switch
B. HP Nexus 5000 Converged Network Switch
C. HP 2408 FCoE Converged Network Switch
D. HP SN6000 Stackable Fibre Channel Switch

Correct Answer: A
Section: (none)
Explanation

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

In-flight compression and encryption included providing efficient link utilization and security.

QUESTION 4
You have proposed a new HP storage solution that consist of an HP 3PAR StoreServ 10000 disk array. Which resource should you utilize to confirm SAN switch firmware compatibility with the disk array?

A. HP Product Bulletin
B. HP SAN Design Guide
C. HP Channel Service Network
D. HP Single Point of Connectivity Knowledge

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
http://h20565.www2.hp.com/portal/site/hpsc/template.PAGE/public/kb/docDisplay/?
sp4ts.oid=3896341&spf_p.tpst=kbDocDisplay&spf_p.prp_kbDocDisplay=wsrp-navigationalState%3DdocId%253Demr_na-c03664700-1%
257CdocLocale%253D%257CcalledBy%
253D&javax.portlet.begCacheTok=com.vignette.cachetoken&javax.portlet.endCacheTok=com.vignette.cachetoken

QUESTION 5
You are designing a dual interoperable, heterogeneous SAN fabric for a customer that currently has a single M-series SAN fabric. The customer has decided to build a second fabric using HP B-series SAN Switches. To follow HP best practices, what must you consider during implementation? (select two)

A. The HBA model must be different for each SAN fabric.
B. The number of switch hops must match the maximum number supported for the B-series.
C. The SAN fabric topology must be different in two fabrics.
D. The number of switch hops must match the maximum number support for the M-seires.
E. The SAN fabric topology must be the same in two fabrics.

Correct Answer: DE
Section: (none)
Explanation

Explanation/Reference:

Dual interoperable, heterogeneous SAN fabrics

A dual interoperable, heterogeneous SAN consists of two fabrics, with each fabric comprised exclusively of switches from a different series.

HP supports dual interoperable SAN fabrics for the following switch-series combinations:

- A SAN with one fabric containing B-series switches only and a second fabric containing C-series switches only
- A SAN with one fabric containing B-series switches only and a second fabric containing H-series switches only
- A SAN with one fabric containing B-series switches only and a second fabric containing McDATA switches only

When creating a dual interoperable, heterogeneous SAN, consider the following:

- HP recommends that you use the same fabric topology and configuration in both fabrics to maintain balanced SAN performance.
- Design both fabrics using the lowest common denominator. For example, B-series switches support seven switch hops and McDATA switches support three switch hops. Therefore, design both fabrics with a maximum of three switch hops.
- HA configurations require support for common HBA, driver, multipathing software, and storage array firmware versions because servers and storage connect to both fabrics.

NOTE: HP does not support MSA1000 with the MSA SAN Switch 2/8 in dual interoperable, heterogeneous SAN configurations.

QUESTION 6
Your customers is planning a lab environment to test virtualization. They plan to purchase a small storage array and two rack mount servers. The customer has a limited budget, and 24X7 uptime is not critical.

Which SAN switch offering should you include in your proposal?

A. Cisco MDS 9222i MultiService Switch
B. HP SN6000 fibre Channel Switch
C. HP SN3000B Fibre Cahnnel Switch
D. HP Nexus 5000 converged Network

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 7
A new customer has a Fibre Channel infrastructure based HP SN8000C Directors. Their Environment has grown over the last two years, and they are now experiencing performance issues with applications. You are asked to do an analysis of the SAN environment before you submit a proposal.

What should you investigate first in this environment?

A. Fibre Channel SAN Switch oversubscription
B. Cisco Fabric Manager Server misconfiguration
C. Missing C-series I/O Accelerator License
D. HP SN8000C Single Supervisor

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 8
You are preparing a series of presentations form data you collected in an interview with your customer. Within one presentation, you have a Future Plans?, section and your notes include information about TCO and ROI of your solution.

Which member of the CxO team would be most interested in this information?

A. IT Director
B. Chief Executive Officer (CEO)
C. Chief Operation Officer (COO)
D. Chief Financial Officer (CFO)

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
CEO - Competitive business advantage; business opportunities
CFO - Cost and risk control
CIO - IT operating costs; application development backlog
Clients - Users; service-level consistency or improvement

QUESTION 9
Which H-series software tool allows a customer to perform network management and storage provisioning form a single screen?

A. Data Center Fabric Manager
B. Advanced Performance Monitor
C. MDS Fabric Manager Server Software
D. SAN Connection Manager

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
http://h20195.www2.hp.com/v2/GetPDF.aspx%2F4AA1-7730ENW.pdf

Included SAN Connection Manager (SCM) enterprise software enables network management and storage provisioning from a single screen.

QUESTION 10
Your Customer uses a campus replication configuration with their Fibre Channel Storage Array. After a recent power outage at the source, the customer experienced data loss at the target site.

Which configuration change data loss in the future?

A. Set replication to synchronous
B. Enable QoS on the source side switch.
C. Add a duplicate link to the remote site
D. Adjust the link bandwidth.

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 11
Which licensed feature allows a customer to collect historical performance data and perform hot spot analysis on a C-series SAN fabric?

A. Advanced Web tools
B. SAN Connection Manager
C. Advanced Performance Monitor
D. MDS Fabric Manager Server software

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
The "Standard" Cisco Fabric Manager software that is included at no charge with the MDS switches provides basic switch configuration and troubleshooting capabilities. The Cisco Fabric Manager Server (FMS) Package extends Cisco Fabric Manager by providing historical performance data collection for network traffic hot-spot analysis, centralized management services and advanced application integration.

QUESTION 12
You are designing a new SAN fabric for a customer envinment. The customer wants to ensure that the design provides maximum performance for local data access, while supporting occasional centralized data access.

Which fibre Channel topology should you recommend?

A. meshed
B. core-edge
C. ring
D. cascaded

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
http://h20628.www2.hp.com/km-ext/kmcsdirect/emr_na-c00403562-57.pdf

Single-switch fabric Benefits
The benefits of a single-switch fabric include:
• Easy installation and configuration of servers and storage
• Maximum fabric performance because all communicating devices connect to the same switch
• Support for local, centralized, and distributed data access needs

Cascaded fabric Benefits

The benefits of a cascaded fabric include:
• Ability to connect SANs in diverse geographic locations
• Ease of scalability for increased server and storage connectivity
• Shared backup and management support
• Optimum local performance when communicating devices are connected to the same switch
in the cascaded fabric
• Cost efficiency due to the large number of switch ports available
• Support for local data access and occasional centralized data access

Meshed fabric Benefits

The benefits of a meshed fabric include:
• Ability to meet multiple data access needs
• Multiple paths for internal fabric resiliency
• Ease of scalability
• Shared backup and management support
• Support for a mix of local and distributed data access
• Less impact on performance due to intraswitch traffic

Ring fabric Benefits

The benefits of a ring fabric include:
• Modular design and ease of scalability by adding a switch and other devices
• Multiple paths for internal fabric resiliency
• Support for a mix of local data access and occasional centralized data access

Core-edge fabric Benefits

The benefits of a core-edge fabric include:
• Typically, a maximum of two hops between switches
• Equal, centralized access to devices in the core
• Increased fabric and switch redundancy with two or more switches in the core
• Full many-to-many connectivity with evenly distributed bandwidth
• Support for centralized and distributed data access needs
• Ability to designate an optimally located

QUESTION 13
Which functionality can be demonstrated to your customer with HP Intelligent Infrastructure Analyzer?

A. Switch firmware version control

B. HBA firmware version control

C. Port performance monitoring

D. SFP optical parameter monitoring

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
http://www8.hp.com/us/en/products/storage-software/product-detail.html?oid=5293985#!tab=features

QUESTION 14
A company is reviewing proposals to upgrade their existing Fibre Channel SAN to a new core-edge design based on HP B-series switches. Included in one proposal is HP SAN Network Advisor Enterprise.

Which benefits will this product provide to IT management? (select two.)

A. Simplified DR failover/failback

B. SAN wide best-practices validation

C. Easy-to-deploy SAN appliance

D. Free if charge with B-series switches

E. Proactive alerting and diagnostics

Correct Answer: CE
Section: (none)
Explanation

Explanation/Reference:
http://www8.hp.com/us/en/products/storage-software/product-detail.html?oid=3832744#!tab=features

QUESTION 15
A company runs a data center for smaller customers. Some of their customers require 24x7 availability. The company infrastructure consists of traditional 1Gb Ethernet and 4Gb Fibre Channel networks.

- Their SAN consists of a dual redundant fabric with six HP StorageWorks 4/32 SAN Switches in each fabric. The fabrics have a full-meshed topology with two ISIs for each mesh link. They have only two available free ports on each switch.
- They have 20 VMware-based servers and 7 Windows 2008 servers, which are attached with redundant paths to their SAN.
- They also have three HP EVA 6xxx and two tape libraries with 4 drives of HP Ultrium 4 FC drives in each tape library.
- Recently they added two HP 3PAR StoreServ 10400 Storage Systems. The servers and storage devices are distributed on the switches.

▪   All of the devices are distributed between two data centers that are 1 km apart.

The company has not experienced any performance issues. They plan to acquire additional customers and are concerned that their infrastructure will not support future growth. The company wants to make sure that they will be able to accommodate changing I/O traffic patterns and reduce the complexity for expansion.

Which change to the SAN should you recommend in your presentation to the IT Director of the company?

A. change to HP SN6000 Stackable Fibre Channel Switches
B. change to core-edge-topology for each fabric
C. add the HP B-series SAN Network Advisor Enterprise to each fabric
D. change to HP SN6OOOC 8Gb Fibre Channel Switches

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

Core-edge fabric

HP recommends using a core-edge fabric wherever possible.

A core-edge fabric has one or more Fibre Channel switches (called core switches) that connect to edge switches in the fabric (Figure 7). The core switches provide high bandwidth and redundant connectivity to the edge switches. The edge switches provide user ports for servers and storage. You can also connect centralized storage (disk or tape) to the core switches if centralized access is required.

The core-edge fabric is optimal for:

• Many-to-many connectivity environments that require high performance

• Unknown or changing I/O traffic patterns

• SAN-wide storage pooling

QUESTION 16
A customers is implementing a new SAN fabric. Additionally, they would like to implement boundaries on a group of SAN administrators, which would allow the administrators to make zoning changes only to specified logical SAN partitions.

Which security technology should you recommend?

A. VSAN-based access control
B. LSAN-based access control
C. port security
D. Fibre Channel Security Protocol

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 17
Your customer is experiencing latency in their client/server application during backup operations. During data performance collection, the network utilization was close to 80 %, the server utilization was 30%, and the server memory utilization was 40%.

Which solution will reduce the application latency?

A. Migrate the server data disk from RAID 5 to RAID 6.
B. Migrate the backup traffic to a dedicated network
C. Increase storage HBA queue depth.
D. Add memory to the server.

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 18
You are asked to gather environment details for a proposed SAN network design solution.Your customer has an existing mixed environment composed of both B-series and C-series SAN switches.

Which assessment tool should you use to gather inventory information and present the information in both Excel and Visio formats?

A. HP System Insight Manager
B. HP Intelligent Infrastructure Analyzer Software

C. HP SAN Visibility

D. HP SAN Network Advisor

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

Block 4 - 1 Scenario

QUESTION 1

A large financial brokerage firm transacts about 32% of trades in their South American market. It o[f]
brokerage services, investment banking, and financial advisory services to corporations and individ[uals]
Recent expansions into other worldwide markets have led to delays in processing trading data into
reports that are timely enough for consumption by traders. The company is seeking a way to give i[ts]
traders much closer real-time data to use when making decisions on trades; ultimately translating [into]
higher results for its customers and higher competitive advantage for the firm. The company is pro[jecting]
100% data growth rates annually for the foreseeable future. A recent power outage at the product[ion]
data center that lasted 24 hours resulted in significant data loss.

The production data center:

- all rack-mount servers
- Microsoft SQL Server 2000
- HP ProLiant DL385 servers
- two HP Enterprise Virtual Array 6400 SANs
-

  heterogeneous SAN environment consisting of HP B-series and HP C-series SANs

The on campus Disaster Recovery center is newly constructed and has not been configured or br
line:

- BladeSystem environment
- core edge design
- all HP B-series SAN fabric
- HP 3PAR StoreServ Storage System

The company pulls all of its trading information and data into a data warehouse and then runs r
the data. Internal reports determine whether to update asset allocations. Customer reports det
holdings and earnings of the firm's funds. The most complex report takes 36 hours to run and ca
run over the weekend to prevent disruption to operations; this results in traders receiving updat
information only once per week. There is also an option for customers to access web-based repc
there is a need to update these reports more frequently as well.

Some of the additional business criteria identified in customer planning interviews includes:

- Produce daily reports rather than weekly
- Close to real-time reporting to customers
- Scalable solution for future growth and without interruption
- Ability to add additional reports or analyze data in new ways as the need arises
- Reduced IT overtime
- Concerned about application disruptions when adding or removing SAN devices
- Manage multiple Fibre Channel ports as one switch resource
- Move from 4Gb SAN to an 8Gb Fibre Channel SAN
- Looking for optimal performance, less downtime, non-disruption expansion, and a l
  price per port on the FC switch deployment
- Consolidation of SANs for seamless sharing of server and storage resources
- Multiple solutions, prioritized with a recommendation

Hot Area:

Correct Answer:

Section: (none)
Explanation

Explanation/Reference:

QUESTION 2
When designing a new SAN for the financial brokerage firm, which additional business requirements should be taken into consideration?

A. system uptime
B. geographical location and regulatory requirements
C. facility and environmental specifications
D. cabling specifications

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 3
Refer to the scenario.
Which licensed feature allows the financial brokerage firm to perform end-to-end monitoring of SAN traffic on a fabric-wide basis in the disaster recovery center?

A. Advanced Web tools
B. Advanced Performance Monitor
C. Adaptive Networking
D. Fabric Watch

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
http://h18006.www1.hp.com/products/storageworks/b-series/powerpack.html

QUESTION 4
Refer to the scenario.
Which licensed feature allows the financial brokerage firm to proactively monitor the health and performance of the switches and fabric in the disaster recovery center?

A. Advanced Performance Monitor
B. Adaptive Networking
C. Fabric Watch
D. Advanced Web tools

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
http://h18006.www1.hp.com/products/storageworks/b-series/powerpack.html

QUESTION 5
Refer to the scenario.
One proposed solution is to replace all 4Gb SAN swithces with 8Gb SAN switches. Which change to the proposal will provide investment protection and still meet all of the financial brokerage firm requirements?

A. Replace all 4Gb switches with a single 8Gb director.
B. Keep the 4Gb switches, and add ISLs and a trunking license.
C. Propose 16Gb SAN switches with 8Gb optics in ports currently needed.
D. Replace half of the 4Gb switches new, and wait for the price of 8 Gb switches to drop.

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 6
Refer to the scenario.
Which network topology optimally meets the stated requirements?

A. core-edge

B. cascaded

C. ring

D. mesh

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
http://h20628.www2.hp.com/km-ext/kmcsdirect/emr_na-c00403562-57.pdf

Single-switch fabric Benefits
The benefits of a single-switch fabric include:
• Easy installation and configuration of servers and storage
• Maximum fabric performance because all communicating devices connect to the same switch
• Support for local, centralized, and distributed data access needs

Cascaded fabric Benefits
The benefits of a cascaded fabric include:
• Ability to connect SANs in diverse geographic locations
• Ease of scalability for increased server and storage connectivity
• Shared backup and management support
• Optimum local performance when communicating devices are connected to the same switch
in the cascaded fabric
• Cost efficiency due to the large number of switch ports available
• Support for local data access and occasional centralized data access

Meshed fabric Benefits
The benefits of a meshed fabric include:
• Ability to meet multiple data access needs
• Multiple paths for internal fabric resiliency
• Ease of scalability
• Shared backup and management support
• Support for a mix of local and distributed data access
• Less impact on performance due to intra-switch traffic

Ring fabric Benefits
The benefits of a ring fabric include:
• Modular design and ease of scalability by adding a switch and other devices
• Multiple paths for internal fabric resiliency
• Support for a mix of local data access and occasional centralized data access

Core-edge fabric Benefits

The benefits of a core-edge fabric include:
• Typically, a maximum of two hops between switches
• Equal, centralized access to devices in the core
• Increased fabric and switch redundancy with two or more switches in the core
• Full many-to-many connectivity with evenly distributed bandwidth
• Support for centralized and distributed data access needs
• Ability to designate an optimally located

QUESTION 7
Refer to the scenario.
One proposed solution is to install HP Virtual Connect in the disaster recovery BladeSystem and then attach the HP 3PAR StoreServ to the BladeSystem environment directly. The proposed solution would then re-deploy the B-series SAN fabric in production and remove the C-series SAN.

Which additional business value should you emphasize about this solution when meeting with the CIO?

A. increased business process stability
B. reduced risk by creating a heterogeneous SAN fabric in the production environment
C. increased compliance with state and local regulations
D. reduced management complexity by creating a Flat SAN

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 8
Refer to the scenario.

Which network solution should you propose for the primary data center to meet the stated requirements?

A. HP 8/24 SAN Switch
B. HP SN6000C 8Gb Fibre Channel Switch
C. HP MDS 8/24c Fabric Switch
D. HP 8/8 SAN Switch

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

Block 4 - 2 Scenario

QUESTION 1
A company has been using a Fibre Channel infrastructure for the last three years. The company is located in a nine-story building but is currently occupying eight floors. Each of the nine floors has its own Brocade 8 Gb SAN Switch with Fibre Channel, which has a license for eight ports. Each department hosts a single Windows 2008 terminal server host for connection to their storage and data applications on the SAN, which is in the data center on the first floor. Each Brocade 8/8 switch is connected to the floor above and below by a single fibre connection.

Hot Area:

Correct Answer:

Section: (none)
Explanation

Explanation/Reference:

QUESTION 2
Which components should be included in a proposal for this customer?

A. Add a director switch to the data center with ISL to each floor switch.
B. Add an addtional port license on each switch.
C. Add an ISL cable from the ninth floor to the data center switch.
D. Add two additional ISL cables to each switch.

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 3
The company recently moved their executive members to the ninth floor. The executive assistants are receiving random messages from their mail client indicating that they are not able to connect to their server. The assistants did not experience these issues until they moved.

Without upgrading their current infrastructure, which action should the company take to resolve this issue?

A. Add an additional ISL link between the eighth and ninth floors.
B. Connect the ninth floor Brocade switch to the seventh floor Brocade switch.

C. Add one additional ISL link between all the switches to increase the bandwidth for communication.

D. Enable ISL trunking on all of the Brocade switches.

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 4
As utilization of the terminal servers increases, the company notices more I/O timeouts from the servers on the second through eight floors. Without upgrading the current company infrastructure.

Which change should you make to their configuration to resolve this issue?

A. Add addtional ISL connections between floors one through four.

B. Enable trunking on switches between floors fire through eight.

C. Add additional ISL connections between floors five through eight.

D. Enable trunking on all switches between floors one through four.

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 5
The company has requested a low-cost proposal to improve high availability so that a switch failure on any floor will not affect the rest of the building.

Which solution meets the company requirements?

A. Convert to a mesh topology.

B. Add additional HBA to each terminal server.

C. Convert to a ring topology.

D. Add an addtional ISL between each switch.

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 6
The company wants to add an HPUX-bases backup solution to their SAN.

Which action should this company take?

A. Create a separate zone for the backup solution.
B. Purchase an additional ISL trunk license.
C. Purchase additional port licenses.
D. Change the domain ID to 8 in the first floor switch.

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

Block 4 - 3 Scenario

QUESTION 1

Case Study Title (Case Study):
SCENARIO

Following the merger of two online entertainment companies, management is integrating the two distinct service systems that were individually built and optimized prior to the acquisition. Reducing IT costs is a major goal, but the company also wants a system infrastructure that allows quick, flexible handling of the online content requests, and that is highly reliable and has excellent expandability. The newly merged company is expanding its web-based music entertainment services by establishing a mobile content business model and launching a comprehensive community site that allows multiple consumers access to content in collaboration with PCs and cell phones. The multiple consumer web service includes video files. which occupy 90% or more of the total capacity and require an average of 400 Mbps network bandwidth for content distribution. These files piece a heavy burden on the distribution system. and this has prompted the company to consider a virtual server environment. They need to achieve this without lowering service quality.

Some of the additional business criteria identified in customer planning interviews includes:

• Twenty or more physical servers need to be integrate into just three units
• The storage environment, previously structured as individual server units, requires shifting to shared storage using a Storage Area Network (SAN)
• Increase the overall system reliability by consolidating the system environment.
• Not interested in direct-attached storage. Shared storage makes it possible to increase usage efficiency above that offered by direct-attached storage, and also adds a cost advantage.
• Management of all storage, HBAs. and switches should be done from a GUI-based dashboard .
• Multiple solutions, prioritized with a recommendation

A.

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 2
Refer to the scenario.

One solution design you provide includes an HP BladeSystem c7000 using HP Virtual Connect FlexFabric modules, an HP P6300 Enterprise Virtual Array, and a VMware vSphere cluster running on HP BL460c Gen8 servers.

Which HP software solution integrates the HyperVisor management and solves the company need for simple, centralized, and efficient network management?

A. HP SAN Network Advisor
B. HP Intelligent Management Center
C. HP Insight Control far VMware vCenter Server
D. HP ProCurve Manager vCenter Plug-in

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 3
Refer to the scenario.

Which Storage technology enables the server virtualization necessary to meet the company business needs?

A. Unified storage management
B. Block storage
C. Large capacity drives
D. Shared storage

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 4
Refer to the scenario.

Which software component meets the company business requirements?

A. HP MDS Fabric Manager Server
B. Brocade Fabric Watch
C. Advanced Zoning

D. HP SAN Connection Manager

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 5
Refer to the scenario.

The company prefers to migrate to a Fibre Channel storage system. Which array will support this requirement?

A. HP StoreAll 9730
B. HP StoreVirtual 4330
C. HP StoreOnce 6200
D. HP StoreSure 2000

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 6
Refer to the scenario.

Which HP Switch meets the company business criteria?

A. HP SN6000C 8Gb Fibre Channel Switch
B. HP MDS 9124 Fabric Switch
C. HP 8/24 SAN Switch
D. HP 8/20q Fibre Channel Switch

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 7
Refer to the scenario.

The company has asked for a Fibre Channel based solution. How would this solution meet their business requirements?

A. Integration of existing network infrastructure
B. Reduced price per MB for storage
C. Reduced network utilization
D. Decreased cost of system infrastructure

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference: