Lead2pass.HP2-T16

VCEplus.com

Number: HP2-T16 Passing Score: 800 Time Limit: 120 min File Version: 2010-10-10

http://www.lead2pass.com/HP2-T16.html



Vendor: HP

Exam Code: HP2-T16

Exam Name: Industry Standard Architecture and Technology

http://www.lead2pass.com/HP2-T16.html

Exam A

QUESTION 1

Which port type does a host server use when connected to an FC-SAN?

- A. N_Port
- B. E Port
- C. G_Port
- D. F Port

Correct Answer: A Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 1 - Page 289:

The three basic types of ports used within a FC-SAN are:

- N_port —Node port to either a disk or server
- F_port —Fabric port, found only on a switch; connects only to the N_port by PtP
- connection
- E_port —Expansion port on a switch used to connect to other switches

QUESTION 2

Which server filters outgoing network requests?

- A. FTP
- B. Proxy
- C. DNS
- D. WINS

Correct Answer: B Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 1 - Page 17:

Server functions

Proxy server — Filters outgoing network requests

QUESTION 3

Into which range do reserved TCP/IP server ports generally fall?

- A. 0-1023
- B. 1-512
- C. 21-80
- D. 1024-8080

Correct Answer: A Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 53:

Using ports to define services

Server ports, or ports associated with services generally fall within the range of 0-1023.

QUESTION 4

Which Network Operating System (NOS) filesystem allows you to set security on invididual files?

- A. FAT32
- B. FAT
- C. NTFS
- D. CDFS

Correct Answer: C Section: (none) Explanation

Explanation/Reference:

QUESTION 5

Which Network Operating System (NOS) security practices are commonly used when planning server management? (Select three)

- A. disable FTP and SSH
- B. install hardware and software firewalls
- C. disable unused TCP/IP service ports

D. use easy to remember password

E. enforce regular password changes

Correct Answer: BCE Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 200:

Working with the server management plan and the service plan

Change passwords regularly.

- Establish a regular schedule for password changes.
- Do not use the same password for individual and administrative accounts.
- Follow standard password construction recommendations for length and complexity.

Disable unused or unneeded service ports.

- Security risks exist at well-known network service ports if they remain open.
- Telnet is a major security risk for administrative access due ease of password theft. Use secure shell (SSH) if remote access is necessary.
- Disable file transfer protocol (FTP) if it is not needed. If it is needed, never use root or administrator passwords when transferring files since these are transferred as plain text.

Install hardware and software firewalls for Internet protection.

- These allow the administrator to control which server ports are open to Internet traffic.
- Firewalls can also detect intrusion attempts.

Install virus protection.

- Most viruses are written for the Windows operating system, making that platform especially vulnerable.
- New viruses and worms are also showing up for systems running the Linux operating system as well.

QUESTION 6

Which major challenges of I/O virtualization do Virtual Machine Managers need to address? (Select two)

- A. WWN virtualization
- B. DMA virtualization

C. IRQ virtualization

D. port virtualization

E. MAC virtualization

Correct Answer: AE Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 1 - Page 186:

Server-edge I/O virtualization

In server-edge I/O virtualization an abstraction layer is created between a pool of blade servers and the external LAN and SAN networks to which they are connected. This technolog enabled infrastructure can then present the network with a constant set of media access control (MAC) addresses and World Wide Names (WWNs) for each server bay in an enclosure.

QUESTION 7

Which technology should you implement for disk redundancy?

A. SATA

B. NTFS

C. RAID

D. SCSI

Correct Answer: C Section: (none) Explanation

Explanation/Reference:

QUESTION 8

What is the virtual machine instance commonly called?

A. guest

B. host

C. partition

D. hypervisor

Correct Answer: A Section: (none) Explanation

Explanation/Reference:

QUESTION 9

Your RAID 5 array on a Smart Array sustains a drive failure. A host spare replaces the failed drive and rebuilds successfully. After replacing the failed drive with a new drive, what happens next?

- A. The spare drive replicates its data to the new drive and both work as a mirror until you evict the spare drive.
- B. The new drive stays offline until you assign it to the array, at which point it automatically takes the place of the spare drive.
- C. The new drive re-assumes its place in the RAID set and after data rebuild is complete, the drive that was the spare once again becomes a hot spare drive.
- D. The new drive becomes a spare drive and you must go to the ACU to remove the old spare drive and then re-add the new drive to the array.

Correct Answer: C Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 1 - Page 269:

Online spare drives

As soon as the failed drive is replaced, data is automatically rebuilt on the new drive. After data has been completely rebuilt on the new drive, the online spare returns to its role as an online spare drive. This avoids roaming online spare drives.

QUESTION 10

How many independent parity schemes are utilized for a RAID 6 array?

- A. 1
- B. 2
- C. 4
- D. 6

Correct Answer: B Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 1 - Page 262:

RAID 6 performance

RAID 6 employs two independent parity schemes. Two sets of parities must be modified for each logical write operation, which requires six physical transfers—three reads and three writes.

QUESTION 11

What factors are important to sustain the I/O rates of the application within an array? (Select two)

- A. capacity of the disks within the array
- B. speed of the disks within the array
- C. number of disks within the array
- D. location of the disks within an enclosure

Correct Answer: BC Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 1 - Page 249:

Number of disks in an array

The RAID level and the number of drives affect the available I/O bandwidth for a given disk configuration. You must have enough drives (regardless of the drive capacity) to sustain the I/O rates of the application.

QUESTION 12

Your customer wants to use Microsoft Windows Clustering for high availability. Which storage technology is best suited for this?

- A. Windows dynamic disks
- B. Fiber Channel SAN
- C. SATA II Point to Point
- D. Duplexed Array Controllers

Correct Answer: B Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 14:

Fibre Channel benefits

Fibre Channel technology provides the fundamental building blocks of storage area networks (SANs), Enterprise Network Storage Architecture (ENSA), and many high-availability and clustering implementations.

QUESTION 13

Which kind of RAID best suits database log files and offers redundancy and usually better performance?

- A. RAID 0
- B. RAID 1
- C. RAID 5
- D. RAID 6

Correct Answer: B Section: (none) Explanation

Explanation/Reference:

QUESTION 14

What are advantages of DAS solutions?

- A. maximum scalability
- B. ease of deployment
- C. low intial cost
- D. snapshot capability

Correct Answer: BC Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 1 - Page 282:

Comparing storage solutions

DAS offers the easiest way to deploy incremental amounts of storage as needed without extensive planning. As RAID inside the server has become less expensive,

DAS has grown in popularity. A high percentage of deployed storage is now DAS.

Advantages of DAS include:

- Ease of deployment
- Scalability
- Relatively inexpensive to acquire, maintain, and expand
- High performance and reliability
- Fast server-to-storage data transfer

QUESTION 15

What is the most efficient way to use external DVD-ROM for ten servers in one rack?

- A. Use seperate USB DVD-ROMs for each server.
- B. Connect servers to the KVM switch with attached DVD-ROM.
- C. Use one DVD-ROM and connect to a single server when needed.
- D. Connect servers to a SAN switch with attached DVD-ROM.

Correct Answer: C Section: (none) Explanation

Explanation/Reference:

QUESTION 16

What happens during a normal backup? (Select two)

- A. The archive bit is set to 1.
- B. The archive bit is left alone.
- C. The archive bit is reset to 0.
- D. The transaction log is cleared.
- E. The transaction log is left alone.

Correct Answer: CD Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 298:

Normal backup — Backs up files and resets the archive bit. The archive bit is

used to determine if the file has been backed up or not.

A normal backup backs up database files and then the transaction log files. It then deletes the transaction log files from the directory. You can have circular logging disabled because your backup software deletes the log files. Therefore, if you are performing regular backups, you will not have a problem with log files filling your drive.

QUESTION 17

What happens during a copy backup? (Select two)

- A. The archive bit is set to 1.
- B. The archive bit is left alone.
- C. The archive bit is reset to 0.
- D. The transaction log is cleared.
- E. The transaction log is left alone.

Correct Answer: BE Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 298:

Copy backup — Is similar to a normal backup except that it does not reset the archive bit.

A copy backup does not purge the log files on your drive and does not update the backup context in the database files.

QUESTION 18

If the GFS backup tape rotation plan, how often is the Grandfather backup performed?

- A. daily
- B. weekly
- C. monthly
- D. quarterly

Correct Answer: C Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 302:

GFS backup requires the following:

- Monthly grandfathers
- Weekly fathers
- Daily sons

QUESTION 19

In the GFS backup tape rotation plan, which type of backup is the Father?

- A. copy
- B. normal
- C. differential
- D. incremental

Correct Answer: B Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 302:

Grandfather-Father-Son tape rotation

The system administrator typically performs a full backup every Monday (father) and incremental backups on Tuesdays, Wednesdays, and Thursdays (sons). The administrator performs another full backup at the end of the week (father) and another at the end of the month (grandfather).

QUESTION 20

A customer is using the GFS backup rotation plan with the weekly backups occurring Friday evening. The customer needs to restore a file that was known to be good on Friday morning. From which backup should the customer restore?

- A. Father
- B. Differential
- C. Grandfather
- D. Son

Correct Answer: D Section: (none)

Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 302:

Grandfather-Father-Son tape rotation

The system administrator typically performs a full backup every Monday (father) and incremental backups on Tuesdays, Wednesdays, and Thursdays (sons). The administrator performs another full backup at the end of the week (father) and another at the end of the month (grandfather).

QUESTION 21

Which information should a successful backup strategy contain? (Select two)

- A. passwords for application files
- B. number of I/O slots in a server
- C. number of users using the system
- D. when the data is to be backed up
- E. off-site storage of backup media location

Correct Answer: DE Section: (none)
Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 292:

Implementing a successful backup strategy

To develop a successful company-wide backup strategy, you must understand the network architecture and the demands placed on the system by its users. Equipped with that information, you can conduct a network backup needs analysis to:

- 1. Determine which data to back up.
- 2. Record how often and when the data is modified.
- 3. Establish the best time to perform the backups.

To create and implement an effective backup solution, you need to:

- 1. Choose a backup method.
- 2. Select and install hardware.
- 3. Select and install software.
- 4. Determine a backup tape rotation scheme.

5. Plan for offsite storage of backup media.

QUESTION 22

You want to prevent a service from starting in the future, as it causes abnormally heavy load in a Windows 2003 Server. What do you do?

- A. Navigate to C:\WINDOWS\system32 and rename the service.
- B. Open the Control Panel folder, choose System Properties, and change the startup settings.
- C. Open a command line window and type net stop <service name>
- D. Right-Click My Computer, select Manage, go to Services, and set the service to Disable.

Correct Answer: D Section: (none) Explanation

Explanation/Reference:

QUESTION 23

You are recieving performance complains about a client/server-based application. Given the following information:

Network Output Queue Length: 10

% Processor Time: 50% % Disk time: 30% Pages/Sec: 3

Which server subsystem is the bottleneck?

- A. processor
- B. network connection
- C. memory
- D. disk

Correct Answer: B Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 246:

Network interface counters

Output Queue Length — Reports the length of the output packet queue (in packets). If the length is 2 or longer, delays are being experienced and the bottleneck should be found and eliminated, if possible. Because the requests are queued by the Network Driver Interface Specification (NDIS) in this implementation, this counter should always be zero.

QUESTION 24

You have a disk enclosure with 14 x 72GB Wide-Ultra2 SCSI hard disks connected. You add an additional disk enclosure with 8 x 146GB Hot-Pluggable Ultra320 SCSI hard disks to an array controller. To optimize performance, you move 3 x 72GB Ultra2 hard disks to a new enclosure to balance the number of hard disks across two channels.

The disks in the new enclosure are not working correctly and the disks are not seen in the array controller management tool. There are no conflicting device IDs and termination is correct. All enclosures were pwoered on before powering up the server.

What are the possible causes of the problem? (Select two)

- A. Ultra320 SCSI devices cannot be mixed with Wide-Ultra2 SCSI devices.
- B. You must update the SCSI Controller BIOS to the latest supported revision.
- C. The cables and/or connectors are faulty or not properly seated.
- D. The number of disks exceeds the capability of the controller.
- E. The SCSI I/O module on the disk enclosure is faulty.

Correct Answer: BD Section: (none) Explanation

Explanation/Reference:

QUESTION 25

Which material should be used for cleaning the ends of fibre optic cables?

- A. water
- B. carbon dioxide
- C. polyester cloth
- D. gravel

Correct Answer: C Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 129

Cabling best practices

For cleaning the ends of fiber-optic cables, be sure to use the proper material, which is polyester cloth.

QUESTION 26

Which tool does Windows provide to monitor and trend system performance?

- A. Component Service
- B. Windows Analyzer
- C. Service Manager
- D. System Monitor

Correct Answer: D Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 243

Evaluating performance in a Windows environment

Windows System Monitor

You can use the System Monitor for real-time monitoring and logging for a baseline. Over time, this data can help identify system bottlenecks. In Windows Server 2003 and earlier versions, the System Monitor is located under the Administrative Tools icon in the Control Panel.

QUESTION 27

What are the main reasons for implementing virtualization? (Select three.)

- A. to accelerate business growth
- B. to improve application performance
- C. to reduce cost
- D. to increase IT agility
- E. to reduce network latency

Correct Answer: ACD Section: (none)
Explanation

Explanation/Reference:

Industry Standard Architechture and Technology Rev. 9.31 Study Guide 2 of 2 - Page 68

Reasons for virtualization

So much industry attention is focused on virtualization because it is relatively easy to get tangible benefits quickly. Cost savings are obvious when a company is able to consolidate from 10 servers onto one.

By moving resources from vertical silos into shared pools, resource utilization can be optimized and capacity can be dynamically shifted to support demand.

Long-term benefits from virtualization can include:

- Accelerating business growth: By making an infrastructure more flexible, an IT organization can deliver new applications and business services faster. Adding capacity to meet new or expanding computing requirements can be completed in a matter of minutes or hours. IT services can be more closely connected to business demands and internal customers can pay for their actual use.
- Reducing costs: The pooling of servers, storage, networking, and other resources enables allocation as required. Virtualization enables businesses to reduce IT costs by consolidating and improving asset utilization. Virtualization can lower costs for hardware, power, cooling, and floor space as well as operational costs. A business that consolidates 6or10 servers on one server reduces any associated costs.
- Increasing IT agility: A more flexible virtualized IT environment can speed deployment of infrastructure and applications, run more efficiently, and adjust more quickly when demands change. For example, virtualization can streamline new server deployments from hours to minutes.
- **Improve the quality of IT service delivery:** Virtualization enables a business to more closely align IT with its changing needs. For example, service levels experienced by end users can be improved by allocating more IT capacity during peak times.
- **Mitigating risks:** The ability to quickly analyze your resource needs and dynamically allocate resources helps an IT organization enhance availability, continuity, and security, and meet service level agreements.

QUESTION 28

Which factors are important to sustain the I/O rates of the application within an array? (Select two.)

- A. capacity of the disks within the array
- B. speed of the disks within the array
- C. number of the disks within the array
- D. location of the disks within an enclosure

Correct Answer: BC Section: (none)

Explanation

Explanation/Reference:

Industry Standard Architechture and Technology Rev. 9.31 Study Guide 1 of 2 - Page 249

Array Technology - Module 7

Number of disks in an array

You can increase the I/O bandwidth of an array by adding drives. This addition allows data to be read from or written to a large number of drives simultaneously.

Many customers buy a few large-capacity drives as opposed to a larger number of low-capacity drives because of cost and management concerns and because they do not understand performance implications. Performance can suffer when there are insufficient drive spindles.

The RAID level and the number of drives affect the available I/O bandwidth for a given disk configuration. You must have enough drives (regardless of the drive capacity) to sustain the I/O rates of the application.

QUESTION 29

Which devices offer the highest and most sophisticated level of security when restricting access to a server room? (Select two.)

- A. retinal scanner
- B. proximity card reader
- C. mechanical lock
- D. fingerprint scanner
- E. reinforced steel door
- F. bulletproof window

Correct Answer: AD Section: (none) Explanation

Explanation/Reference:

Industry Standard Architechture and Technology Rev. 9.31 Study Guide 2 of 2 - Page 202

Proactive Maintenance - Module 15

Recognizing and reporting physical security issues

Biometric locks – This is the latest and most sophisticated technology that relies on a measurable physical characteristic such as a retinal scan, speech

pattern, or fingerprint. As with card readers, this technology also allows tracking who has accessed a room.

QUESTION 30

What is problematic for a data center? (Select two.)

- A. low humidity
- B. high humidity
- C. carbon dioxide fire suppression system
- D. separate console room for KVM stations
- E. inline UPS

Correct Answer: AB Section: (none) Explanation

Explanation/Reference:

Industry Standard Architechture and Technology Rev. 9.31 Study Guide 2 of 2 - Page 205

Proactive Maintenance - Module 15

Humidity

The humidity in the server room is another environmenis critical to the proper functioning of the server. The air conditioning sthe room often controls the humidity as well as the temperature.

- Too much humidity in the air can damage the server's electronic components. In humid conditions, moisture can condense on the circuit boards and other components and cause short circuits or corrosion.
- Too little humidity in the air can subject the server to electrostatic discharge which also can damage the server's components.
- A typical operating humidity range is: 15% to 80% relative humidity (non-condensing)
- The humidity ratings may also be listed as both an operating humidity range and a storage humidity range.

QUESTION 31

In the GFS backup tape rotation plan, how often is the Grandfather backup performed?

- A. daily
- B. weekly
- C. monthly
- D. quarterly

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 32

In the GFS backup tape rotation plan, which type of backup is the Father?

- A. copy
- B. normal
- C. differential
- D. incremental

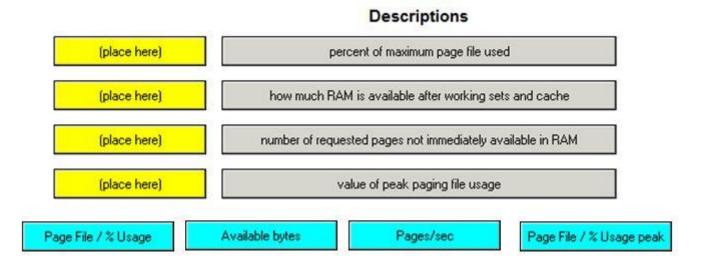
Correct Answer: B Section: (none) Explanation

Explanation/Reference:

QUESTION 33

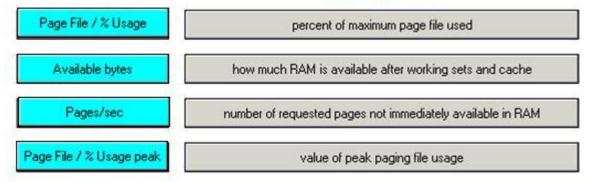
Place each Memory Activity Counter next to its description.





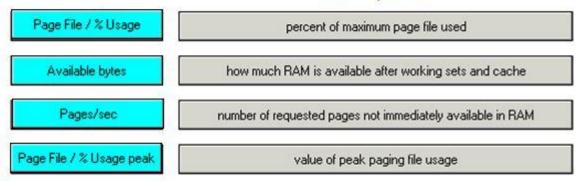
Select and Place:

Descriptions



Correct Answer:

Descriptions



Section: (none) Explanation

Explanation/Reference:

QUESTION 34

A customer complains that servers installed in a rack shut down randomly. You cleaned all the vents to ensure proper airflow in the servers, but the problem still exists. How should you solve this problem?

- A. Verify if blanking panels are installed in all empty slots of a rack.
- B. Replace the thermal grease for all processors.
- C. Upgrade the operating system kernel to control temperature and fan speed.
- D. Change the position of the servers in a rack to allow at least 1U of free space between servers.

Correct Answer: B Section: (none) Explanation

Explanation/Reference:

QUESTION 35

You are asked to update the firmware of the backplane of an external disk enclosure to the latest versions. The disk enclosure is connected to a RAID

adapter on your server. You have updated the firmware successfully and rebooted to complete the setup. The disk enclosure does not start after rebooting.

What can be done to resolve this problem? (Select two.)

- A. Roll back to the old firmware revision.
- B. Ensure that the disk enclosure is connected to a working AC source.
- C. Replace the disk enclosure.
- D. Ensure that the power source and power supplies are working properly.

Correct Answer: AC Section: (none) Explanation

Explanation/Reference:

QUESTION 36

Which Linux utility helps you obtain reports about the virtual memory?

- A. vmutil
- B. vmstat
- C. ioutil
- D. mpstat

Correct Answer: B Section: (none) Explanation

Explanation/Reference:

Industry Standard Architechture and Technology Rev. 9.31 Study Guide 2 of 2 - Page 219

Red Hat and Novell — Red Hat Linux Advanced Server and Novell SuSE Linux Enterprise Server (SLES) offer monitoring tools for information about the running kernel:

iostat — Measures I/O and processor statistics for devices and partitions.

vmstat — Reports virtual memory information.

netstat — Monitors network information.

top — Measures top processor processes.

sar — Measures system activity information and compiles cumulative statistics over a specified period of time.

QUESTION 37

You move all the drives of a RAID set from one DL380 G6 Server running Windows 2008 to another, and insert them in the same order. However, the data is not available. What might be the cause?

- A. The new server does not have enough controller cache.
- B. ACU has not been used to mount the drives as a contiguous RAID set.
- C. The new server uses different processors.
- D. A TPM and BitLocker were used on the original system.

Correct Answer: D Section: (none) Explanation

Explanation/Reference:

Industry Standard Architechture and Technology Rev. 9.31 Study Guide 2 of 2 - Page 234

Troubleshooting - Module 16

Data is inaccessible

- 1. Be sure the files are not corrupt. Run the repair utility for the operating system.
- 2. Be sure no viruses exist on the server. Run a current version of a virus scan utility.
- 3. When a TPM is installed and is being used with BitLocker™, be sure the TPM is enabled.
- 4. When migrating encrypted data to a new server, be sure to follow the recovery procedures in the operating system documentation.

QUESTION 38

You must deal with performance problems in your storage subsystem. Your application is mainly doing large writes. What can you do to increase performance?

- A. Verify stripe size and increase it to gain performance.
- B. Extend the queue length to keep the array controller busy.
- C. Configure in-order delivery to gain structured writes.
- D. Switch to drives with a slower response time to get more time for the writes.

Correct Answer: A Section: (none) Explanation

Explanation/Reference:

Industry Standard Architechture and Technology Rev. 9.31 Study Guide 1 of 2 - Page 265

Array Technology - Module 7

The stripe size can have the following impact:

- If it is too large, poor load balancing occurs across the drives.
- If it is too small, excessive cross-stripe transfers (split I/Os) occur. Split I/Os involve two disks; both disks seek, rotate, and transfer data. The response

time depends on the slowest disk. Split I/Os reduce the request rate because there are fewer drives to service incoming requests.

The optimum stripe size for a given application is shown in the following table.

Type of server application

Mixed read/write

Mainly sequential read (such as audio/video applications)
Mainly write (such as image manipulation applications)

Suggested stripe size change

Accept the default value

Use larger stripe sizes for best performance

Use smaller stripes for RAID 5, RAID 6 Use larger stripes for RAID 0, RAID 1+0

QUESTION 39

When should you create a new baseline for your server? (Select three.)

- A. when adding a processor
- B. when replacing a power supply
- C. when updating the BIOS/firmware
- D. when an unexpected system shutdown occurs
- E. when increasing memory

Correct Answer: ACE Section: (none) Explanation

Explanation/Reference:

QUESTION 40

Which type of I/O refers to the number of I/O requests the OS sends to the array controller, not including RAID overhead?

- A. Physical I/O
- B. Serial I/O
- C. Logical I/O
- D. Parallel I/O

Correct Answer: C Section: (none) Explanation

Explanation/Reference:

QUESTION 41

A customer reports that after a memory upgrade, the server crashes when any memory error occurs. This indicates that the Advanced ECC (AECC) feature is not working. How should you solve this problem?

- A. Verify that the memory supporting AECC was used for the upgrade
- B. Ensure that the bank containing added memory is enabled on the server main board.
- C. Enable the AECC feature in the BIOS.
- D. Confirm that the driver supporting AECC is loaded and functioning correctly.

Correct Answer: A Section: (none) Explanation

Explanation/Reference:

QUESTION 42

Which type of I/O refers to the number of I/O requests the array controller sends to the drives, including RAID overhead?

- A. Physical I/O
- B. Serial I/O
- C. Logical I/O
- D. Parallel I/O

Correct Answer: A Section: (none) Explanation

Explanation/Reference:

QUESTION 43

A customer complains about server performance. Performance parameters show the following:

Network Segment: % Network Utilization - 55%

Page/Sec - 3

% Processor Time - 65%

% Disk Time - 75%

- A. disk
- B. memory
- C. network
- D. processor

Correct Answer: A Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 246

Evaluating the storage subsystem

Two useful counters in the PhysicalDisk category of performance objects are:

- % Disk Time —Displays the percentage of elapsed time that the selected disk drive is busy servicing read or write requests. If Disk time is higher than 60%, a bottleneck condition is developing.
- Avg. Disk Queue Length —Displays the average number of read and write requests that were queued for the selected disk during the sample interval.

QUESTION 44

Which tool does Windows provide to monitor and trend system performance?

- A. Component Service
- B. Windows Analyzer
- C. Service Manager
- D. System Monitor

Correct Answer: D Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 243

Evaluating performance in a Windows environment

Windows System Monitor

You can use the System Monitor for real-time monitoring and logging for a baseline. Over time, this data can help identify system bottlenecks. In Windows Server 2003 and earlier versions, the System Monitor is located under the Administrative Tools icon in the Control Panel.

QUESTION 45

Which are Linux resource monitoring tools? (Select three)

- A. free
- B. monitor
- C. perfmon
- D. vmstat
- E. top
- F. vtune

Correct Answer: ADE Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 251

Performance evaluation tools

Red Hat and SuSE Linux include a variety of resource monitoring tools including:

- free
- top
- GNOME System Monitor (a more graphically oriented version of top)
- vmstat
- Sysstat suite of resource monitoring tools

QUESTION 46

Which Linux tool measures system activity information and provideds statistics over a specified period of time?

- A. iostat
- B. netstat
- C. sar
- D. top

Correct Answer: C

Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 219

sar — Measures system activity information and compiles cumulative statistics over a specified period of time.

QUESTION 47

Which Linux utility helps you obtain information about I/O and processor statistics?

- A. iostat
- B. ioutil
- C. vmstat
- D. cpuinfo

Correct Answer: A Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 219

iostat — Measures I/O and processor statistics for devices and partitions.

QUESTION 48

All the RAID sets in a server system are no longer accessible. Which step should be taken first to troubleshoot this problem?

- A. Replace the array controller.
- B. Pull all the disks except one in orer to get a lease on working.
- $\mbox{C.}\,$ Start the system with the OS installation CD to repartition the hard drives.
- D. Use the array controller diagnostics utility to verify the array status.

Correct Answer: D Section: (none) Explanation

Explanation/Reference:

QUESTION 49

After some analysis, you determine that more memory is needed to address a system bottleneck. How do you incrase the memory and ensure the additional resources are effective to meet the need?

- A. Add the memory and monitor perfmon counter % Usage Peak to verify that it is < 75%
- B. Add the memory and incrase the amount of the Paging File to equal the total amount of memory installed plus 10%
- C. Establish a baseline performance report, install the new memory, create a new baseline report and compare it against expectations and the first baseline.
- D. Run Task Manager to check the amount of physical memory available, add the new memory and confirm the addition by running Task Manager again to show the new resources.

Correct Answer: C Section: (none) Explanation

Explanation/Reference:

QUESTION 50

A customer complains about server performance. Performance parameters show the following information:

Network Segment: % Network Utilization - 55%

Page/Sec - 7

% Processor Time - 55%

% Disk Time - 35%

- A. disk
- B. network
- C. memory
- D. processor

Correct Answer: C Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 245

Pages/Sec — Displays the number of pages read from or written to disk to resolve hard page faults. Hard page faults occur when a process requires code or data that is not in its working set or elsewhere in physical memory, and must

be retrieved from disk.

On most servers, if this value is consistently greater than 5, it indicates an excessive amount of paging. Try to identify the application that is creating the paging condition. If this is not normal behavior for the application, adding memory might increase system performance.

QUESTION 51

You added memory to a 4-socket AMD Operton-based server. The new memory does not show in POST and the operating system does not see it. You verified that the memory is correct for this server model.

Why is the memory not being used?

- A. System Maintanance Switch DIP SW2 is set to ON and the Configuration Lock is enabled.
- B. You exceeded the server's maximum memory capacity.
- C. The memory was added to a bank with no process in the adjoining socket.
- D. There is a memory size mismatch on DR2 and AMD HyperTransport bus.

Correct Answer: C Section: (none) Explanation

Explanation/Reference:

QUESTION 52

Which log contains information about the SUSE Linux startup?

- A. /var/log/boot.log
- B. /var/log/boot.msg
- C. /boot/log/boot.log
- D. /var/opt/log/message.log

Correct Answer: A Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 220

Red Hat Linux log files are located in the var/log directory. An especially good

resource for hardware troubleshooting is the kernel startup file, which is named boot.log. This plain text file can be opened with any text editor. It lists the devices on the system and their status when the system booted. Another useful file is /var/log/messages, which includes boot messages and current system log information.

QUESTION 53

Which Linux utility allows you to configure a NIC card?

- A. netstat
- B. ifconfig
- C. sar
- D. ipconfig

Correct Answer: B Section: (none) Explanation

Explanation/Reference:

http://en.wikipedia.org/wiki/Ifconfig

Usage

Common uses for ifconfig include setting an interface's IP address and netmask, and disabling or enabling a given interface.

QUESTION 54

Which command can be used to verify connectivity to a client machine?

- A. ping
- B. nslookup
- C. nbstat
- D. ipconfig

Correct Answer: A Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 156:

ping — This command is used to test network connectivity. It sends a packet of data to the other network device that you have specified by providing its IP

address. If a reply is returned to you, connectivity is confirmed. If you do not get a reply, either your device or the one you tried to contact are not available to the network. The command output also reports how long the reply took, which can indicate the level of traffic congestion.

QUESTION 55

If the GFS backup tape rotation plan, how often is the Grandfather backup performed?

- A. daily
- B. weekly
- C. monthly
- D. quarterly

Correct Answer: C Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 302:

GFS backup requires the following:

- Monthly grandfathers
- Weekly fathers
- Daily sons

QUESTION 56

What is provided by the serial port hardware interface for managing network devices?

- A. scalability
- B. ability to offload functions from the host
- C. well-defined communications standards
- D. caching and advanced functions

Correct Answer: B Section: (none) Explanation

Explanation/Reference:

QUESTION 57

Which statement is true about the installation of DIMM memory modules?

- A. A bank of DIMMs cannot contain DIMMs of mixed size and speed.
- B. DIMMs with gold pins can be used on system boards with gold planet and tin plated contacts.
- C. DIMMs with 144 pins provide error checking and correcting capabilities.
- D. Performance defaults to the highest DIMM speed.

Correct Answer: A Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 118:

Depending on the server model and memory technology, installations might require that memory be added in banks of four DIMMs. Mixing of 50ns and 60ns memory is permitted; however, **each bank of four DIMMs must contain the same size and speed DIMMs.**

QUESTION 58

Which statement is true about PCI Express architecture?

- A. Data is sent serially.
- B. PCI Express utilizes more pins than PCI-X.
- C. PCI Express transfers data in half-duplex.
- D. Data is sent in paralell.

Correct Answer: A Section: (none) Explanation

Explanation/Reference:

QUESTION 59

Your server is running Windows 2003 and you are experiencing network performance issues. What can you do to determine if the bottleneck is the network card?

- A. Replace the NVRAM on the network card.
- B. If the server contains multiple network cards, remove all but one card.

- C. Run the system monitor applet to monitor the network throughput.
- D. Add NVRAM to the network card.

Correct Answer: C Section: (none) Explanation

Explanation/Reference:

QUESTION 60

How many address lines does an Intel Xeon processor use, and what is the maximum amount of accessible, addressable memory?

- A. 32 address lines; 64GB addressable memory
- B. 36 address lines; 4GB addressable memory
- C. 36 address lines; 64GB addressable memory
- D. 64 address lines; 64GB addressable memory

Correct Answer: C Section: (none) Explanation

Explanation/Reference:

Advantages of EM64T

64-bit allows an installation of up to 16 EB (exabyte) of RAM; however, current Celeron D, Pentium 4, and **Xeon CPUs have 36 address lines, which can support 64 GB of RAM**, while Xeon DP CPUs can hold up to 1 TB (terabyte)

QUESTION 61

What must you check prior to adding another processor to an existing system. (Select three)

- A. amount of memory in the system
- B. compatibility of the new process with existing processors
- C. firmware requirements for the new processor
- D. number of users currently logged into the system
- E. number of processors the operating system supports
- F. weight of the new processor

Correct Answer: BCE Section: (none) Explanation

Explanation/Reference:

QUESTION 62

Which events could require a firmware update? (Select two)

- A. downgrading memory
- B. re-installing the operating system
- C. adding support for larger, faster drives
- D. adding virtual machines to a server
- E. removing an existing processor
- F. adding plug and play support

Correct Answer: CF Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 177

It may be necessary to upgrade the system BIOS or firmware for one or more of the following reasons:

- To support new hardware or features on the server
- To correct bugs discovered in the BIOS
- To fix a security hole in the BIOS
- To add support for newer or faster processors
- To add Plug and Play support
- To add support for larger or faster hard drives
- To add support for special removable drives, such as LS-120 or ZIP drives

QUESTION 63

Which statements are true about active and passive cooling systems? (Select two)

- A. A passive cooling system uses only heat sinks.
- B. An active cooling system uses only heat sinks.
- C. An active cooling system adds devices such as fans.
- D. A passive cooling system adds devices such as fans.

Correct Answer: AC Section: (none)

Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 1 - Page 26

A passive cooling system utilizes heat sinks and natural convection. Heat sinks are blocks of metal that absorb heat and have fins or ridges to dissipate the heat.

An active cooling system adds mechanical means. Fans are added to blow cooling air across or through the heat sink and other interior parts.

QUESTION 64

Which transfer rate does USB 2.0 support?

- A. 32Mb/s
- B. 64Mb/s
- C. 64Mb/s to 120Mb/s
- D. 120Mb/s to 240Mb/s

Correct Answer: D Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 1 - Page 183

USB 2.0 extends the capabilities of the interface from 12Mb/s (200 x 56Kb/s) to between 120 and 240Mb/s.

QUESTION 65

In systems with AMD processors, what allows communication between processors and the I/O subsystem?

- A. Northbridge
- B. Southbridge
- C. HyperTransport link
- D. APIC
- E. QuickPath Interconnect

Correct Answer: C Section: (none)

Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 1 - Page 37

AMD processors are able to communicate with each other through HyperTransport point-to-point links. This enables one processor to access the memory connected to another processor.

Inside the processor, a crossbar switch connects the processor, memory controller, and HyperTransport links.

AMD processors also use HyperTransport links to connect to the I/O subsystem. The links on particular processors are connected to I/O tunnels that support the I/O devices.

All other processors can communicate with the I/O system through the HyperTransport links.

Legacy devices are also connected to one of the I/O tunnels.

QUESTION 66

Which server provides resolution from the hostname to the IP address?

- A. FTP
- B. PXE
- C. DNS
- D. DHCP

Correct Answer: C Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 1 - Page 17

Domain Name Server (DNS) — Provides resolution from hostnames to IP addresses and so forth

QUESTION 67

What are characteristics of a virtual machine instance? (Select three)

- A. virtual application
- B. virtual storage controller
- C. virtual processor
- D. virtual operating system
- E. virtual drive

Correct Answer: BCE Section: (none)
Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 1 - Page 86

In a virtual machine environment, a software layer abstracts the physical server hardware and creates one or more virtual machine instances, each with its own virtual drives, virtual network interface controllers (NICs), virtual storage controllers, virtual processors, OS, and application(s). The software abstraction layer is typically referred to as a hypervisor or a virtual machine monitor. An OS that runs in the virtual machine instance is called a guest OS.

QUESTION 68

Which address range of the first octet is assigned to a TCP/IP class C network?

- A. 1-64
- B. 64-126
- C. 128-191
- D. 192-223

Correct Answer: D Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 45

Class Address range Default Subnet IP address Subnet mask
A 1 – 126 Network.host.host 255.0.0.0
B 128 – 191 Network.network.host 255.255.0.0
C 192 – 223 Network.network.network.host 255.255.255.0

QUESTION 69

Which management protocol can notify you when a fan fails in your server?

- A. SMTP
- B. DHCP
- C. TFTP
- D. IPMI

Correct Answer: D Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 185

IPMI is an embedded management specification for servers, storage devices, and other network devices. It defines a common and secure interface for monitoring system voltages, temperature, and fan speeds through the use of embedded monitors. It is designed to directly control system components while permitting remote system management and recovery of failed systems.

QUESTION 70

Which protocols are support in FC-SAN? (Select three)

- A. Arbitrated Loop
- B. Ethernet
- C. Switched Fabric
- D. Point to Point
- E. CSMA/CD
- F. Token Ring

Correct Answer: ACD Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 15

Fibre Channel technology greatly enhances flexibility by providing the following advantages:

Multiple topologies (point to point, arbitrated loop, and switched fabric)

QUESTION 71

Which action do you perform after installing the Network Operating System (NOS)?

- A. Configure the boot order.
- B. Ensure that the latest drivers are installed.
- C. Format the hard disk drive.
- D. Configure hardware RAID.

Correct Answer: B Section: (none) Explanation

Explanation/Reference:

QUESTION 72

Which switch port type is required to support FC-AL devices in a SAN?

- A. U Port
- B. E Port
- C. FL Port
- D. NL_Port

Correct Answer: D Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 33

The arbitrated loop topology permits several devices to share the bandwidth of a single loop of fiber running between them. The FC-AL standard is implemented by modifying an N_port to be an NL_port. Each NL_port is attached to one link. The information flows in one direction around the arbitrated loop.

QUESTION 73

You are integrating a RAID array for mixed read/write applications. What should you do with striping to achieve optimal performance?

- A. Accept the default stripe size.
- B. Disable striping.
- C. Increase the stripe size.
- D. Decrease the strip size.

Correct Answer: A Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 1 - Page 265

Optimizing the stripe size

Type of server application Suggested stripe size change Mixed read/write Accept the default value

QUESTION 74

Which RAID level offers disk mirroring and data striping without parity?

- A. RAID 1+0
- B. RAID 5+0
- C. RAID 6+0
- D. RAID ADG

Correct Answer: A Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 1 - Page 254

RAID levels

Level Description

RAID 0 Data striping without parity

RAID 1 Disk mirroring

RAID 1 Disk duplexing

RAID 2 Complex error correction

RAID 3 Parallel-transfer, parity drive

RAID 4 Concurrent access, dedicated parity drive (data guarding)

RAID 5 Concurrent access, distributed parity (distributed data guarding)

RAID 1+0 Disk mirroring and data striping without parity

RAID ADG Distributed data guarding with two sets of parity

QUESTION 75

Your RAID 5 array on a Smart Array sustains a drive failure. A hot spare replaces the failed drive and rebuilds successfully. After replacing the failed drive with a new drive, what happens next?

- A. The spare drive replicates its data to the new drive and both work as a mirror until you evict the spare drive.
- B. The new drive stays offline until you assign it to the array, at which point it automatically takes the place of the spare drive.
- C. The new drive re-assumes its place in the RAID set and after data rebuild is complete, the drive that was the spare once again becomes the hot spare drive.
- D. The new drive becomes a spare drive and you must go to the ACU to remove the old space drive and then re-add the new drive to the array.

Correct Answer: C Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 1 - Page 269

As soon as the failed drive is replaced, data is automatically rebuilt on the new drive. After data has been completely rebuilt on the new drive, the online spare returns to its role as an online spare drive. This avoids roaming online spare drives.

QUESTION 76

Which statements are correct about mixing drives with different sizes and speeds within an array. (Select two)

- A. Performance may be degraded.
- B. Performance of the fastest disk is provided.
- C. Capacity is wasted.
- D. There is no impact on the capacity usage of each disk.
- E. Usage of hot spare disks is not necessary.

Correct Answer: AC Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 1 - Page 247

It is possible to mix drives with different sizes, speeds, and SCSI protocols in an array. This configuration can result in wasted space and degraded performance, but it will work.

QUESTION 77

Which statements are true about out-of-band network management? (Select three)

- A. TELNET or SSH protocols are used to manage the devices.
- B. TCP/IP and SMTP protocols are used to manage the devices.
- C. A seperate network is maintanced for management access and control data.
- D. Control and management data share the same network as the data being processed.
- E. Network ports are not used for device management.

Correct Answer: ACE Section: (none)
Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 155

Out-of-band management is especially suited to situations when no other server access is available. It can be invaluable in emergency situations to return a server with a non-responding operating system to service until it can be managed again with in-band tools. Out-of-band management is less secure because it depends on the configurations of the other out-of-band components in the mix.

Telnet or SSH are used to manage the devices. Network ports are not used for device management. A separate network is maintained for management access and control data.

QUESTION 78

What is the most commonly used measurement unit for describing a UPS?

- A. kW
- B. VA
- C. Amps
- D. kJ

Correct Answer: B

Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 187

An uninterruptible power supply (UPS) system provides power to the server in case of loss of electrical power from the main building power. The UPS is rated in volt-amps (VA) which is the total power it can handle and the time it can run the server, usually the time required for the operating system to close all running applications, gracefully shut itself down, and turn off the server.

QUESTION 79

Which material should be used for cleaning the ends of fibre optic cables?

- A. water
- B. carbon dioxide
- C. polyester cloth
- D. gravel

Correct Answer: C Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 129

Cabling best practices

For cleaning the ends of fiber-optic cables, be sure to use the proper material, which is polyester cloth.

QUESTION 80

What can you use to access the server console remotely when an operating system is not running? (Select two)

- A. KVM switch with IP remote access
- B. MS Terminal Services
- C. Telnet
- D. server emdedded remote management card
- E. pcAnywhere solution

Correct Answer: AD Section: (none) Explanation

Explanation/Reference:

QUESTION 81

What should a successful Disaster Recovery Plan contain? (Selecte three)

- A. offsite media storage location
- B. regular bakcup rotation
- C. proven restore process
- D. cost-effective tape formats
- E. change management procedures
- F. effective performance alternatives

Correct Answer: ABC Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 264

Thoroughly planning a process and detailed procedures for recovery can minimize damage in a catastrophe. The plan should include these elements:

- Backup tape rotation scheme
- Proven restore process
- Hardware protection
- Off-site storage of media
- Procedures for re-creating the affected environment
- Classification of systems and prioritization for recovery
- Operating system media and license materials
- Methods for maintaining business operations during the disaster period

QUESTION 82

Which information is required for the implementation of a successful backup strategy? (Select two)

- A. passwords for domain users
- B. backup method
- C. passwords for application files

- D. data to be backed up
- E. number of users using the system

Correct Answer: BD Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 292

Implementing a successful backup strategy

To develop a successful company-wide backup strategy, you must understand the network architecture and the demands placed on the system by its users.

Equipped with that information, you can conduct a network backup needs analysis to:

- 1. Determine which data to back up.
- 2. Record how often and when the data is modified.
- 3. Establish the best time to perform the backups.

To create and implement an effective backup solution, you need to:

- 1. Choose a backup method.
- 2. Select and install hardware.
- 3. Select and install software.
- 4. Determine a backup tape rotation scheme.
- 5. Plan for offsite storage of backup media.

QUESTION 83

In the GFS backup tape rotation plan, how often is the Son backup performed?

- A. daily
- B. weekly
- C. monthly
- D. quarterly

Correct Answer: A Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 302

GFS backup requires the following:

- Monthly grandfathers
- Weekly fathers
- Daily sons

QUESTION 84

You notice that your server has a high amount of unexpected disk activity. You suspsect that a disk subsystem bottleneck exists. Which other subsystem could be causing the problem?

- A. memory
- B. graphics
- C. network
- D. processor

Correct Answer: A Section: (none) Explanation

Explanation/Reference:

QUESTION 85

You are asked to update the firmware of the backplane of an external disk enclosure to the latest versions. The disk enclosure is connected to a RAID adapter on your server. You have updated the firmware successfully and rebooted to complete the setup. The disk enclosure does not start after rebooting.

What can be done to resolve the problem? (Select three)

- A. Roll back to the old firmware revision.
- B. Ensure that the disk enclosure is connected to a working AC source.
- C. Ensure that the power source and power supplies are working properly.
- D. Replace the disk enclosure.
- E. Remove the AC power cords from both enclosure power supplies and reinsert them.

Correct Answer: ADE Section: (none)
Explanation

Explanation/Reference:

QUESTION 86

A customer has a single-threaded application running on a dual-core base ProLiant server. Processor utilization is consistently between 80 - 100%. Which step should you take to reduce system load on the processors?

- A. Replace with slower quad-core processors.
- B. Replace with faster single core processors.
- C. Change the application to use a single thread.
- D. Add more memory.

Correct Answer: B Section: (none) Explanation

Explanation/Reference:

QUESTION 87

How does single-mode fiber compare with multimode fiber?

- A. Single mode fiber has a higher bandwidth and lower loss.
- B. Multimode fiber has a higher bandwidth and lower loss.
- C. Multimode fiber is more often used for long-distance telecommunications.
- D. Single-mode fiber has higher loss and lower bandwidth.

Correct Answer: A Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 26:

Single-mode optic fiber

Single-mode fiber has the highest bandwidth and lowest loss performance. The core is so small that only a single mode of light can enter it. Therefore, the chromatic and modal dispersion are greatly reduced or eliminated.

QUESTION 88

Match each Application server type with it's corresponding Model.

Distributed

Ded	icated
Pee	r-to-Peer

Server Types

E-mail Server Web Server Collaboration Services

- Α.
- B.
- C.
- D.

Correct Answer: Section: (none) Explanation

Explanation/Reference:

QUESTION 89

Which statements are true about AMD 2P or 4P system architecture? (Select three)

- A. Requests for memory access are handle by the Northbridge ASIC.
- B. Memory must be installed in banks corresponding to the installed processors.
- C. Each processor has its own memory controller
- D. The maximum amount of memory can be installed, regardless of the number of installed processors.
- E. Requests for memory access are handle directly by the corresponding processor and relayed through the HyperTransport link.
- F. Communications between CPU and memory is handle through the QuickPath Interconnect.

Correct Answer: BCE Section: (none) Explanation

Explanation/Reference:

QUESTION 90

What happens when you install a 66Mhz, 32-bit PCI card in a 33MHz, 64-bit PCI slot?

- A. The 66MHz, 32-bit card operates at 33MHz in 64-bit mode.
- B. The 66MHz, 32-bit card operates at 66MHz in 32-bit mode.
- C. All 33MHz, 64-bit cards on the PCI bus operate like 33MHz, 32-bit cards.
- D. The 66MHz card operates at 33MHz.

Correct Answer: D Section: (none) Explanation

Explanation/Reference:

The rules that govern the use of PCI cards are as follows:

- A 66MHz PCI card can be used on a 33MHz PCI bus.
- A 33MHz card in a 66MHz PCI bus automatically operates at 33MHz.
- A 32-bit PCI card can be installed in a 64-bit PCI slot.
- A 64-bit card can be installed in a 32-bit slot and will work in 32-bit mode.

A PCI bus can be so heavily used that it becomes a performance bottleneck. It is best to plan for optimal performance when configuring the PCI devices.

To provide optimal configuration:

- 1. Match 66MHz slots with 66MHz devices.
- 2. Match 32-bit slots with 32-bit devices.
- 3. For the remaining devices, proceed as follows:

If you have available 32-bit slots, place the minimum number of 64-bit devices in the 32-bit slots, using the devices with the lowest throughput.

If you still have more devices than available 64-bit slots, the 66MHz slots will have to run at 33MHz (64-bit).

QUESTION 91

What must you check prior to adding another processor to an existing system? (Select Three)

- A. amount of memory in the system
- B. compatibility of the new processor with existing processors
- C. firmware requirements for the new processor
- D. number of users currently logged into the system
- E. number of processors the operating system supports
- F. weight of the new processor

Correct Answer: BCE Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Pages 163/164:

Processor compatibility

The new processor must be physically compatible with the processor slot on the system board. A requirement for multi-processor systems is compatibility of the new processor with the existing processors.

Operating system update or reconfiguration

On a multi-processor server, the operating system must be capable of handling more than one processor. If the OS version does not support more than one processor, it must be updated to a version that does support multiple processors.

BIOS update

It usually is necessary to update the system BIOS to support the increased speed or cache size of a new processor. Once again, it is necessary to check the documentation provided by the server manufacturers, who often provide new BIOS versions on their web sites.

QUESTION 92

What does a system require to achieve PCI Hot Plug capability? (Select three)

- A. hot-plug fans
- B. hog-plug operating systems
- C. hot-plug adapter drivers
- D. hot-plug memory
- E. hot-plug system tray
- F. hot-plug platform

Correct Answer: BCF Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 1 - Page 166:

PCI hot plug support

PCI hot plug functionality enables you to replace and install new PCI cards without powering down the system. For example, you can add or replace a network or other I/O controller board with the system up and operating.

Compatibility is ensured by using standard PCI adapters. A hot-plug system requires a hot-plug platform, a hot-plug operating system, and hot-plug adapter drivers.

QUESTION 93

What can you do to optimize memory performance?

- A. Enable Advanced Memory Buffer.
- B. Rearrange existing memory to allow interleaving.
- C. Implement memory caching
- D. Configure processor interleaving.

Correct Answer: B Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 1 - Page 124:

Bank interleaving

SDRAM divides memory into two to four banks for simultaneous access to more data. This division and simultaneous access is known as interleaving.

In two-way interleaving while one memory bank is being accessed, the other bank remains ready to be accessed. Thus the processor can initiate a new memory access before the previous access has been completed, resulting in continuous data flow and increasing the amount of data accessed in a single memory access.

When data is written to memory, the memory controller distributes the data across DIMMs in a bank. When the processor sends a read request to the memory controller, the memory controller sends the request to all DIMMs in the bank simultaneously. The data at the requested address is returned along with data from subsequent sequential addresses. The memory controller interleaves the data from all the DIMMs to put it back in its original order.

Because more than one DIMM is used in this transaction, the amount of data that can be written or read is larger than if a single DIMM were used. For example, in dual-interleaved memory, where two DIMMs are used, the processor can read and write twice the amount of data in one memory access. In four-way interleaved memory, the processor can read and write four times the amount of data in one memory access.

QUESTION 94

A customer is running a single-threaded application and experiences performance problems connected with the processor subsystem. How would you solve this issue?

- A. Change processor affinity to enable splitting single threads into multiple threads
- B. Add additional processors

- C. Upgrade the processor with a higher frequency processor.
- D. Replace the processor with a higher stepping processor
- E. Upgrade the processor with a multi-core processor.
- F. Enable the integrated memory controller of the process at the BIOS.

Correct Answer: C Section: (none) Explanation

Explanation/Reference:

QUESTION 95

You are comparing similar versions of Intel Xeon and AMD Opteron processors. Which statements are true about these processors? (Select two)

- A. Opteron processors use a Northbridge that operates at core bus speed.
- B. AMD Opteron processors are optimized for virtualization and AMD-V technology.
- C. An Intel Xeon processor uses HyperTransport link to access its memory.
- D. Intel Xeon processors are optimized for virtualization with Intel VT technology.
- E. An AMD Opteron processors uses QuickPath Interconnect to access its memory.

Correct Answer: BD Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 1 - Page 86:

AMD-V and VT virtualization technology

Hardware-assisted virtualization technology is available from Intel (Intel VT) for Intel EM64T processors and from AMD (AMD-V) for Opteron processors.

QUESTION 96

Why should server firmware be updated to the most recent version? (Select two)

- A. to maintain a valid warranty
- B. to fix problems from earlier versions
- C. to support new features
- D. to refresh changes that a user has edited in the existing firmware
- E. to support leagcy features

Correct Answer: BC Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 178:

Adapter firmware upgrades

A firmware upgrade may also be required for various SCSI, RAID, or fibre channel adapters in order to support new features, ensure compatibility, or correct bugs in the code for their controllers.

QUESTION 97

Which command can be used to verify connectivity to a client machine?

- A. ping
- B. nslookup
- C. nbstat
- D. ipconfig

Correct Answer: A Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 156:

ping — This command is used to test network connectivity. It sends a packet of data to the other network device that you have specified by providing its IP address. If a reply is returned to you, connectivity is confirmed. If you do not get a reply, either your device or the one you tried to contact are not available to the network. The command output also reports how long the reply took, which can indicate the level of traffic congestion.

QUESTION 98

Which RAID technology provides the most capacity with the same number of disks?

- A. RAID 0
- B. RAID 1
- C. RAID 4

D. RAID 5

Correct Answer: A Section: (none) Explanation

Explanation/Reference:

QUESTION 99

Your customer's workstation has four 15K rpm SAS drives. The customer wants the best possible performance, and is not concerned about data loss. Which RAID level best meets this customer's needs?

- A. RAID 0
- B. RAID 1
- C. RAID 5
- D. RAID 6

Correct Answer: A Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 1 - Page 225:

RAID 0 — Disk striping

RAID 0 is not fault tolerant and is often used in situations that are not mission-critical, where performance and capacity are more important than uptime. RAID 0 is the only non-fault-tolerant RAID level supported by HP.

Because RAID 0 has no overhead associated with duplication of information, it provides the highest performance. Both read and write requests can use all member disks simultaneously.

QUESTION 100

You are implementing a tape backup solution on a customer's site. The customer's servers are located in two different fire compartments 10m apart. Which SCSI standard can be used at the lowest cost for this environment to integrate a tape library in a different fire compartment?

- A. Ultra
- B. Fast
- C. LVD

D. Fibre Channel

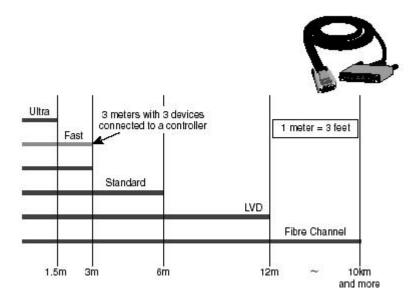
Correct Answer: C Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 1 - Page 213:

Cables

The type of SCSI cable used depends on the protocol and configuration. Cable selection can be confusing because SCSI has a variety of protocols and configurations and differential and single-ended SCSI devices look identical. The graphic shows cable lengths that can be used with different SCSI standards.



QUESTION 101

Which type of information is obtained during the site survey? (Select two)

- A. biggest IT problem today
- B. capacity of electrical circuits
- C. projected role of the server
- D. facility size

Correct Answer: BD Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 99:

Conducting a site survey

To evaluate these factors, you can use survey questions to gather data, as demonstrated by the following examples:

- How large is the facility?
- Does the facility currently have any radio frequency interference (RFI) problems?
- Is there any extra space?
- Will an existing space need to be modified?
- Are adequate utility outlets available in the proposed space?
- Are the electrical circuits of sufficient capacity?

QUESTION 102

What is problematic for adata center? (Select two)

- A. low humidity
- B. high humidity
- C. carbon dioxide fire supression system
- D. seperate console room for KVM stations
- E. inline UPS

Correct Answer: AB Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 204:

Recognizing and reporting environmental issues

Humidity – The humidity in the server room is another environmental quality that is critical to the proper functioning of the server. The air conditioning system for the room often controls the humidity as well as the temperature.

• Too much humidity in the air can damage the server's electronic components. In humid conditions, moisture can condense on the circuit boards and other components and cause short circuits or corrosion.

• Too little humidity in the air can subject the server to electrostatic discharge which also can damage the server's components.

QUESTION 103

What devices off the highest and most sophisticated level of security when restricting access to a server rom? (Select two)

- A. retinal scanner
- B. proximity card reader
- C. mechanical lock
- D. fingerprint scanner
- E. reinforced steel door
- F. bulletproof window

Correct Answer: AD Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 202:

Recognizing and reporting physical security issues

Biometric locks – This is the latest and most sophisticated technology that relies on a measurable physical characteristic such as a retinal scan, speech pattern, or fingerprint. As with card readers, this technology also allows tracking who has accessed a room.

QUESTION 104

Which protocols are used by in-band management? (Select two)

- A. TCP/IP
- B. IPX
- C. SNMP
- D. SCSI
- E. MPIO

Correct Answer: AC Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 155:

Managing hardware remotely

In-band management is the best choice for most servers that are accessed through standard connections and when the operating system is functioning. It provides a wider range of functions and greater security because it can depend heavily on the specific management tool in use. In-band management is appropriate for wired and wireless devices. It is functions independently from switch/router platforms and versions.

TCP/IP and SNMP are used to manage the devices. The control and management data share the same network.

QUESTION 105

When should a performance baseline be captured?

- A. after updating the server ROM
- B. during the peak server usage
- C. after any hardware or software additions to the system
- D. after replacing a failed component

Correct Answer: C Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 217:

Establishing a baseline

This baseline should be captured after initial installation of the equipment, during normal daily operation. The baseline should be updated after any hardware or software additions to the system.

QUESTION 106

Which statement is true about in-band network management?

- A. Network ports or swtiches are not used for domain management.
- B. SSH protocol is used to access and manage the devices.
- C. A seperate network is maintaned for each management domain.
- D. The control and management data share the same network.

Correct Answer: D Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 155:

Managing hardware remotely

In-band management is the best choice for most servers that are accessed through standard connections and when the operating system is functioning. It provides a wider range of functions and greater security because it can depend heavily on the specific management tool in use. In-band management is appropriate for wired and wireless devices. It is functions independently from switch/router platforms and versions.

QUESTION 107

Which categories of questions should you ask the customer during needs analysis? (Select two)

- A. facility size
- B. company location
- C. future plans
- D. business requirements

Correct Answer: CD Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 98

Conducting a needs analysis

Future plans

- What are the business goals?
- What is the projected role of the server?
- What is the projected operating system?
- Will RAID be implemented?
- Will the server be connected to more than one network?

Current environment

How much storage currently is used?

Have storage needs grown over the last 12 months?

Business requirements

- What is the expected availability of the server?
- Is server price or functionality more important?
- Is a rack or tower configuration preferred?
- Will backups be performed?
- Is power protection needed?
- What kinds of system management tools are needed?

QUESTION 108

Which network management protocols are typically supported by system monitoring agents? (Select two)

- A. Internet Message Access Protocol (IMAP)
- B. Server Message Block (SMB)
- C. Secure Sock Layer (SSL)
- D. Intelligent Platform Management Interface (IPMI)
- E. Web-based Enterprise Management (WBEM)

Correct Answer: DE Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 185

Upgrading system monitoring agents

Web-based Enterprise Management / Common Information Model (WBEM/CIM)

The DMTF has recently replaced DMI with the Web-based Enterprise Management (WBEM) and Common Information Model (CIM) standards for system management. WBEM/CIM defines an object-based, client/server model. In the WBEM/CIM model, clients send requests for data about managed devices to the CIM object manager server which forwards those requests to providers for the specific devices. The providers return the requested data to the clients through the CIM object manager. The clients can also subscribe for indications about events that occur in the system.

Intelligent Platform Management Interface (IPMI)

IPMI is an embedded management specification for servers, storage devices, and other network devices. It defines a common and secure interface for monitoring system voltages, temperature, and fan speeds through the use of embedded monitors. It is designed to directly control system components while permitting remote system management and recovery of failed systems.

QUESTION 109

What is the easiest solution for a company to implement in order to defend data from being compromised if a physical hard disk is stolen?

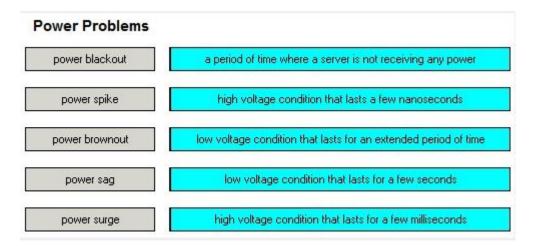
- A. a strong password policy for data shares
- B. TPM (Trusted Platform Module) in conjunction with encryption software
- C. Integrated Encryption System, enabled on disk arrays located in data centers
- D. RAID 6 volumes used to protect again stolent data

Correct Answer: B Section: (none) Explanation

Explanation/Reference:

QUESTION 110

Match each power problem with its description.



Select and Place:

Correct Answer:

Section: (none) Explanation

Explanation/Reference:

QUESTION 111

What is considered a best practice for a data center?

- A. leaving KVM stations unlocked for ease of administraton
- B. labeling both ends of cables for easy or identifications
- C. unplugging redundant power supplies to conserve power
- D. storing all administrative passwords on a sheet in the locked data center

Correct Answer: B Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 234

Equipment moves, rack additions, and personnel changes are much less disruptive

when the cable infrastructure is planned, documented, and simplified through the use of proper spacing, cable ties, color coding, and accurate labeling.

QUESTION 112

What are recommended procedures to ensure backup media is securely stored? (Select two)

- A. Place the backup media in a fire-proof safe.
- B. Ensure the switch on backup tapes is set to lock.
- C. Store a copy of all backup media in a locked server rack.
- D. Have a bonded third-party firm store backup media at a secure remote facility
- E. Take a copy of all backup media home.

Correct Answer: AD Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 203

Ensuring security of backup media

The following are some of the methods used to secure backup media:

- Lock the media in an office.
- Lock the media in a cabinet with strict key control.
- Place the media in a safe or in a fire-safe.
- Engage a bonded third-party firm to store the media in their secure facility.

QUESTION 113

In the GFS backup tape rotation plan, which type of backup is the Grandfather?

- A. copy
- B. normal
- C. differential
- D. incremental

Correct Answer: B Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 302

Grandfather-Father-Son tape rotation

The Grandfather-Father-Son (GFS) tape rotation scheme is the most commonly used and requires a weekly backup capacity of at least double the server storage capacity. It uses three levels of backup to provide redundancy and security. Among other things, this scheme allows for different levels of data retention. The system administrator can select which generation of tapes to store temporarily and which to archive.

GFS backup requires the following:

- Monthly grandfathers
- Weekly fathers
- Daily sons

•

Example

The system administrator typically performs a full backup every Monday (father) and incremental backups on Tuesdays, Wednesdays, and Thursdays (sons). The administrator performs another full backup at the end of the week (father) and another at the end of the month (grandfather).

QUESTION 114

What happens during an incremental backup? (Select two)

- A. The archive bit is set to 1.
- B. The archive bit is left alone
- C. The archive bit is reset to 0.
- D. The transaction log is cleared.
- E. The transaction log is left alone.

Correct Answer: CD Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 194

In an incremental backup, only the new or changed files with the archive bit set on are backed up. After a file is backed up, its archive bit is turned off, or cleared. An incremental backup takes much less time to perform than the full backup, but more than the differential backup.

QUESTION 115

Which backup operations clear the archive bit after the file has been backed up? (Select two)

- A. copy
- B. normal
- C. differential
- D. incremental

Correct Answer: BD Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 194

Full

In a normal full backup, all specified files are backed up regardless of the value of the archive bit. After a file is backed up, its archive bit is turned off. A copy full backup also backs up all of the files but does not turn off, or clear, the archive bit. A full backup takes the longest to perform.

Incrementa

In an incremental backup, only the new or changed files with the archive bit set on are backed up. After a file is backed up, its archive bit is turned off, or cleared. An incremental backup takes much less time to perform than the full backup, but more than the differential backup.

Differential

In a differential backup, only the new or changed files with the archive bit set on are backed up. After a file is backed up, the setting of its archive bit is NOT changed. A differential backup initially takes the least amount of time to perform, but the time it takes increases as more and more files are included.

QUESTION 116

What happens during a differential backup? (Select two)

- A. The archive bit is set to 1
- B. The archive bit is left alone
- C. The archive bit is reset to 0.
- D. The transaction log is cleared.
- E. The transaction log is left alone.

Correct Answer: BE Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 194

Differential

In a differential backup, only the new or changed files with the archive bit set on are backed up. After a file is backed up, the setting of its archive bit is NOT changed. A differential backup initially takes the least amount of time to perform, but the time it takes increases as more and more files are included.

QUESTION 117

What are advantages of DAS solutions?

- A. maximum scalability
- B. ease of deployment
- C. low intial cost
- D. snapshot capability

Correct Answer: BC Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 1 - Page 282:

Comparing storage solutions

DAS offers the easiest way to deploy incremental amounts of storage as needed without extensive planning. As RAID inside the server has become less expensive, DAS has grown in popularity. A high percentage of deployed storage is now DAS.

Advantages of DAS include:

- Ease of deployment
- Scalability
- Relatively inexpensive to acquire, maintain, and expand
- High performance and reliability
- Fast server-to-storage data transfer

QUESTION 118

What is the software abstraction layer instance commonly called?

- A. guest
- B. partition
- C. hypervisor
- D. mirror

Correct Answer: C Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 1 - Page 86

The software abstraction layer is typically referred to as a hypervisor or a virtual machine monitor.

QUESTION 119

What contributes to the use of virtualization?

- A. the need to conserve space in data centers
- B. an abundance of overutilized hardware
- C. decreasing IT agility
- D. the need for more system administrators

Correct Answer: A Section: (none) Explanation

Explanation/Reference:

QUESTION 120

Into what range do reserved TCP/IP server ports generally fall?

- A. 0-1023
- B. 1-512
- C. 21-80
- D. 1024-8080

Correct Answer: A Section: (none)

Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 2 - Page 53

Server ports, or ports associated with services generally fall within the range of 0-1023.

Any client can use any port number above 1024

QUESTION 121

You want to create a RAID set with 8 disks. Which RAID technology incurs a 50% capacity penalty?

- A. RAID 0
- B. RAID 1
- C. RAID 5
- D. RAID 6

Correct Answer: B Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 1 - Page 256

RAID 1 - Disk Mirroring

Disk mirroring uses two disk drives of identical size. Data is written twice, to two separate mirrored drives. Data is written to one drive and an exact copy is written on the second disk. If one drive fails, the mirrored drive ensures data is not lost and read-write operations continue to be served.

This fault-tolerant solution is considered expensive because it requires double the drive storage. Only 50% of the total disk space is available for data storage because all data must be duplicated.

QUESTION 122

What are two types of backbone SAN topologies? (Select two)

- A. fat tree
- B. meshed
- C. skinny tree

D. cascaded

E. ring

Correct Answer: AC Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 1 - Page 295

Fat trees and skinny trees are two types of backbone SAN topologies. The main difference between fat and skinny trees is the number of ISLs used to connect the edge switches to the backbone switches. The number of ISLs subtracts from the number of end ports and affects the total number of switches needed for a particular configuration. Fat trees use half the number of edge switch ports as ISL connections; skinny trees use less than half.

QUESTION 123

Which statement is true about a JBOD?

- A. It is configured as a RAID 0 by default.
- B. It contains a minumum of one hot spare disk.
- C. It offers no data redundancy or striping
- D. It is connected to a minimum of two hosts by default.

Correct Answer: C Section: (none) Explanation

Explanation/Reference:

Industry Standard Architecture - Student Guide 1 - Page 250

Just a bunch of disks (JBOD) is a storage option that connects one or more standalone disk drives to a RAID controller or other drive controller of a server. This option increases capacity and is used for noncritical business data. The JBOD drive does not become part of a RAID array, but it is made available to the server on the same interconnect bus as the other devices controlled by the RAID controller. The JBOD disk drive has no data redundancy or striping.

QUESTION 124

Your customer wants to guard against the simultaneous loss of any two disk drives in his RAID array. Which RAID level can be used to accomplish this?

- A. RAID 1
- B. RAID 3
- C. RAID 5
- D. RAID 6

Correct Answer: D Section: (none) Explanation

Explanation/Reference:

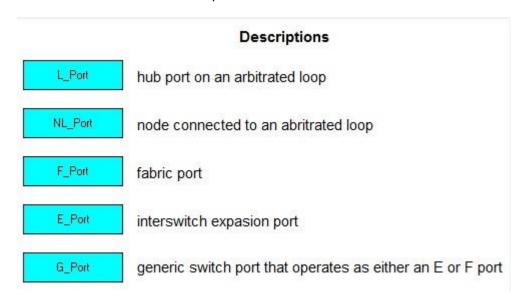
Industry Standard Architecture - Student Guide 1 - Page 261

RAID 6 — Advanced data guarding

RAID 6, also known as Advanced Data Guarding (ADG), provides high fault tolerance. It distributes two sets of parity data protecting against two drive failures. As the graphic shows, parity (P) is written twice for each piece of data (D). These two sets are different, and each set occupies a capacity equivalent to that of one of the constituent drives.

QUESTION 125

Place each term next to its description



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Correct Answer:	
Section: (none)	

Section: (none) Explanation

Select and Place:

Explanation/Reference: