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Exam Code: D-PEXE-IN-A-00

Exam Name: Dell PowerEdge XE9680 and XE8640 Install



Exam A

QUESTION 1

A customer wants to implement 20 PowerEdge XE9680 servers for development and rendering of their studio CGI production. The solution includes a shared development environment with multiple outside partners, professionals, and hobbyists.

Due to the heating and cooling limitations of the data center, what GPUs should be used for the servers?

- A. Intel Data Center Max 1550
- B. NVIDIA A100 GPUs
- C. AMD ROCm
- D. NVIDIA H100 GPUs

Correct Answer: B

Section:

Explanation:

For a customer implementing PowerEdge XE9680 servers in a data center with heating and cooling limitations, the NVIDIA A100 GPUs are a suitable choice. Here's a detailed explanation:

GPU Efficiency: The NVIDIA A100 GPUs are known for their energy efficiency, which is crucial in environments with heating and cooling constraints¹.

Performance: These GPUs provide excellent performance for CGI production, supporting complex rendering tasks¹.

Compatibility: The PowerEdge XE9680 supports a range of powerful GPUs, including the NVIDIA A100, which is designed for AI, machine learning, and high-performance computing tasks¹.

Cooling Requirements: The NVIDIA A100 GPUs have a lower thermal design power (TDP) compared to the NVIDIA H100 GPUs, making them more suitable for data centers with limited cooling capabilities¹.

By choosing NVIDIA A100 GPUs, the customer can ensure that their PowerEdge XE9680 servers will deliver the required performance for CGI production while adhering to the data center's heating and cooling limitations.

QUESTION 2

A deployment engineer goes on-site to install a mix of XE systems in a customer testing and development data center. The customer engineering group is stress testing the PowerEdge XE servers to determine the best XE server for their software applications. As one of the first steps, they must ensure the correct server rails are on-site.

Which three options are a correct matching of rail type with server type?

- A. XE9640 and B27
- B. XE9680 and B25
- C. XE9640 and B25
- D. XE8640 and B27
- E. XE9680 and B28

Correct Answer: B, C, E

Section:

Explanation:

To ensure the correct server rails are on-site for the installation of PowerEdge XE servers, it's essential to match the server model with the appropriate rail type. Based on the Dell Enterprise Systems Rail Sizing and Rack Compatibility Matrix, the following matches are correct:

XE9680 and B25: The XE9680 server is compatible with the B25 rail type, which is designed to support the size and weight of this particular server model¹.

XE9640 and B25: Similarly, the XE9640 server can also utilize the B25 rail type for secure mounting in a rack¹.

XE9680 and B28: Additionally, the XE9680 server is compatible with the B28 rail type, providing an alternative mounting solution¹.

It's important to note that the rail types are specific to the server models and are designed to ensure a secure and stable installation in the customer's rack. The Dell Rail Sizing and Rack Compatibility Matrix provides detailed information on the compatibility of different server models with their respective rail types. This document should be consulted to verify the correct rail type for each server model before proceeding with the installation¹.

QUESTION 3

A deployment engineer is installing an XE9680 server. The network connectivity has 24 optical cables that route to switches in the data center. The administrator questions the use of a cable management arm (CMA). What are two items to consider when installing a CMA?

- A. The CMA can be installed to open on either the left or right side of the server.
- B. Do not route optical cables through the CMA.
- C. A CMA can only be installed with a strain relief bar.
- D. The XE9680 does not support a CMA.

Correct Answer: A, B

Section:

Explanation:

When installing a Cable Management Arm (CMA) on the Dell PowerEdge XE9680 server, there are specific considerations to ensure proper installation and operation:

CMA Orientation:

Installation Flexibility: The CMA for the XE9680 can be installed to open on either the left or right side of the server. This flexibility allows for better management of space within the rack and ensures that the CMA can accommodate the specific layout of your data center (Dell) (Dell).

Cable Routing:

Avoid Routing Optical Cables Through the CMA: Optical cables are typically more sensitive and less flexible compared to other types of cables. Routing them through the CMA can lead to bending, twisting, or other stresses that may damage the cables and affect network performance. Therefore, it is advised not to route optical cables through the CMA (Dell) (Dell).

Installation Process:

Align and Install the CMA: Attach the CMA to the designated mounting points on the server rails. Ensure that it is securely fastened and aligned properly to avoid any issues when extending or retracting the server from the rack.

Organize Cables: Use the provided cable management features to route and secure other cables, ensuring they are not pinched or overly stressed. Avoid including optical cables in the CMA to prevent potential damage.

Post-Installation Checks:

Verify Movement: Ensure that the server can be smoothly extended and retracted with the CMA in place without any cables getting caught or strained.

Secure Connections: Double-check all cable connections to ensure they are secure and functioning correctly.

These steps are crucial for maintaining the integrity and performance of the server and the connected network infrastructure. Proper cable management not only ensures safety but also enhances the reliability and maintainability of the data center setup.

Dell PowerEdge XE9680 Installation and Service Manual (Dell).

Dell XE9680 Rack Rail with Cable Management Arm Information (Dell) (Dell).

QUESTION 4

What must be considered regarding stab-in rails with installing a PowerEdge XE server?

- A. Enable a vertical installation of the server with the use of J-slots.
- B. Do not support extending the server from the rack.
- C. Only used in 4-post, square hole racks.
- D. Inner rail must be installed on the server before installing in rack.

Correct Answer: C

Section:

Explanation:

Understanding Stab-in Rails:

Stab-in rails are designed to simplify the server installation process. These rails enable a quick and straightforward installation of the server into the rack.

Compatibility and Usage:

Stab-in rails are specifically designed for use in 4-post racks with square holes. This compatibility ensures stability and proper fitting within the rack structure.

Installation Process:

Before initiating the installation, verify that the rack is a 4-post, square hole type.

Position the stab-in rails to align with the square holes on the rack. Typically, stab-in rails have tabs that fit precisely into these square holes.

Mounting the Server:

Once the rails are securely attached to the rack, the server can be mounted. The design of the stab-in rails facilitates a smooth insertion of the server, ensuring it is securely held in place.

Ensuring Proper Fit:

After the server is mounted, check to ensure that it is level and securely attached. This step is crucial to prevent any movement or displacement that could occur due to vibrations or physical disturbances.

Dell EMC PowerEdge XE9680 and XE8640 Installation and Service Manual: This manual provides detailed instructions on the use and installation of stab-in rails, including compatibility with specific rack types.

Dell EMC Technical Specifications Guide: Offers comprehensive specifications and compatibility information for different mounting and installation hardware used with Dell PowerEdge servers.

QUESTION 5

A deployment engineer arrives on-site to install an XE9680 server. The server lift does not have the ability to maneuver beneath the XE9680 shipping pallet.

How many people must you have to physically pick up the server to place it on the lift shelf?

- A. 4. The server is heavy, and the lift shelf does not rest on the floor.
- B. 3. Two people are needed to tilt the server while the third person slides the shelf beneath the server.
- C. 2. At least one person on each side is needed to pick up the server and place on the lift.
- D. 1. They can tilt the server and slide the lift underneath.

Correct Answer: A

Section:

Explanation:

Weight and Size of the PowerEdge XE9680:

The Dell PowerEdge XE9680 server is designed for high performance, which often results in a larger and heavier form factor. Handling such servers typically requires multiple people to ensure safety and prevent damage.

Ergonomic Considerations:

Due to its weight and size, it is crucial to follow proper ergonomic practices when lifting and moving the server. This minimizes the risk of injury and ensures the server is handled safely.

Number of People Required:

For the XE9680, it is recommended to have four people when physically picking up the server to place it on the lift shelf. This recommendation is based on the server's weight and the need to maneuver it safely onto the lift.

Safety and Coordination:

Each person should position themselves on one side of the server, ensuring an even distribution of weight. This coordinated effort helps in lifting the server evenly and reducing the risk of dropping or mishandling it.

Procedure for Lifting:

Two individuals should position themselves at the front corners, and two at the rear corners of the server. On a coordinated count, all four should lift the server together and place it gently onto the lift shelf.

The lift shelf should be stable and able to support the weight of the server once it is placed on it.

Using the Lift:

Once the server is on the lift shelf, it can be maneuvered into the desired position in the rack. Ensure that the lift is rated for the weight of the XE9680 to avoid any mechanical failures.

Reference to Official Documentation:

Dell's installation guides and service manuals typically provide guidelines on the number of personnel required for handling large and heavy servers, ensuring both safety and compliance with best practices.

Dell EMC PowerEdge XE9680 Installation and Service Manual: This manual provides detailed guidelines on handling and installing the XE9680 server, including the recommended number of personnel required for safe handling.

Dell EMC Technical Specifications Guide: Offers insights into the physical dimensions and weight of the PowerEdge XE9680, informing the need for multiple personnel for safe handling and installation.

QUESTION 6

A deployment engineer installed and powered on a XE8640 server. The Linux operating system is installed. They need to update the drivers on the server.

What is a consideration before updating the driver?

- A. A single graphics driver supports all modern GPUs.
- B. Each GPU model has a distinct driver package.
- C. The driver package only supports Windows operating systems.
- D. You can upload the driver package using the iDRAC UI.

Correct Answer: B

Section:

Explanation:

Understanding GPU Drivers:

Graphics Processing Units (GPUs) require specific drivers to ensure optimal performance and compatibility with the operating system. Each GPU model typically has a unique driver package designed to leverage its capabilities and architecture.

Driver Packages for Different GPU Models:

For the Dell PowerEdge XE8640, which may be equipped with multiple GPU models, it is crucial to identify the exact GPU models installed in the server. Each GPU model, whether it's from NVIDIA, AMD, or another manufacturer, will have a distinct driver package.

Importance of Model-Specific Drivers:

Using the correct driver for each GPU model ensures that the GPU operates efficiently, provides the intended performance, and remains stable under various workloads. Incorrect drivers can lead to suboptimal performance, compatibility issues, or system instability.

Steps to Update Drivers on Linux:

Identify the GPU models installed in the server. This can be done using commands like `lspci | grep -i vga` or similar tools that list the hardware components.

Visit the GPU manufacturer's website (e.g., NVIDIA, AMD) to download the appropriate drivers for each GPU model.

Follow the manufacturer's installation instructions, which typically involve downloading the driver package, extracting it, and running an installation script or using package management tools.

Using iDRAC for Driver Updates:

While the iDRAC (Integrated Dell Remote Access Controller) UI can be used for various management tasks, uploading driver packages directly via iDRAC is not typically supported. Drivers are usually installed within the operating system environment.

Compatibility with Linux:

Ensure that the driver package is compatible with the Linux distribution and kernel version installed on the XE8640. GPU manufacturers often provide detailed compatibility information and installation guides specific to various Linux distributions.

Reference to Official Documentation:

Dell's support site and the GPU manufacturer's documentation provide comprehensive guides on downloading and installing the correct drivers for various operating systems, including Linux.

Dell EMC PowerEdge XE8640 Installation and Service Manual: This manual provides detailed guidelines on hardware configurations and driver installations.

NVIDIA/AMD Official Documentation: These resources offer specific instructions on downloading and installing GPU drivers for different operating systems and GPU models.

QUESTION 7

A deployment engineer is installing a PowerEdge XE8640 server. The server is on a lift, and they have aligned the server inner rails with the rail assemble that are secured in the rack. The engineer can only push the server into the rack a short distance before it stops. Pushing forcefully causes the rack to slide back.

What action should the deployment engineer take?

- A. Press the mechanism on the rail to release the rail lock.
- B. Lower the lift and move away from the server.
- C. Pull the server out of the rack and realign the lift with the rack.
- D. Have a person hold the rack while using force to slide in the server.

Correct Answer: A

Section:

Explanation:

Understanding Rail Locks:

The PowerEdge XE8640 server rails are equipped with a locking mechanism to secure the server during transport and installation. This prevents the server from moving unintentionally and ensures stability.

Identifying the Issue:

When the server stops after being pushed only a short distance into the rack, it is likely due to the rail lock engaging. This lock must be released to allow the server to slide fully into place.

Releasing the Rail Lock:

Locate the rail lock mechanism on the rails. This is typically a lever or button that, when pressed, releases the lock, allowing the server to slide further into the rack.

Detailed Steps:

Align the Server: Ensure that the server is properly aligned with the rails before proceeding. Misalignment can cause the server to get stuck or make it difficult to release the lock.

Press the Release Mechanism: With the server partially inserted, locate and press the release mechanism on both sides of the rails. This should disengage the locks.

Slide the Server: Once the locks are released, carefully push the server into the rack until it is fully seated. Ensure that the server is evenly aligned to avoid binding or getting stuck.

Avoiding Forceful Methods:

Avoid using excessive force to push the server into the rack as it can cause damage to the server, rails, or rack. Additionally, pushing forcefully without releasing the rail lock can lead to misalignment and potential hardware

issues.

Safety and Assistance:

Ensure the lift is stable and properly aligned with the rack to prevent movement. If needed, have an assistant stabilize the lift while performing the installation steps.

Reference to Official Documentation:

Refer to the Dell EMC PowerEdge XE8640 Installation and Service Manual for specific instructions and diagrams illustrating the rail lock mechanism and proper installation procedures.

Dell EMC PowerEdge XE8640 Installation and Service Manual: This manual provides detailed guidelines on the proper use of rail kits and the mechanism for releasing rail locks during server installation.

Dell EMC Technical Specifications Guide: Offers comprehensive details on the hardware specifications and installation processes for Dell PowerEdge servers, including rail systems and locking mechanisms.

QUESTION 8

A deployment engineer is preparing to install three PowerEdge XE9680 servers in a rack supplied by the customer.

What must they do before going on-site to install the servers?

- A. The rack can accommodate the length of the servers.
- B. The customer completed the required training on the server.
- C. The rack will have a top-of-rack switch.
- D. The rack has at least six PDUs and two power sources.

Correct Answer: A

Section:

Explanation:

Server Dimensions and Rack Compatibility:

The Dell PowerEdge XE9680 is a large server with specific dimensional requirements. Ensuring that the customer's rack can accommodate the physical length and depth of the server is crucial for a successful installation.

Rack Depth and Space Requirements:

Measure the depth of the customer's rack to ensure it is sufficient to house the XE9680 servers. The server's dimensions, including its length, should be verified against the available space in the rack.

Server Length Specification:

The PowerEdge XE9680 has a significant depth, typically around 800mm (31.5 inches). The rack must be deep enough to support the full length of the server, including any cable management and airflow requirements.

Checking Rack Specifications:

Verify that the rack adheres to standard dimensions suitable for hosting enterprise-grade servers. Ensure that the rack has appropriate mounting options, such as square or threaded holes compatible with the server's rail kit.

Pre-installation Verification:

Before arriving on-site, confirm with the customer that their rack meets the necessary specifications. This includes checking for sufficient clearance at the rear for cable connections and at the front for proper airflow.

Importance of Proper Fit:

A rack that cannot accommodate the length of the servers will result in installation failure, potential damage to the hardware, and inefficient cooling. It may also pose safety risks during and after installation.

Reference and Documentation:

The Dell EMC PowerEdge XE9680 Installation and Service Manual provides detailed information on the server's dimensions and the necessary rack specifications. This manual should be consulted to ensure all pre-installation requirements are met.

Dell EMC PowerEdge XE9680 Installation and Service Manual: This manual provides comprehensive guidelines on the server's physical dimensions and the necessary rack specifications for proper installation.

Dell EMC Technical Specifications Guide: Offers detailed specifications and requirements for rack compatibility and server installation procedures.

QUESTION 9

A deployment engineer is installing eight PowerEdge XE9680 servers. Two servers will be installed in each of four racks. The data center managers must plan for the power needed to supply power to the four racks.

What power consumption information can the deployment engineer give the data center manager?

- A. Each rack must have at least 6 PDUs for power high availability.
- B. Each server has four 2800-Watt, 15.6 Amp PSUs.
- C. Each rack must power 12, 2800-Watt, 15.6 Amp PSUs.
- D. Each PDU must use a C20-type connection.

Correct Answer: B

Section:

Explanation:

The PowerEdge XE9680 server is equipped with power supply units (PSUs) that are essential for its operation. Here's the power consumption information that the deployment engineer can provide:

PSU Specifications: Each PowerEdge XE9680 server comes with four 2800-Watt, 15.6 Amp PSUs¹. This specification is crucial for the data center manager to understand the power requirements for each server.

Total Power Requirement: With two servers per rack, each rack will have a total of eight 2800-Watt PSUs. This information helps in calculating the total power draw for each rack.

Power Distribution Units (PDUs): While the number of PDUs required for high availability can vary, it's important to note that the server's PSUs feature a C22 input socket¹. The data center manager should ensure that the PDUs in the rack are compatible with this type of connection.

Power Planning: The data center manager must plan for the power needed to supply power to the four racks, considering the power draw of the servers and any additional equipment that will be installed.

By providing this detailed power consumption information, the deployment engineer assists the data center manager in planning for the appropriate power infrastructure to support the PowerEdge XE9680 servers.

