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Question 1

Question Type: MultipleChoice

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?

Options:

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.

Answer:

B

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 withfour 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 ofeight 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 aC22 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.

Question 2

Question Type: MultipleChoice

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?

Options:

A- Intel Data Center Max 1550

B- NVIDIA A100 GPUs

C- AMD ROCm

D- NVIDIA H100 GPUs

Answer:

B

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 3

Question Type: **OrderList**

What is the sequence of steps to install an XE9680 server in a new rack.

Steps	Correct Order
Power on the server.	
Install the rail assembly.	
Transport the server and align with the rack.	
Unpack the server from the shipping packaging.	
Slide the server into the rack.	
Connect the power and network cables.	

Answer:

Unpack the server from the shipping packaging. Transp

Explanation:

Dell EMC PowerEdge XE9680 Installation and Service Manual: This manual provides detailed step-by-step instructions on unpacking, installing, and powering on the server.

Dell EMC Technical Specifications Guide: Offers comprehensive details on the hardware specifications and installation procedures for Dell PowerEdge servers.

Question 4

Question Type: MultipleChoice

A deployment engineer is installing a PowerEdge XE8640 server. The rack has four PDUs. Looking at the rear of the rack, one power source provides power to the two left PDUs. A different power

source provides power to the two right PDUs.

What side of the rack should XE8640 PSU 1 and PSU 2 be connected?

Options:

A- PSU 2 in the left and PSU 1 in the right

B- PSU 1 and PSU 2 in the left PDUs

C- PSU 1 and PSU 2 in the right PDUs

D- PSU 1 in the left and PSU 2 in the right

Answer:

D

Explanation:

Redundancy and Load Balancing:

PowerEdge XE8640 servers are designed for high availability and reliability. One key aspect of this design is the redundancy provided by the server's Power Supply Units (PSUs). By connecting each PSU to a different power source, you ensure that the server remains operational even if one power source fails.

Power Source Configuration:

In this scenario, the rack has two distinct power sources: one supplying power to the two left PDUs and the other to the two right PDUs. To maximize redundancy, each PSU should be connected to a different power source.

PSU Placement:

PSU 1 in the left PDUs: Connect PSU 1 to one of the PDUs on the left side of the rack. This ensures that PSU 1 is powered by the first power source.

PSU 2 in the right PDUs: Connect PSU 2 to one of the PDUs on the right side of the rack. This ensures that PSU 2 is powered by the second power source.

Ensuring Redundancy:

By placing PSU 1 on the left and PSU 2 on the right, you create a redundant power configuration. If either power source fails, the other PSU can continue to supply power to the server, maintaining its operation.

Steps for Connection:

Step 1: Verify that the rack's PDUs are correctly connected to their respective power sources.

Step 2: Identify the left and right PDUs based on their power source connections.

Step 3: Connect PSU 1 to a PDU on the left side of the rack.

Step 4: Connect PSU 2 to a PDU on the right side of the rack.

Step 5: Confirm that both PSUs are securely connected and receiving power from separate sources.

Safety and Verification:

Ensure that all connections are secure and that the cables are managed to prevent interference with other components or airflow within the rack. Verify that each PSU is functioning correctly by checking the server's power status indicators.

Dell EMC PowerEdge XE8640 Installation and Service Manual: This manual provides detailed guidelines on PSU connections and power redundancy configurations.

Dell EMC Technical Specifications Guide: Offers comprehensive details on the power requirements and redundancy features of the PowerEdge XE8640.

Question 5

Question Type: MultipleChoice

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

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

Options:

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.

Answer:

A

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 6

Question Type: **MultipleChoice**

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?

Options:

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.

Answer:

A

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 7

Question Type: **MultipleChoice**

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?

Options:

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.

Answer:

B

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 8

Question Type: MultipleChoice

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?

Options:

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.

Answer:

A

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 9

Question Type: **MultipleChoice**

A deployment engineer is discussing the benefits of the PowerEdge XE9680 to a data center manager. A customer has many PowerEdge servers. They require the greatest amount of network

throughput possible. The manager asks how many PCIe risers and network PCI cards the server can support.

What should be the response?

Options:

A- Two butterfly risers, and each can have two PCIe network cards.

B- Four risers, and each can have two PCIe network cards.

C- No riser is supported, but it supports up to ten PCIe network cards.

D- One riser for each PSB, and it can have one PCIe network card.

Answer:

B

Explanation:

The PowerEdge XE9680 server supports a high level of network throughput, which is achieved through its PCIe risers and network PCI card capacity. Here's the detailed information:

PCIe Slots: The PowerEdge XE9680 server supports up to10 PCIe Gen5 slots1. These slots are used to install PCIe devices, including network cards, which are essential for achieving high network throughput.

Riser Cards: Riser cards are used in servers to extend the PCIe slots and make them more accessible for installing additional cards, such as network cards.

Network Card Support: Each riser can support multiple PCIe network cards, allowing for expansion and increased network throughput.

Configuration: For the greatest amount of network throughput, the server can be configured withfour risers, and each riser can accommodatetwo PCIe network cards1. This configuration maximizes the number of network cards and, consequently, the network throughput capability of the server.

By utilizing the full capacity of PCIe slots with the appropriate risers and network cards, the PowerEdge XE9680 can meet the customer's requirement for the highest network throughput possible.

Question 10

Question Type: **MultipleChoice**

A deployment engineer is installing a PowerEdge XE8640 server in a rack with round holes. They cannot get the outer rail portion to fit flush with the rack frame.

What is the reason the outer rail is not flush with the frame?

Options:

A- The rail latch is not engaged.

B- The PowerEdge XE8640 does not support a round-hole rack.

C- A small offset is expected between the rail mounting post and the rack.

D- Weight has not been applied to the rail.

Answer:

C

Explanation:

Understanding Rail Types and Compatibility:

Dell PowerEdge servers, including the XE8640, come with rail kits designed for specific types of racks. The rail kits are tailored to fit racks with square holes or threaded holes, depending on the model and configuration.

Compatibility with Round-Hole Racks:

The PowerEdge XE8640 does not support installation in round-hole racks. The rail kits provided with the XE8640 are designed for 4-post racks with square holes or 4-post threaded racks. Attempting to install these rails in a round-hole rack will result in improper fitment and stability issues.

Common Installation Issues:

If the outer rail portion does not fit flush with the rack frame, it is often due to a compatibility issue with the rack type. Round-hole racks require specific rail kits that are different from those used for square or threaded hole racks.

Verifying Rack Type:

Before installation, verify the type of rack being used. Ensure that it matches the specifications outlined in the server's installation guide. Using the correct rack type ensures proper fitment and structural integrity.

Alternative Solutions:

If the current rack is a round-hole type, consider using a compatible rack with square or threaded holes for the XE8640. Alternatively, there might be adapters or conversion kits available that allow the use of standard rails in round-hole racks, although these are not typically recommended due to potential stability issues.

Reference and Documentation:

Refer to the Dell EMC PowerEdge XE8640 Installation and Service Manual for detailed information on rail and rack compatibility. This manual provides specifications for supported rack types and instructions for proper installation.

Dell EMC PowerEdge XE8640 Installation and Service Manual: This document provides comprehensive guidelines on the correct installation procedures and compatible rack types for the XE8640 server.

Dell EMC Technical Specifications Guide: Offers detailed specifications on the rack compatibility and rail options for Dell PowerEdge servers, ensuring proper installation and fitment.