**AI Network Architectures Post-Assessment**

Question 1

Why is nonblocking fabric essential in AI/ML networks?

Parte superior do formulário

* It decreases the importance of GPU performance.
* It eliminates the need for congestion management.
* It ensures full-rate connectivity between hosts.
* It reduces the number of required NICs.

Parte inferior do formulário

Question 2

Which load-balancing method optimizes AI/ML workloads in an Ethernet environment?

Parte superior do formulário

* stateless ECMP
* load based on link congestion
* packet spray and reorder
* round-robin

Parte inferior do formulário

Question 3

Which traffic is typically transported over the back-end network?

Parte superior do formulário

* RDMA (RoCE)
* management
* application
* vMotion
* storage

Parte inferior do formulário

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Question 5

Which network topology is optimal for AI/ML workloads due to its scalability and consistent performance?

Parte superior do formulário

* star topology
* ring topology
* Clos (leaf-spine) topology
* bus topology

Parte inferior do formulário

Question 6

Which aspect is more critical for AI/ML inferencing than training?

Parte superior do formulário

* high bandwidth
* high latency
* low jitter
* large-scale GPU deployment

Parte inferior do formulário

Question 7

What are the benefits of using optical cables instead of copper cables in data centers?

Parte superior do formulário

* Optical cables are cheaper than copper cables.
* Optical cables are easier to install.
* Optical cables are more flexible than copper cables.
* Optical cables offer longer reach, smaller diameter, and higher data rates compared to copper cables.

Parte inferior do formulário

Question 8

What is the benefit of using a hybrid connectivity approach in AI/ML data centers?

Parte superior do formulário

* It eliminates the need for RDMA.
* It optimizes performance, scalability, and cost-efficiency.
* It reduces the need for network security.
* It simplifies network management.

Parte inferior do formulário

Question 9

What protocol allows IP-based applications to run on an InfiniBand fabric?

Parte superior do formulário

* IETF
* InfiniBand over IP
* IPoIB
* RoCEv2

Parte inferior do formulário

Question 10

What makes InfiniBand a preferred choice for large-scale supercomputing and AI applications?

Parte superior do formulário

* InfiniBand is cheaper than Ethernet.
* InfiniBand is easier to configure.
* InfiniBand offers ultralow latencies.
* InfiniBand supports wireless communication.

Parte inferior do formulário

Question 11

Why is Ethernet, with innovations like RoCE, becoming more popular for AI/ML workloads compared to proprietary interconnects like InfiniBand?

Parte superior do formulário

* better security features
* lower costs per gigabit
* easier to install
* supports higher latency

Parte inferior do formulário

Question 12

What is the primary benefit of using RoCE in data centers?

Parte superior do formulário

* increased network speed
* enhanced memory-to-memory communication
* improved data encryption
* reduced hardware costs

Parte inferior do formulário

Question 13

What is the primary benefit of the three-tier hierarchical model compared to the two-tier hierarchical model?

Parte superior do formulário

* It enhances scalability by enabling the addition of more leaf and spine switches without significant restructuring.
* It offers significant modularity and flexibility for policy implementation and traffic management.
* It provides lower latency through direct, single-hop connectivity between devices.
* It simplifies management and troubleshooting by reducing the number of network layers.

Question 14

What is the primary advantage of the single-site network architecture?

Parte superior do formulário

* It eliminates geographical limitations for users in remote locations.
* It offers superior disaster recovery capabilities compared to other architectures.
* It provides a centralized management that simplifies network control and monitoring.
* It provides enhanced scalability for expanding network infrastructure.

Parte inferior do formulário

Question 15

Which factor is a challenge for isolated networks?

Parte superior do formulário

* high scalability
* high reliability
* complete control over the network infrastructure
* maximum security

Parte inferior do formulário

Question 16

Which statement describes the scalability of purpose-built networks compared to fully isolated networks?

Parte superior do formulário

* Both types of networks scale equally well because they are designed for high security.
* Fully isolated networks are easier to scale because they do not interact with external networks.
* Purpose-built networks are easier to scale due to their controlled external connections.
* Purpose-built networks are harder to scale because they need to maintain complete isolation.

Parte inferior do formulário

Question 17

Which two scenarios are suitable for a single-site network architecture? (Choose two.)

Parte superior do formulário

* Businesses with significant requirements for complex network scalability.
* Data centers that rely on a single facility for their IT infrastructure.
* Distributed networks with users located in various geographic areas.
* Large multinational corporations with multiple global offices.
* Organizations needing high redundancy and failover capabilities across different regions.
* Small to medium-sized enterprises operating from a single location.

Question 19

Which two options describe how VXLANs enhance the scalability of AI networks compared to traditional VLANs? (Choose two.)

Parte superior do formulário

* VXLANs directly increas the physical network bandwidth by aggregating multiple links.
* VXLANs extend VLANs over Layer 3 networks to enable more virtual networks and scalable network virtualization across geographically dispersed data centers.
* VXLANs enhance local network performance without impacting scalability or virtualization.
* VXLANs replace VLANs by eliminating the need for network segmentation in AI environments.
* VXLANs simplify network management by reducing the number of required physical switches in the data center.
* VXLANs support large-scale AI deployments by providing a more flexible and scalable network architecture to accommodate the high demand for cloud-based AI services.

Question 20

Which layer of a fog computing system is responsible for local data processing and is closest to the data sources?

Parte superior do formulário

* cloud layer
* core layer
* edge layer
* fog layer

Parte inferior do formulário

Question 21

What are two benefits of using EtherChannel in an AI network? (Choose two.)

Parte superior do formulário

* automatic load balancing of AI workloads
* enhanced AI processing speed
* increased bandwidth
* improved redundancy
* reduced latency
* simplified network configuration

Question 23

What is the primary benefit of fog computing in the context of distributed processing for AI?

Parte superior do formulário

* It processes data locally, which is crucial for real-time applications.
* It centralizes data processing in the cloud.
* It increases data that are sent to the cloud.
* It restricts the ability to scale resources dynamically.

Parte inferior do formulário

Question 24

How does EVPN contribute to optimizing network performance in DCI environments?

Parte superior do formulário

* BGP alone supports tenant isolation in multitenant environments without the need for EVPN.
* EVPN centralizes Layer 3 routing, eliminating the need for BGP in DCI environments.
* EVPN offers scalable Layer 2 connectivity and integrates with BGP for Layer 3 routing, supporting seamless VM migration and load balancing.
* EVPN simplifies Layer 2 VPN services over a Layer 3 backbone but does not affect DCI efficiency or flexibility.

Question 25

Which feature of Cisco Nexus 9000 series switches in a spine-leaf topology enhances scalability when additional throughput is needed?

Parte superior do formulário

* adding more leaf switches
* increasing the redundancy of existing switches
* using higher port count leaf switches
* adding more spine switches

Parte inferior do formulário

Question 26

Why is Ethernet often considered a cost-effective solution for AI workload networking compared to InfiniBand?

Parte superior do formulário

* Ethernet provides higher bandwidth than InfiniBand.
* Ethernet is more widely adopted and familiar to networking teams.
* Ethernet offers lower latency than InfiniBand.
* Ethernet is more commonly used in enterprise environments due to versatility.

Parte inferior do formulário

Question 27

What is the main role of Explicit Congestion Notification (ECN) in RoCEv2 environments?

Parte superior do formulário

* to drop packets when congestion is detected
* to pause traffic during congestion
* to signal the sender to reduce transmission rate during congestion
* to increase network speed by bypassing congested nodes

Parte inferior do formulário

Question 28

What are two potential issues that can arise from connecting AI servers to non-optimized networks? (Choose two.)

Parte superior do formulário

* insufficient network bandwidth leading to data bottlenecks
* improved GPU utilization due to faster data processing
* increased network latency affecting data transfer speeds
* enhanced synchronization between GPUs in distributed training
* reduced power consumption due to lower processing demands

Parte inferior do formulário

Question 29

When considering the use of Ethernet and InfiniBand for AI workloads, which three statements are accurate? (Choose three.)

Parte superior do formulário

* InfiniBand typically offers lower latency than Ethernet.
* Ethernet is more cost-effective and familiar to most networking teams.
* Ethernet provides higher bandwidth than InfiniBand.
* InfiniBand requires less specialized knowledge than Ethernet.
* Ethernet is more flexible in handling various types of network traffic.

Question 30

When expanding SECHNIK Trader's infrastructure to 10 servers, which issue is commonly associated with a non-optimized network for AI workloads?

Parte superior do formulário

* power supply issues causing server reboots
* increased server noise levels
* difficulty in managing network traffic due to lack of advanced routing features
* increased network latency affecting data transfer speeds

Parte inferior do formulário

Parte inferior do formulário

Parte inferior do formulário

Parte inferior do formulário