Cisco

Exam Questions 700-905

Cisco HyperFlex for Systems Engineers

NEW QUESTION 1
How many separate VLANs must each HyperFlex node be configured with running ESXi?

A. 1
B. 2
C. 3
D. 4

Answer: D

Explanation:

The virtual environment has the following characteristics:

- HyperFlex nodes are emulated using VMs running ESXi installations

Server Selection	Chosen Servers (Checkbox)	Server 1, Server 2, Server 3
	Management VLAN	3091
	Storage Traffic VLAN	3092
	vMotion VLAN	3093
	VM Network VLAN	3094

NEW QUESTION 2
Which three features do Managed Deployments provide? (Choose three.)

A. Great tor managing large deployments, scalability, and oversight of the UCS servers.
B. Consistent deployment by replicating working configurations from development labs to the production deployment
C. High availability of the management system and connectivity when using 2 Cisco Fabric Interconnects
D. Individual configuration of each redundant fabric or global configuration.
E. Increased operating overhead, raising Operating Expenses (OpEx)
F. Decentralized yet complex management of an entire UCS domain.

Answer: ACD

Explanation:

Managed deployments provide these features:

- Centralized and simplified profile-based management of the entire Cisco UCS domain.
- Individual configuration of each redundant fabric or global configuration.
- High availability of the management system and connectivity when using two Cisco Fabric Interconnects.
- Great for managing large deployments, scalability, and oversight of the Cisco UCS servers.
- Reduced operating overhead, lowering operating expenses (OpEx).

In the context of Cisco HyperFlex, the centralized management platform for the entire cluster allows the HyperFlex installation to configure the servers automatically. The installation is therefore much simpler than if you had to configure the BIOS, disk drives, networking, and other hardware related features yourself.

NEW QUESTION 3
When building a HyperFlex cluster which two recommendations should be followed? (Choose two.)

A. Use HX 220s for compute nodes and HX 240s for converged nodes
B. Use B-Series servers to improve converged node scale.
C. Use the same CPU model but memory configuration can be different.
D. Use the same server configuration for the cluster.
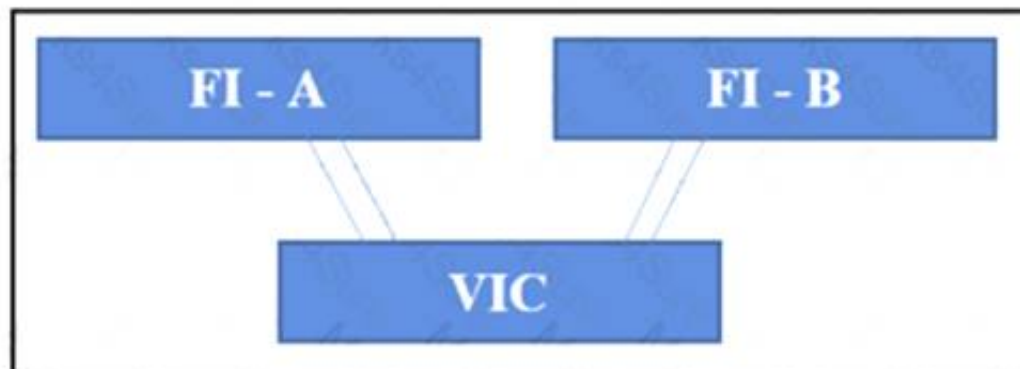E. Use the same server model for the cluster.

Answer: DE

NEW QUESTION 4
Which two components are automatically configured from the information provided to the HyperFlex installer? (Choose two)

A. the network
B. operating system deployment preparation
C. controller VM configuration
D. application dependencies
E. server firmware policy

Answer: AC

NEW QUESTION 5
Refer to the exhibit.

Which VIC model supports two wire connectivity to each Fabric Interconnect?

A. VIC 1227
B. VIC 1557
C. VIC 1387
D. VIC 1457

Answer: C

Explanation:

Wiring Cisco HyperFlex Servers to Fabric Interconnects

You connect the Cisco HyperFlex servers to the Fabric Interconnects in the similarly as you wire other rack-mount servers.

Connect each HyperFlex server using unified wire to both Fabric Interconnects.

- HX UCS M5 as of HXDP v3.5.1 supports mLOM-based VIC1387 and VIC1457.

  - VIC1457 is supported only for ESXi-based deployments as of HXDP v3.5.1.
  - VIC1457 supports two wire connectivity to each Fabric Interconnect. VIC1387 is single wire to each Fabric Interconnect.

- It is not supported that you use Fabric Extender (FEX) between server and Fabric Interconnects.
- When connecting VIC to Fabric Interconnects, make sure port numbers match.

  - For example, a given server's VIC to port 1/3 on both Fabric Interconnects.
  - If ports do not match, installation will fail.

FI A: UCS6332

FI B: UCS6332

HX220c with VIC1387

NEW QUESTION 6
Which three features for NVMe transfer protocol are valid? (Choose three.)

A. Uses PCIe interface
B. Streamlined commands for fewer CPU instructions
C. More and deeper queues
D. Requires 10 controller
E. Increases memory speed for more IOPs
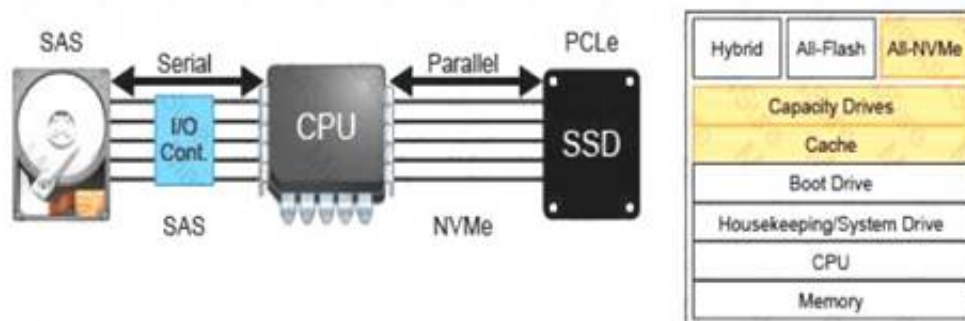F. Improves SAS and SATA speed

Answer: ABC

Explanation:

Transfer Protocol: NVMe

Earlier technologies (such as SAS and SATA) that were architected for hard disk drives are unable to take the full advantage of SSDs' potential. This problem warranted the need for a new architecture: Non-Volatile Memory Express (NVMe).

NVMe is a transfer protocol with these features:

- Uses the PCIe interface.
- Does not need an I/O controller and communicates directly with the CPU.
- Uses many more and deeper queues for command submission than SAS/SATA.
- Streamlines the command set to generate fewer CPU instructions.
- In HyperFlex:

    – NVMe (regular or Optane) disks can be used for cache in All-Flash version.
    – Regular NVMe is capacity and Optane is cache in All-NVMe version.

NEW QUESTION 7
Which two steps should be performed before installing HyperFlex? (Choose two.)

A. Determine and download recommended hypervisor
B. Determine and download recommended VCenter required
C. Download service profile templates
D. Determine and download recommended UCS firmware required.
E. Determine and download virtual machine OS' required.

Answer: AD

NEW QUESTION 8
The process of optimizing information is tightly tied to the writing process as it is performed inline as the writing process is being performed The process of data optimization is performed with which two processes? (Choose two)
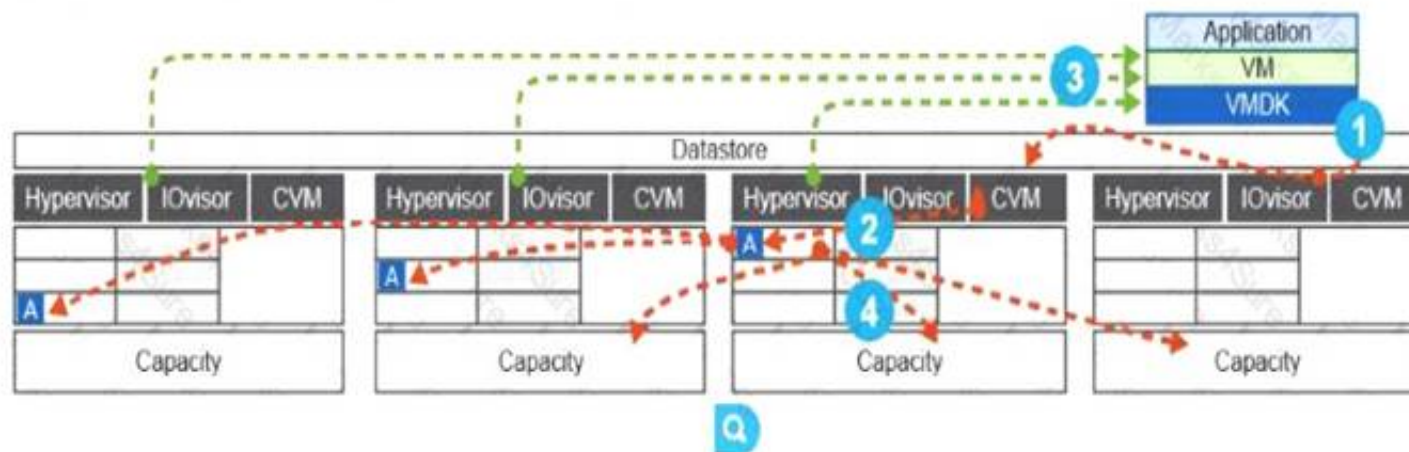
A. The primary CVM compresses the data, writes it to its cache drive and mirrors it
B. ACK is sent to the CVM that the write is about to be initiated
C. On write, the local IOVisor sends the write to the primary CVM for that block
D. On read/Writ
E. the distributed VAAI sends the write to the primary CVM for that block
F. The secondary CVM compresses the data, reads it from its cache drive and mirrors it

Answer: AC

Explanation:

Data Optimization Process and Actual Data Savings

The process of optimizing information is tightly tied to the writing process, as it is performed inline as the writing process is being performed. The system is designed so that the deduplication and compression are done only once by the primary CVM. The IOVisor determines which CVM is primary when the initiated write is intercepted, before it is forwarded to the chosen CVM.

The process of data optimization is performed in this sequence:

1. On write, the local IOVisor sends the write to the primary CVM for that block.
2. The primary CVM compresses the data, writes it to its cache drive and mirrors it.
3. ACK is sent to the virtual machine that the write has been successfully performed.
4. Once the write log is full, a destage is initiated, where the primary CVM performs a best effort deduplication and writes the information across nodes.

NEW QUESTION 9
Which three advantages of using the M5 generation of HyperFlex servers over the M4 generation are valid? (Choose three)

A. Support for Cisco VICs
B. Multiple GPUs
C. M.2 SATA drive support for faster disk I/O
D. DDR3 memory
E. Microsoft Hyper-V support
F. NVMe support

Answer: CEF

Explanation:

HyperFlex M5 generation servers are configured with these important features:

- HDD or SSD drives for capacity storage.

  - Self-encrypting drive options are available.

- SSD cache drive (SAS, NVMe, or NVMe Optane).

- M.2 SATA drives as boot drives for the hypervisor (ESXi or Hyper-V).

- All nodes use Intel Xeon Scalable CPUs and DDR4 memory.

M5 servers supersede the M4 generation of Cisco UCS servers that was the first to support Cisco HyperFlex. M4 nodes used Intel Xeon processor E5-2600 v4 family CPU. M4 servers did not contain M.2 drives for the hypervisor boot and did not support Microsoft Hyper-V.

NEW QUESTION 10
How many DIMMs are supported per memory channel in the Cisco UCS M5 server?

A. 2
B. 1
C. 8
D. 4

Answer: A

Explanation:

Memory

OS memory is used by the Cisco HyperFlex servers not only to serve the internal hypervisor processes but also to expedite VM-related functions. Its performance has a significant impact on overall system operation.

Memory in HyperFlex M5 nodes provides these benefits:

- Allows up to two DIMMs per memory channel.
- Is organized with six memory channels per CPU.
- Comes in 128-, 64-, 32- and 16-GB DIMMs.
- Permits 3-TB (3072-GB) maximum memory.

  - 2 x 128 GB x 6 channels x 2 CPU = 3072 GB.

NEW QUESTION 10
Which statement about Standalone Cisco UCS Server Deployments is valid?

A. They require Cisco Fabric Interconnects to operate, which reduces the Operating Expenses (OpEx) associated with the deployment
B. They do not require Cisco Fabric Interconnects to operate, which reduces the Operating Expenses (OpEx) associated with the deployment
C. They do not require Cisco Fabric Interconnects to operate, which reduces the Capital Expenses (CapEx) associated with the deployment
D. They require Cisco Fabric Interconnects to operate, which reduces the Capital Expenses (CapEx) associated with the deployment

Answer: C

Explanation:

Standalone deployments have these features:

- Reduced upfront cost, but increased management overhead.
- Good for single deployments or small environments, but do not scale well.
- You are always able to integrate a single deployment into a centrally managed infrastructure.

Standalone deployments of servers do not require Cisco Fabric Interconnects to operate, which reduces the Capital Expenses (CapEx) associated with the deployment. It does not mean that the long-term total cost of ownership (TCO) is better in standalone deployment scenarios, because management overhead is much greater than in a managed deployment scenario, especially in larger deployments.

NEW QUESTION 12
Which version of HXDP was the first to support multiple VICs on a single server?

A. HXDP 3.5.1
B. HXDP 3.0
C. HXDP 4.0
D. HXDP 3.5

Answer: A

Explanation:

Network Adapters: Multi-NIC Support

Starting with HXDP v3.5.1, multiple NICs are supported per server:

- Increases resiliency and enables use cases such as offline streaming and backup.
- Primary, mLOM-placed NIC is still mandatory, other NICs fit into PCIe slots.
- Only supported on fresh installations; no upgrade of existing cluster with additional cards.

NEW QUESTION 17

Which three additional management tools are included in HXDP to configure HyperFlex clusters? (Choose three.)

A. UCS Manager
B. Storage CLI
C. Data Center Network Manager
D. Cisco IMC 13
E. REST API
F. HyperFlex Connect

Answer: BEF

Explanation:

Three management tools cover a similar configuration scope related to native HyperFlex features: HyperFlex Connect, Storage CLI, and REST API. HX Connect is an HTML5-based web interface; stcli is CLI-based and lends itself very well to troubleshooting. REST API offers the optimal solution when you integrate the HyperFlex system with RESTful orchestration tools.

NEW QUESTION 18
How can the maximum 10 performance be achieved?

A. Use the HX 220 with all flash drives
B. Use the HX 240 with all flash drives
C. Use the HX 220 with all SAS drives
D. Use the HX 240 with all SAS drives

Answer: B

NEW QUESTION 19
A Controller Virtual Machine (CVM) is an Ubuntu Linux VM that lives outside the converged data platform on the housekeeping drive since it is involved in creating the convergence data platform Which two features tor CVMs are valid? (Choose two.)

A. creates hooks tor services related to third-party abstraction applications
B. does not perform caching, deduplication: and compression of data
C. an Ubuntu based VM running in the control space of each individual server, having linear access to the server's VMs and networking controls
D. needs network access to ESX
E. other CVMs, and management network
F. is installed automatically by the HyperFlex installer, configured through the installer

Answer: DE

Explanation:

A CVM is an Ubuntu Linux VM that lives outside the converged data platform on the housekeeping drive, since it is involved in creating the converged data platform.

The CVMs have these features:

- An Ubuntu based VM running in the hypervisor of each individual server, having direct access to the server's storage.
- Is installed automatically by the HyperFlex installer, configured through the installer.
- Needs network access to ESXi, other CVMs, and management network.
- Performs caching, deduplication, and compression of data.
- Utilizes IOVisor to distribute data across the HyperFlex cluster.
- Provides HX Connect, HyperFlex CLI, and REST API for management.
- CVMs are responsible for logging.

NEW QUESTION 23
Drag the server type from the left onto the maximum number of capacity drives on the right.

Drag the server type from the left onto the maximum number of capacity drives on the right.

HX220c-M5SX	_____	6-12
HX240c-M5SX	_____	6-8
HX240c-M5L	_____	6-23

A. Mastered
B. Not Mastered

Answer: A

Explanation:
HX220c-M5SX_6-8 HX240c-M5SX_6-23 HX240c-M5L_6-12

Capacity Drive options

Server	Drives	Capacity Drive Type
HX220c-M5SX Hybrid		1.8-TB or 1.2-TB SFF HDDs
HX220c-M5SX Hybrid with SED		1.2-TB SED SFF HDDs
HX220c-M5SX All-Flash	6–8	3.8-TB or 960-GB SSDs
HX220c-M5SX All-Flash with SED		3.8-TB, 960-GB, or 800-GB SED SFF SSDs
HX220c-M5SX All-NVMe		4-TB or 1-TB NVMe SSD
HX240c-M5SX Hybrid		1.8-TB or 1.2-TB SFF HDDs
HX240c-M5SX Hybrid with SED		1.2-TB SED SFF HDDs
HX240c-M5SX All-Flash	6–23	3.8-TB or 960-GB SSDs
HX240c-M5SX All-Flash with SED		3.8-TB, 960-GB, or 800-GB SED SFF SSDs
HX240c-M5L Hybrid	6–12	8-TB or 6-TB LFF HDDs

NEW QUESTION 27
Which three configurations for read caching in Cisco HyperFlex are valid? (Choose three.)

A. Battery-Initiated Read-back (default): Only read data and most commonly used data are deposited in the Level 4 read-back cache
B. Write-back (default): Only write information and most commonly used information are deposited in the cache
C. Write-through (install option for VDI): Only most commonly used data is cached: optimizing VDI performance
D. No caching (SSD): With all-flash nodes; because there is little difference in read speeds between SSDs
E. Level 4 cached (SSD): With semi-flash nodes; there is a large difference in read speeds between SSDs
F. Write-first (default for VDI): Infrequently used data is cached: freeing system resources for VDI performance

Answer: BCD

Explanation:

There are three options for read caching in Cisco HyperFlex:

- **Write-back (default):** Only write information and most commonly used information are deposited in the cache
- **Write-through (install option for VDI):** Only most commonly used data is cached, optimizing VDI performance.
- **No caching (SSD):** With all-flash nodes, because there is little difference in read speeds between SSDs.

Regular Hybrid	VDI Hybrid	All-Flash
(Write-Through)	(Write-Back)	(No Read Cache)

NEW QUESTION 29
How many vCPUs does the HXDP controller VM require?

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

Answer: A

Explanation:

CPU and Memory Guidelines

When selecting the most appropriate CPU for your cluster, you should consider the overhead consumed by 1 Controller VM and RAM support limits.

Consider these facts when choosing hardware:

- These resources are reserved for the Controller VM:

    - 8 vCPUs, shared.
    - 10,8-GHz of CPU power.
    - 48-GB memory on each HX220c, reserved.
    - 72-GB memory on each HX240c, reserved.
    - 78-GB memory on each HX240c LFF, reserved.

NEW QUESTION 32
Which two processes does failure on a node initiate? (Choose two.)

A. Distributed pooled data is migrated off nodes to master data store.
B. Affected node is marked as unhealthy and placed into standby mode
C. A call-home process is initiated and the failure is reported to TAC
D. The VMs on the failed node are moved to another node by vSphere high availability
E. The system is marked unhealthy but remains operational.

Answer: DE

Explanation:

Node Failure

Failure on a node initiates the following process:

1. The system is marked unhealthy but remains operational.
2. The VMs on the failed node are moved to another node by vSphere high availability.
3. VMs keep reading from the remaining copies with minimal impact to performance.
4. A 2-hour countdown initiates before self-healing process.

NEW QUESTION 35
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