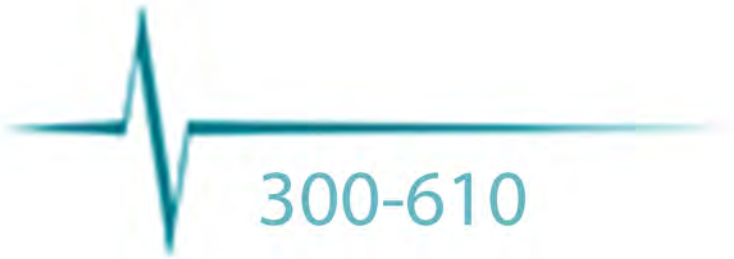
Practice Exam Questions



Designing Cisco Data Center Infrastructure (DCID)

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Cisco

Exam 300-610

Designing Cisco Data Center Infrastructure (DCID)

Version: 12.1

[Total Questions: 204]

Question No : 1

An end user is experiencing network latency when accessing a database in a disaster recovery site. The monitoring team concluded that the database was writing simultaneously to the storage arrays on the primary and disaster recovery sites.

Which design resolves this issue?

A. asynchronous replication between data centers
B. synchronous replication between data centers
C. FCoE tunnel between data center
D. FCIP tunneling between data center

Answer: A

Question No : 2

An engineer must use OTV for layer 2 connectivity between data centers to support virtual machine between the customer sites. To support this requirement, the engineer must ensure the existence of the same default gateway on both sites. Additionally, the operations team report high bandwidth utilization on site A and wants to optimize the outbound traffic flows to use a DC exit point. Which feature must be used to meet these requirement?

A. FHRP filter
B. Control group
C. Data group
D. ARP filter

Answer: A

Explanation:

https://www.cisco.com/c/dam/en/us/products/collateral/switches/nexus-7000-series-switches/guide_c07-728315.pdf

It is critical that you enable the filtering of FHRP messages across the overlay because it allows the use of the same FHRP configuration in different sites. The end result is that the same default gateway is available, and it is characterized by the same virtual IP and virtual MAC addresses in each data center. Thus the outbound traffic will be able to follow the optimal and shortest path, always using the local default gateway.

The appendix has a sample configuration that can be copied into your Nexus 7000 Series in order to utilize this feature.

Question No : 3

A Cisco UCS chassis with several blade servers, a pair of IOMs, and a pair of Cisco UCS Fabric Interconnects are installed in a data center.

Which two high-availability architectures are recommended between the IOMs and fabric interconnects? (Choose two.)

A. One, two, four and eight links are supported to be used between each IOM and fabric interconnect.
B. IOM is connected to the fabric interconnect that is acting as fabric A. and IOM B is connected to the fabric interconnect that is acting as fabric B.
C. Any combination of one to eight links are supported to be used between each IOM and fabric interconnect.
D. The lOMs are connected with multiple straight and cross-connect links toward a pair of nonclustered fabric interconnects.
E. Straight and cross-connect links should be used between the lOMs and fabric interconnects to offer higher availability.

Answer: C,D

Question No : 4

An engineer seeks a solution to retrieve routing information from Cisco Nexus switches. The data must be exported to a web application in a JSON or XML data format for monitoring and must be encrypted during transmission. The solution must not require extensive knowledge to support and should be simple to implement.

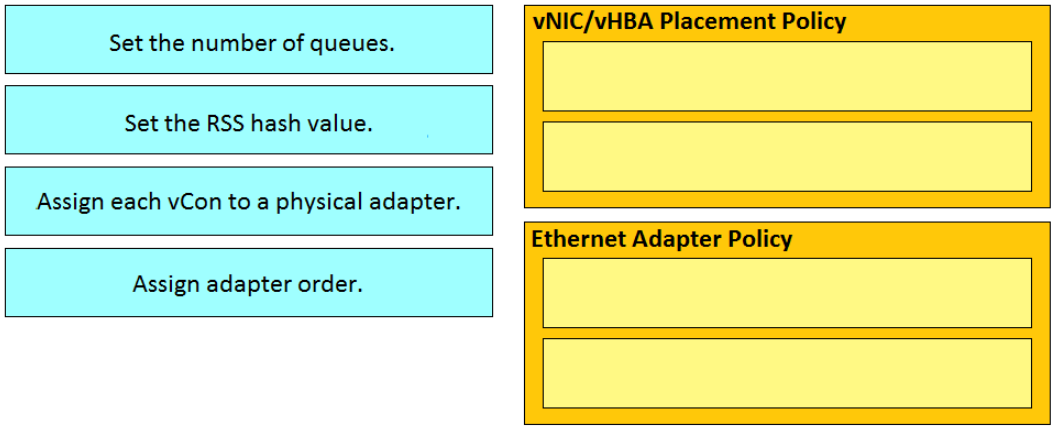
Which technology accomplishes these goals?

A. streaming telemetry
B. Cisco Tetration
C. NX-API
D. Python scripts

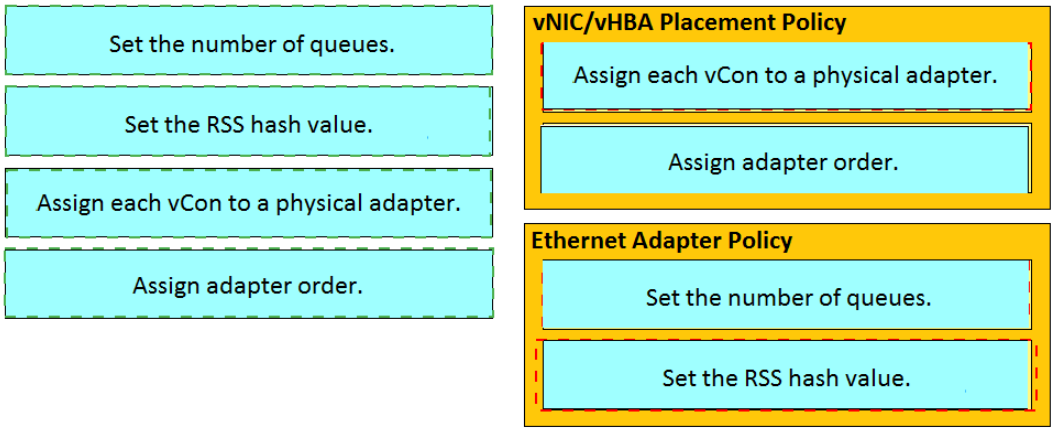
Answer: C

Question No : 5 DRAG DROP

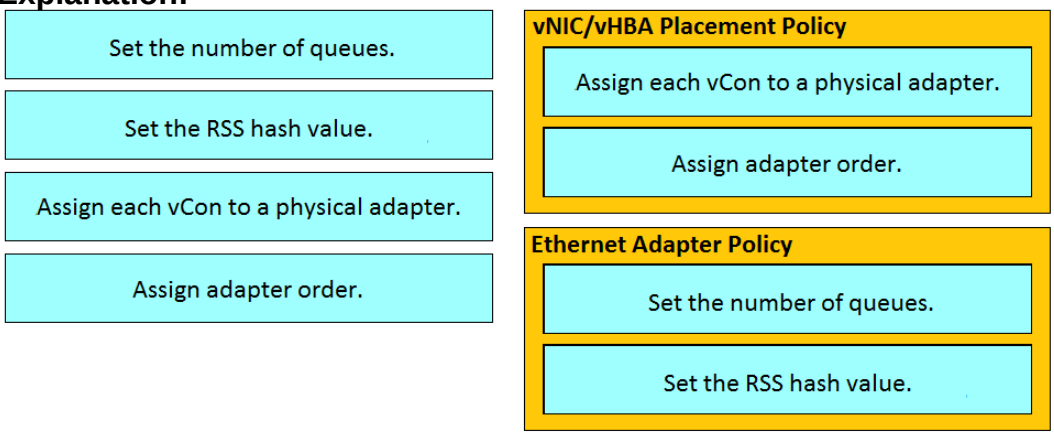
Drag and drop the configurations from the left onto the correct policies on the right.



Answer:



Explanation:



Question No : 6

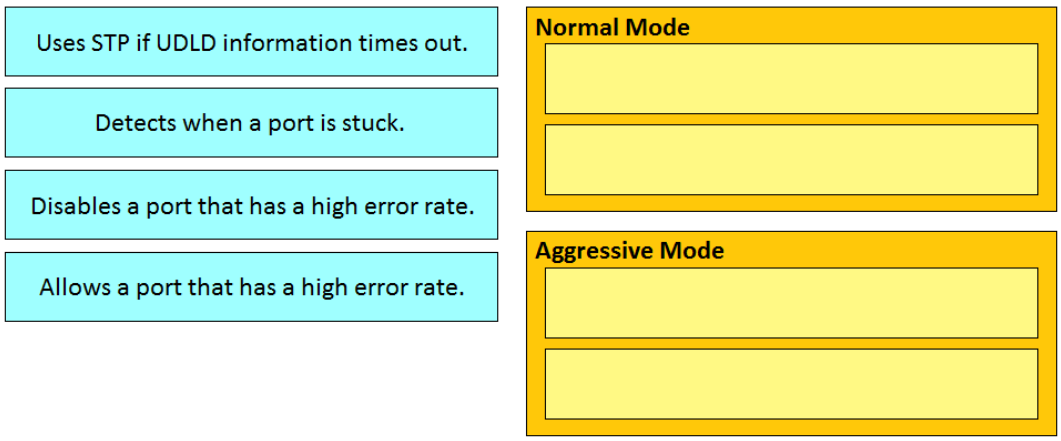
The end users report issues with datastore reachability between the newly installed virtual machines (VMs) and the storage array. The VMs are deployed on a Cisco C-Series server, directly connected with Cisco Nexus 5672UP switches over FCoE VLAN. The data traffic on VLAN 99, which is designated as a native VLAN, reaches its default gateway, but FCoE VLAN 99 fails to access the datastore. Which action resolves the problem?

A. Implement FCoE traffic on VLAN 10 and data traffic on VLAN 99.
B. Implement host-facing FCoE ports as spanning-tree port type edge.
C. Configure the FCoE VLAN in the VSAN database before including it in the trunk port.
D. Configure the FCoE VLAN traffic on a separate interface from any other VLANs that traverse the network.

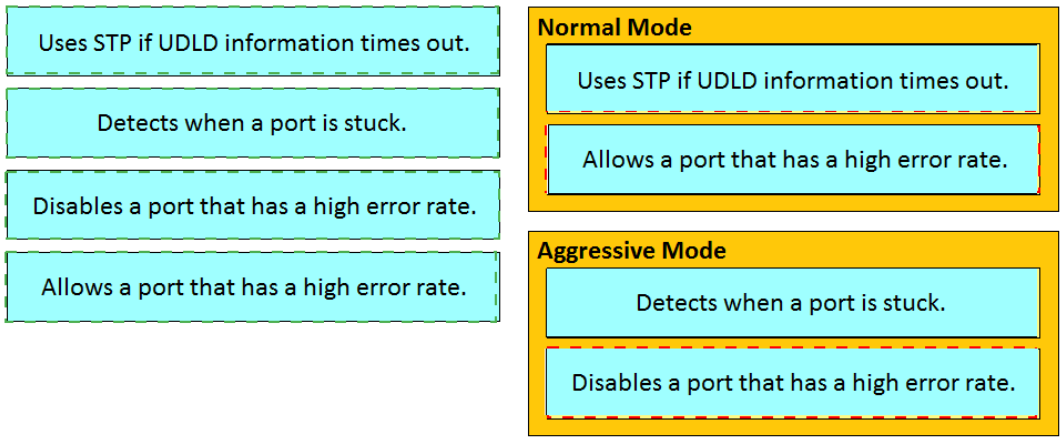
Answer: C

Question No : 7 DRAG DROP

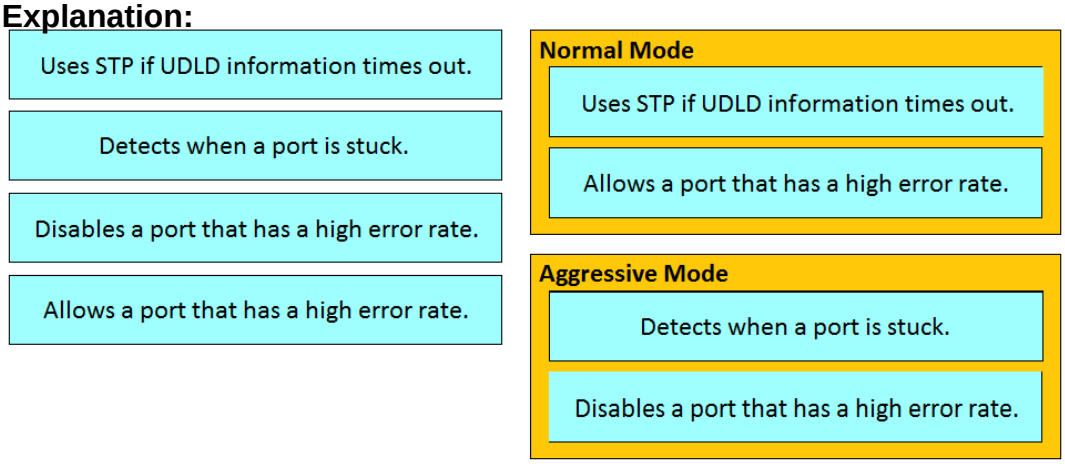
Drag the appropriate from the left onto the current UDLD modes of operation on the right.



Answer:

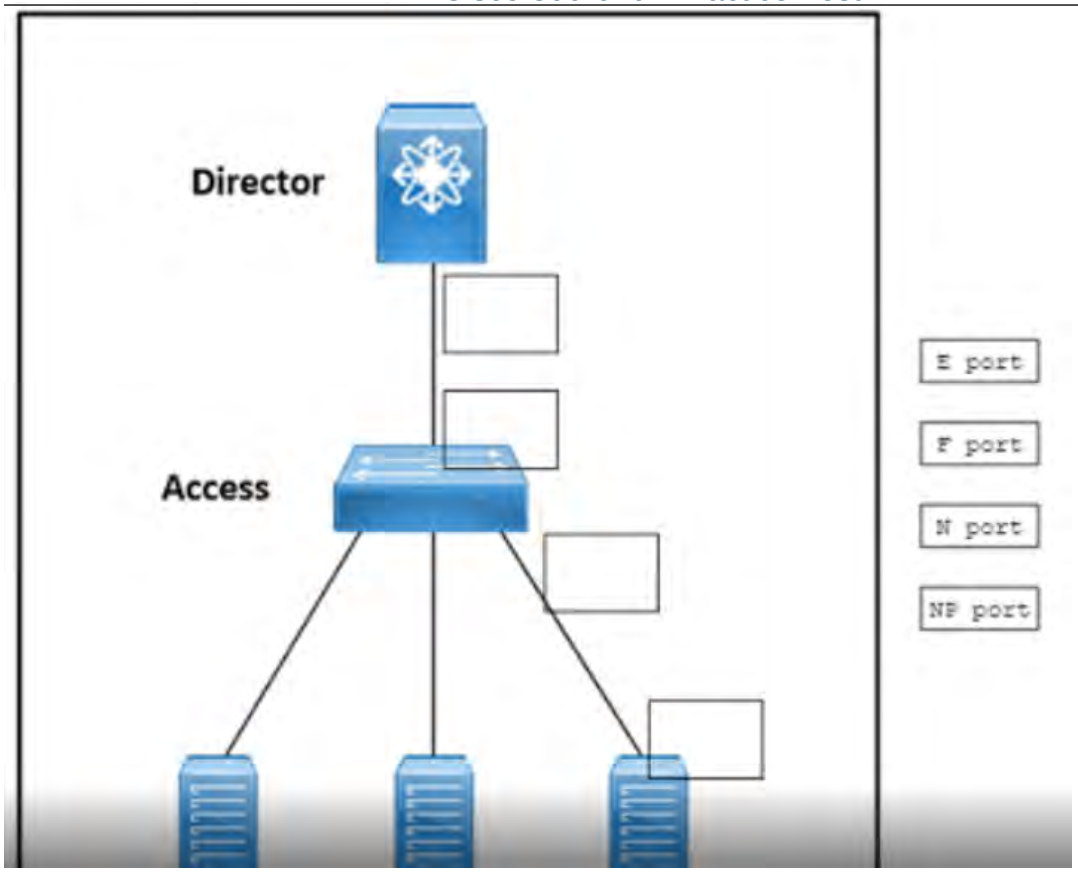


Explanation:



Question No : 8 DRAG DROP

Refer to the exhibit.



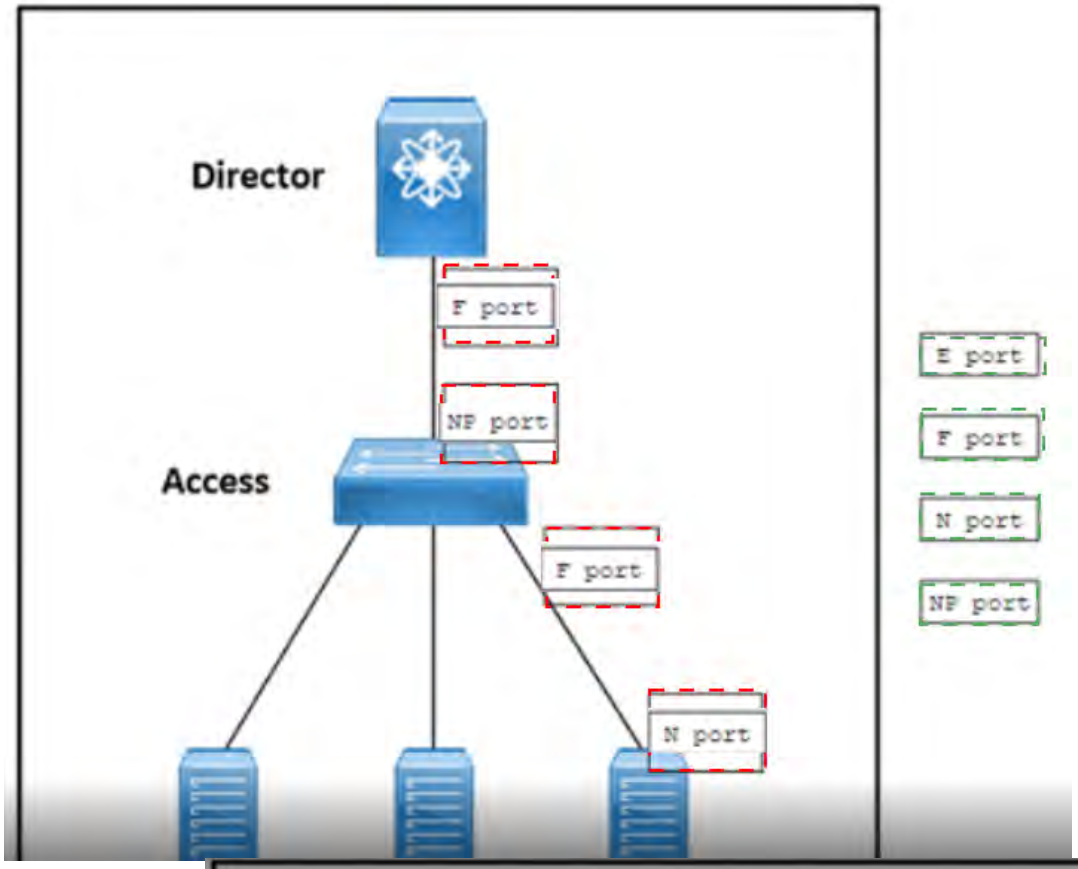
An engineer must deploy a SAN that meets these criteria:

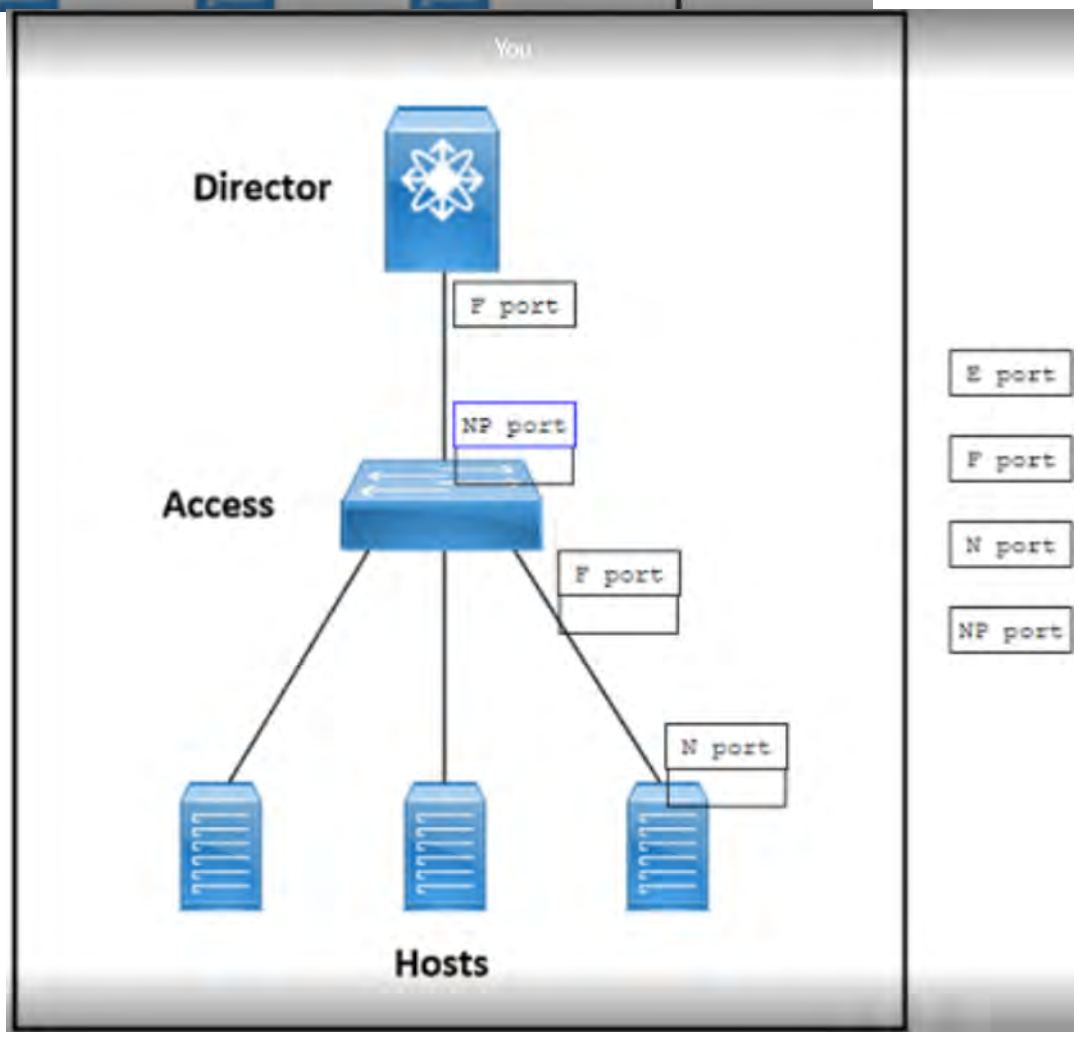
•The upstream director switch must be configured to minimize the number of issued domain IDs

•The access switch must aggregate multiple locally connected ports not a single uplink that shares the same domain ID as the upstream switch.

Drag and drop the port types from the right onto the boxes on the left to create a SAN topology that meets these requirements Not all port types are used Port types are used more than once

Answer:





Explanation:

Question No : 9

Which pools are used when a vNIC template is created in Cisco UCS Manager?

A. WWPN
B. UUID
C. MAC
D. IP

Answer: C
Reference: https://www.cisco.com/c/en/us/td/docs/unified_computing/ucs/ucs-manager/GUI-User-Guides/ Network-Mgmt/3-1/b_UCSM_Network_Mgmt_Guide_3_1/ b_UCSM_Network_Mgmt_Guide_3_1_chapter_0111.html

Question No : 10

A network engineer must perform a VMM integration for the VMWare vCenter platform with the Cisco ACI Fabric. The vCenter is already installed in one of the rack servers connected to ACI leaf switches in a vPC mode. Which type of management network must be used to integrate vCenter with ACI?

A. ARC infra
B. VLAN infra
C. out-of-band management
D. In-band management

Answer: C

Question No : 11

An engineer needs an orchestration and monitoring tool that should be used for managing the storage networks and VXLAN fabrics. The tool should also allow support built-in dashboard and real-time health summary for managed devices. Which tool meets these requirements?

A. Cisco Intersight
B. Ansible
C. Puppet
D. Cisco DCNM

Answer: D

Question No : 12

Refer to the exhibit A Cisco engineer is configuring a next-generation Cisco HyperFlex HX data platform with 2 x Cisco UCS 6248UP fabric interconnects. 8 x Cisco HX-Series HX240c-M4SX servers, plus 8 x Cisco UCS B200-M4 blade servers Cisco UCS 5108 blade chassis, and Cisco UCS 2204XP fabric extenders The solution is configured with HX Release 4 5(2a) using VMware ESXi 7 0 U2 After the engineer migrates all customer VMs to the new solution platform, the engineer decides to create HX Native snapshots for all the VMs The engineer performs the operation and notices that some of the VMs are not creating snapshots. What is the most probable reason that the HX Native snapshots are not created?

A. Virtual machines are in suspended state
B. The servers have duplicate names
C. The source disk is thick provisioned
D. The node has insufficient datastore space

Answer: C

Question No : 13

An engineer must secure the payload traversing across the DCI. The solution must support confidentially and integrity and it must be open standard. The solution must encrypt Ethernet frames regardless of the upper layer protocol used. Which technology must be used to support these requirements?

A. GRE
B. MACsec
C. IPsec
D. OTV

Answer: B

Explanation:

The key to solution is “Ethernet frames”. Frames are layer 2. IPsec encrypts at layer 3.

Question No : 14

An engineer is designing a data center that uses FCIP. How is QoS configured in this environment?

A. A separate DSCP value and CoPP must be configured for all FCIP traffic and another for all of the FCIP in the data connection.
B. A separate DSCP value must be configured for all FCIP VSAN traffic.
C. A separate DSCP value and priority queuing must be configured for all FCIP traffic.
D. Two separate DSCP values must be configured, one of all of the FCIP frames in the control TCP connection and another for all of the FCIP frames in the data connection.

Answer: D
Reference:
https://www.cisco.com/c/en/us/td/docs/switches/datacenter/mds9000/sw/5_0/configuration/guides/ ipsvc/nxos/ipsvc/cfcip.html

Question No : 15

Which type of encoding is used on 8-Gbps links as compared to 10-Gbps links?

A. 8-Gbps links use 64B/66B encoding, and 10-Gbps links use 8B/10B encoding.
B. 8-Gbps links use 8B/10B encoding, and 10-Gbps links use 64B/66B encoding.
C. 8-Gbps links and 10-Gbps links use 8B/10B encoding.
D. 8-Gbps links and 10-Gbps links use 64B/66B encoding.

Answer: B
Reference:
https://www.iol.unh.edu/sites/default/files/knowledgebase/10gec/10GbE_Cl49.pdf

Question No : 16

An engineer is designing a Multichassis EtherChannel topology in which two switches must appear as a single device to a third downstream switch? Which two technologies meet this requirement? (Choose two.)

A. HSRP
B. VSS
C. vPC
D. 802.1q
E. FEX

Answer: B,C
Reference: https://www.cisco.com/c/dam/en/us/products/collateral/switches/nexus-7000-series-switches/C07- 572835-00_NX-OS_vPC_DG.pdf

Question No : 17

Which two types of service profile templates does Cisco UCS support? (Choose two.)

A. initial
B. permanent
C. updating
D. temporary
E. connected

Answer: A,C
Reference:
https://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/141/UCSM_GUI_Configuration_Guide_141_chapter28.html#concept_C9D27CE2AA1245EA976DAA79F5BC6808

Question No : 18

A customer attaches an additional storage appliance to an existing Cisco UCS domain, which contains 50 virtualization hosts that require fabric failover connectivity on fabric interconnect B. The interfaces are bound to a separate pin group to segregate traffic with a CoS value of 0 Which Cisco UCS Manager feature meets these requirements?

A. vNIC Template
B. storage policy
C. SAN connectivity policy
D. vHBA Templates

Answer: D

Question No : 19

The network infrastructure team is beginning to automate routine tasks within the Cisco ACI fabric and is searching for the appropriate solution The solution must not require any additional software installed on the Cisco APIC Networking team members lack automation experience and prefer to use a tool that does not require in-depth programming knowledge Finally configuration within the Cisco ACI fabric is rarely modified or removed Which solution must the team choose?

A. Cobra SDK
B. Ansible
C. Terraform
D. Puppet

Answer: A

Question No : 20

A company needs a solution to virtualize their legacy desktop computers. The solution must be highly resilient and able to withstand the loss of a data center site. Each compute node requires a minimum of 20 disk drives.

Which solution meets these requirements?

A. *thin client installed at each user's end station with a separate profile to retrieve sensitive data using the RDP protocol
*solution based on Cisco HX220 compute nodes
B. *data center site with a strict security policy that provides access to users using a bespoke software client
*solution based on Cisco HX240 compute nodes
C. *virtual desktop infrastructure solution installed in multiple data centers that are close to the end users
*solution based on Cisco HX240 compute nodes

D. *dedicated virtual machine per hypervisors for each user in a centralized data center *solution based on Cisco HX220 compute nodes

Answer: C

Question No : 21

Which mode must be enabled on a Cisco UCS Fabric Interconnect to connect directly to a storage array?

A. NPIV mode
B. FC end-host mode
C. NPV mode
D. FC switching mode

Answer: D
Reference: https://www.cisco.com/c/en/us/td/docs/unified_computing/ucs/ucs-manager/GUI-User-Guides/ Storage-Mgmt/3-1/b_UCSM_GUI_Storage_Management_Guide_3_1/ b_UCSM_GUI_Storage_Management_Guide_3_1_chapter_01110.html

Question No : 22

A cloud service provider provisioned four active/active data centers in various locations within the country at 50 miles between each data center. The data centers must provide redundant network infrastructure and always be available to customers.

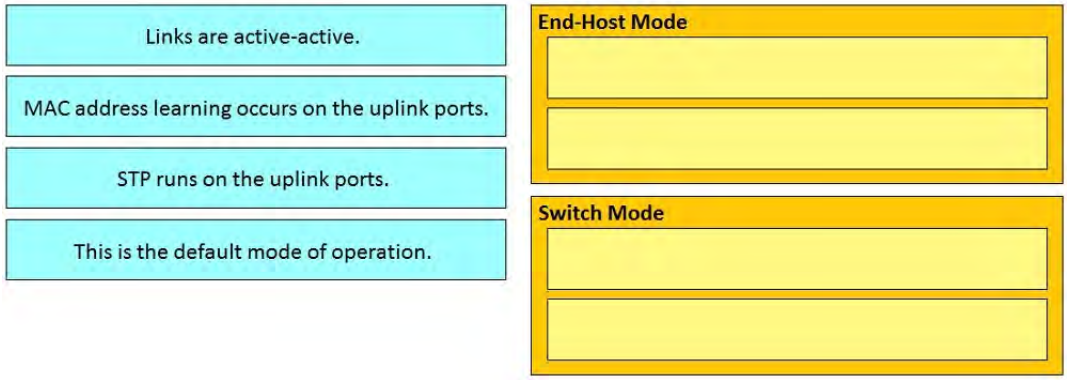
Which two data center design steps must be used to meet these requirements? (Choose two.)

A. Provide application hosting services to customers from the closest data center.
B. Implement active cluster in data centers 1 and 2 and backup in 3 and 4.
C. Use asynchronous replication between data centers 1 and 2.
D. Deploy database services in data center 1 and application layer to other data centers.
E. Configure application data replication to all backup data centers.

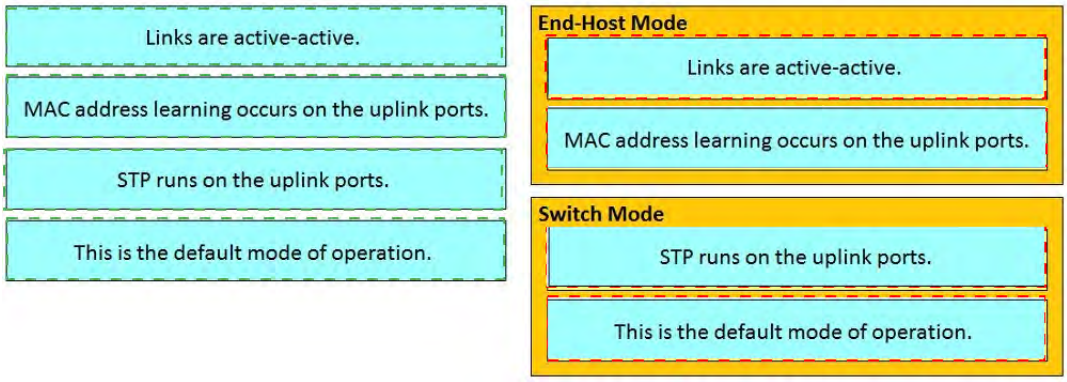
Answer: A,E

Question No : 23 DRAG DROP

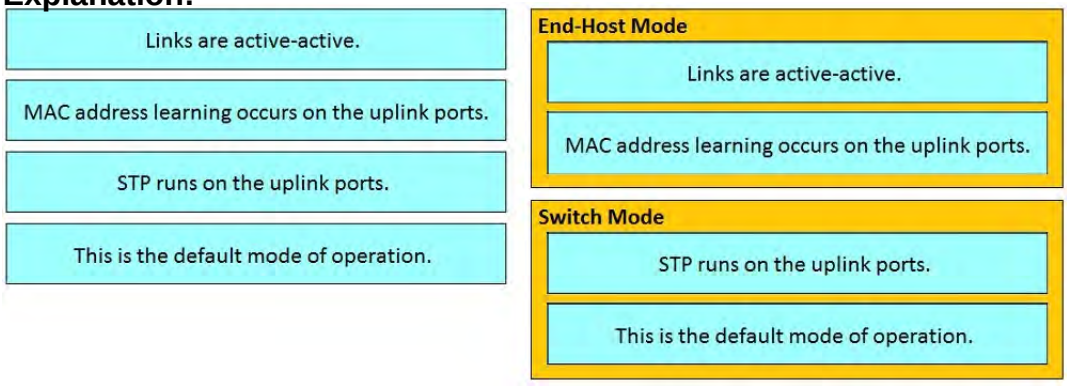
Drag and drop the feature descriptions from the left onto the correct UCS Fabric Interconnect modes on the right.



Answer:



Explanation:



Question No : 24

After experiencing traffic disruptions from the failure of a single router, a customer asks an engineer to design a solution that will prevent this from occurring in the future. While examining the customer's environment, the engineer discovers that the routers are manufactured by a variety of different vendors, and they have varying amounts of CPU and memory resources. Additionally, several of the customer's applications require the ability to fine-tune the load-balancing parameters between multiple routers. Which solution should be used to meet these requirements?

A. VRRP
B. GLBP
C. FHRP
D. HSRP

Answer: A

Explanation: Load balancing can be done by having different VRRP groups and configuring different servers with different default gateways. HSRP and GLBP are Cisco proprietary.

Question No : 25

An engineer finishes the initial set up of a VXLAN EVPN network. The engineer is asked to plan for connectivity that supports redundancy and extends multiple virtual routing and forwarding domains. The requirement is to use the same default gateway addressing across all leaf switches that belong to the VXLAN network. Which two solution must be used to meet these requirements? (Choose two)

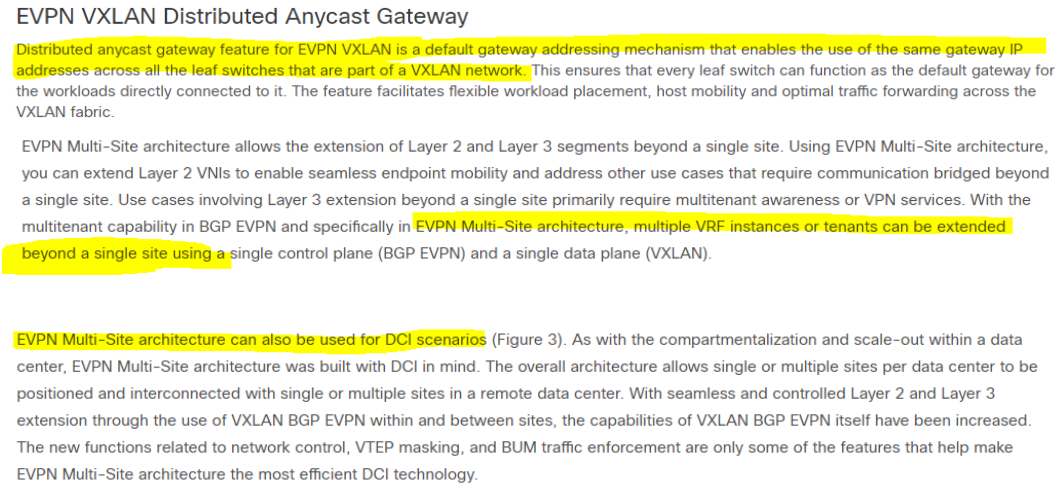
A. spanning tree protocol
B. VRF-lite
C. Distributed anycast gateway
D. DC interconnect
E. Inter-site network

Answer: C,D

Explanation:

https://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst9300/software/release/16-12/configuration_guide/vxlan/b_1612_bgp_evpn_vxlan_9300_cg/configuring_evpn_vxlan_anycast_gateway.html

https://www.cisco.com/c/en/us/products/collateral/switches/nexus-9000-series-switches/white-paper-c11-739942.html



EVPN VXLAN Distributed Anycast Gateway

Distributed anycast gateway feature for EVPN VXLAN is a default gateway addressing mechanism that enables the use of the same gateway IP addresses across all the leaf switches that are part of a VXLAN network. This ensures that every leaf switch can function as the default gateway for the workloads directly connected to it. The feature facilitates flexible workload placement, host mobility and optimal traffic forwarding across the VXLAN fabric.

EVPN Multi-Site architecture allows the extension of Layer 2 and Layer 3 segments beyond a single site. Using EVPN Multi-Site architecture, you can extend Layer 2 VNIs to enable seamless endpoint mobility and address other use cases that require communication bridged beyond a single site. Use cases involving Layer 3 extension beyond a single site primarily require multitenant awareness or VPN services. With the multitenant capability in BGP EVPN and specifically in EVPN Multi-Site architecture, multiple VRF instances or tenants can be extended beyond a single site using a single control plane (BGP EVPN) and a single data plane (VXLAN).

EVPN Multi-Site architecture can also be used for DCI scenarios (Figure 3). As with the compartmentalization and scale-out within a data center, EVPN Multi-Site architecture was built with DCI in mind. The overall architecture allows single or multiple sites per data center to be positioned and interconnected with single or multiple sites in a remote data center. With seamless and controlled Layer 2 and Layer 3 extension through the use of VXLAN BGP EVPN within and between sites, the capabilities of VXLAN BGP EVPN itself have been increased. The new functions related to network control, VTEP masking, and BUM traffic enforcement are only some of the features that help make EVPN Multi-Site architecture the most efficient DCI technology.

Question No : 26

An engineer is building a data center network with VXLAN EVPN. The requirement is to use multicast for the broadcast, unknown unicast, and multicast replication.

Which two VNI to multicast group mapping methods must be used to meet these requirements? (Choose two.)

A. many NVE to one multicast group
B. one VNI to one multicast group
C. many VNI to one multicast group
D. one NVE to many multicast groups
E. many VNI to many multicast groups

Answer: C,D

Question No : 27

An engineer is implementing a Cisco UCS environment The requirements for the solution are for the MAC addresses to be learned only on the server-facing ports. The use of the Spanning Tree Protocol must be avoided. Also, the engineer must have deterministic traffic handling from blades to uplink ports.

Which two settings must be selected to meet these requirements? (Choose two.)

A. end-host mode
B. dynamic pinning
C. NPIV mode
D. static pinning
E. switching mode

Answer: A,D

Question No : 28

What are two advantages of using Cisco vPC as compared to traditional access layer designs? (Choose two.)

A. supports Layer 3 port channels
B. disables spanning-tree
C. no spanning-tree blocked ports
D. uses all available uplink bandwidth
E. maintains single control plane

Answer: C,D

Question No : 29

Which two configuration methods can be used to deploy QoS to Cisco MDS Series switches? (Choose two.)

A. zone-based QoS
B. multiple QoS policies that match individual devices
C. VSAN-based QoS
D. FCoE VLAN-based QoS
E. multiple QoS policies that match multiple devices

Answer: A,C
Reference:
https://www.cisco.com/c/en/us/td/docs/switches/datacenter/mds9000/sw/7_3/configuration/qos/ cisco_mds9000_qos_config_guide/configuring_qos.html

Question No : 30

A network administrator must create a redundant vHBA for the mission-critical virtual machines (VMs) installed on a Cisco UCS Fabric Interconnect blade server. The VMs access multiple datastores using VSAN55 and VSAN95. The datastore on which the VMs are hosted must be accessible if any of the uplinks goes offline. Which action meets these requirements?

A. Attach VSAN55 to vHBA1 and VSAN95 to vHBA2.
B. Assign VSAN55 and VSAN95 to vHBA1 and vHBA2.
C. Enable failover for the vHBA with VSAN55 and VSAN95 enabled.
D. Configure load-balancing for vHBAs with VSAN55 and VSAN95 attached.

Answer: B

Question No : 31

An engineer must design Layer 2 connectivity for a subnet between two data centers. The engineer must ensure seamless host mobility and optimal first-hop routing. Which attribute must be synchronized across all data centers to achieve this goal?

A. NX-OS version
B. DCNM to manage both fabrics
C. multicast group
D. anycast gateway MAC

Answer: D

Question No : 32

A company data center requires a new disaster recovery solution to host critical services. The solution can sustain several hours of data loss because the services are routinely backed up to an offsite location. Also, the disaster recovery solution must provide 24-hour availability. Due to the strict policy requirements, the company wants to retain complete control of when the failover process occurs. Which solution meets these requirements?

A. active/active
B. hot standby