

Exam Questions 400-007

Cisco Certified Design Expert (CCDE v3.0) Written Exam

<https://www.2passeasy.com/dumps/400-007/>



NEW QUESTION 1

Which two characteristics apply to firewall transparent mode operations in a firewall solution design? (Choose two.)

- A. Changes in the existing IP addressing and subnets are required
- B. The firewall can participate actively on spanning tree.
- C. Multicast traffic can traverse the firewall.
- D. OSPF adjacencies can be established through the firewall
- E. The firewall acts like a router hop in the network.

Answer: CD

NEW QUESTION 2

An enterprise that runs numerous proprietary applications has major issues with its on-premises server estate hardware, to the point where business-critical functions are compromised. The enterprise accelerates plans to migrate services to the cloud. Which cloud service should be used if the enterprise wants to avoid hardware issues yet have control of its applications and operating system?

- A. SaaS
- B. PaaS
- C. IaaS
- D. hybrid cloud

Answer: C

NEW QUESTION 3

Various teams in different organizations within an enterprise are preparing low-level design documents to capture network parameters using a Waterfall project model:

- hardware sizing and power consumption
- Layer 2 and layer 3 services parameters
- configuration of all control plane protocols

Input from relevant stakeholders was captured at the start of the project, and the project scope has been defined based on the parameters above. What impact will it have on documentation and project deliverables if the stakeholders ask to have changes carried out in the network before the information has been captured?

- A. This provides more opportunity to think outside the box.
- B. Rework is expected before the delivery.
- C. Significant effort and time are required.
- D. This provides a flexible approach to incorporate changes.

Answer: B

NEW QUESTION 4

Which SDN architecture component is used by the application layer to communicate with the control plane layer to provide instructions about the resources required by applications?

- A. southbound APIs
- B. northbound APIs
- C. orchestration layer
- D. SDN controller

Answer: B

NEW QUESTION 5

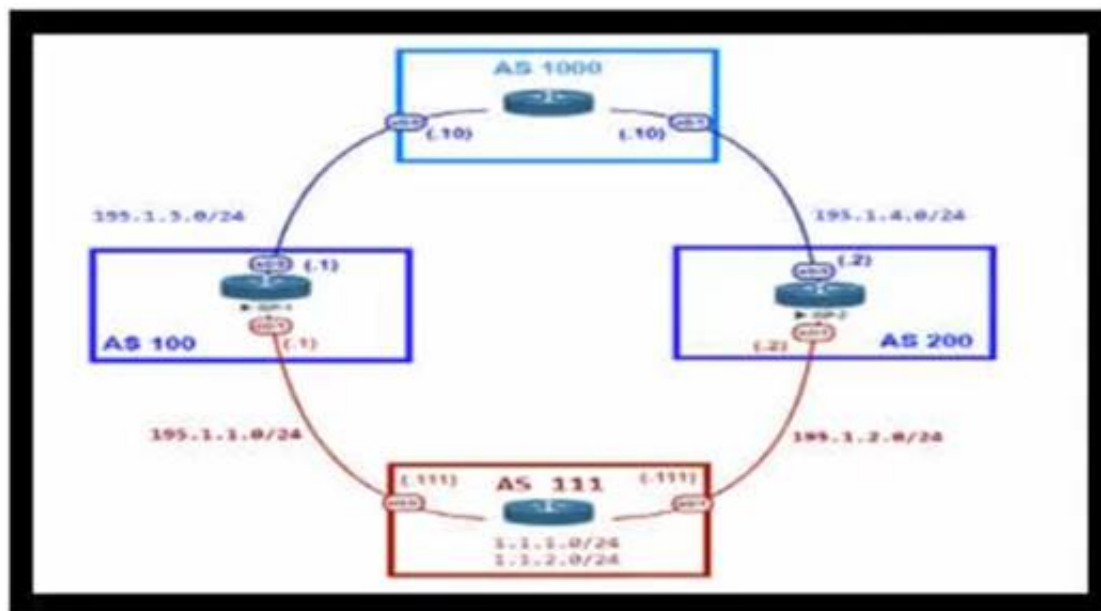
Which two features are advantages of SD-WAN compared to MPLS-based connectivity? (Choose two.)

- A. uses FEC constructs for traffic forwarding, thereby improving efficiency
- B. separates infrastructure and policy
- C. uses policy-based forwarding of real-time traffic with less complexity
- D. unifies the WAN backbone
- E. manages failures through backup links

Answer: CD

NEW QUESTION 6

Refer to the exhibit.



An engineer is designing the network for a multihomed customer running in AS 111 does not have any other ASs connected to it. Which technology is more comprehensive to use in the design to make sure that the AS is not being used as a transit AS?

- A. Configure the AS-set attribute to allow only routes from AS 111 to be propagated to the neighbor ASs.
- B. Use the local preference attribute to configure your AS as a non-transit" AS.
- C. include an AS path access list to send routes to the neighboring ASs that only have AS 111 in the AS path field.
- D. Include a prefix list to only receive routes from neighboring ASs.

Answer: C

NEW QUESTION 7

Which two characteristics are associated with 802.1s? (Choose two)

- A. 802.1s supports up to 1024 instances of 802.1
- B. 802.1 s is a Cisco enhancement to 802.1w.
- C. 802.1s provides for faster convergence over 802.1D and PVST+.
- D. CPU and memory requirements are the highest of all spanning-tree STP implementations.
- E. 802.1s maps multiple VLANs to the same spanning-tree instance

Answer: CE

NEW QUESTION 8

Company XYZ is in the process of identifying which transport mechanism(s) to use as their WAN technology. Their main two requirements are.

- a technology that could offer DPI, SLA, secure tunnels, privacy, QoS, scalability, reliability, and ease of management
- a technology that is cost-effective

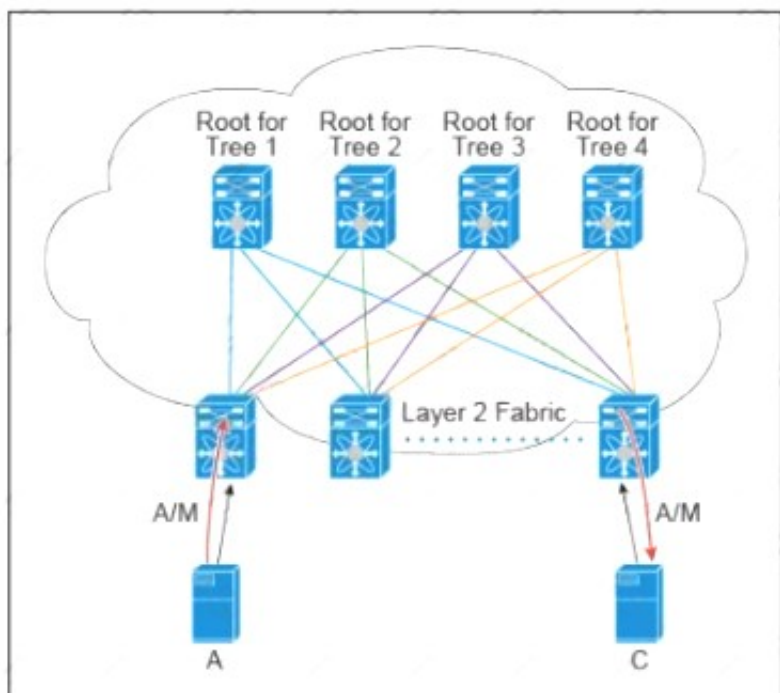
Which WAN technology(ies) should be included in the design of company XYZ?

- A. Software-defined WAN should be the preferred choice because it complements both technologies, covers all the required features, and it is the most cost-effective solution.
- B. Internet should be the preferred option because it is cost effective and supports BFD, IP SL
- C. and IPsec for secure transport over the public Internet.
- D. Both technologies should be use
- E. Each should be used to back up the other one; where the primary links are MPLS, the internet should be used as a backup link with IPsec (and vice versa).
- F. MPLS meets all these requirements and it is more reliable than using the Internet
- G. It is widely used with defined best practices and an industry standard.

Answer: A

NEW QUESTION 9

Refer to the exhibit.



There are multiple trees in the Cisco FabricPath All switches in the Layer 2 fabric share the same view of each tree. Which two concepts describe how the

multicast traffic is load-balanced across this topology? (Choose two)

- A. A specific (S,G) traffic is not load-balanced
- B. All trees are utilized at the same level of the traffic rate
- C. Every leaf node assigns the specific (S,G) to the same tree.
- D. A specific (S,G) multicast traffic is load-balanced across all trees due to better link utilization efficiency.
- E. The multicast traffic is generally load-balanced across all trees

Answer: BD

NEW QUESTION 10

A network design includes a long signaling delay in notifying the Layer 3 control plane that an interface has failed Which two of these actions would reduce that delay? (Choose two.)

- A. Increase network stability.
- B. Reduce the time for the network to reconverge.
- C. Increase the notification of interface flaps.
- D. Enable lower data link layer recovery systems to have an opportunity to restore the interface

Answer: BD

NEW QUESTION 10

You are tasked with the design of a high available network. Which two features provide fail closed environments? (Choose two.)

- A. EIGRP
- B. RPVST+
- C. MST
- D. L2MP

Answer: AB

NEW QUESTION 12

Drag and drop the FCAPS network management reference models from the left onto the correct definitions on the right.

Fault Management	ensures that network transit quality remains at acceptable levels
Configuration Management	gathers usage statistics for users and business units
Accounting Management	gathers and stores configuration code from network devices
Performance Management	recognizes, isolates, corrects, and logs events that occur in the network
Security Management	controls access to assets in the network

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Fault Management	= Recognize, isolates, corrects, and logs events that occur in the network
Configuration Management	= Gathers and stores configuration code from network devices
Performance Management	= ensures that network transit quality remains at acceptable levels
Security Management	= Controls access to assets in the network
Accounting Management	= gathers usage statistics for users and business units

NEW QUESTION 14

In an OSPF network with routers connected together with Ethernet cabling, which topology typically takes the longest to converge?

- A. partial mesh
- B. full mesh
- C. ring

- D. squared
- E. triangulated

Answer: B

NEW QUESTION 15

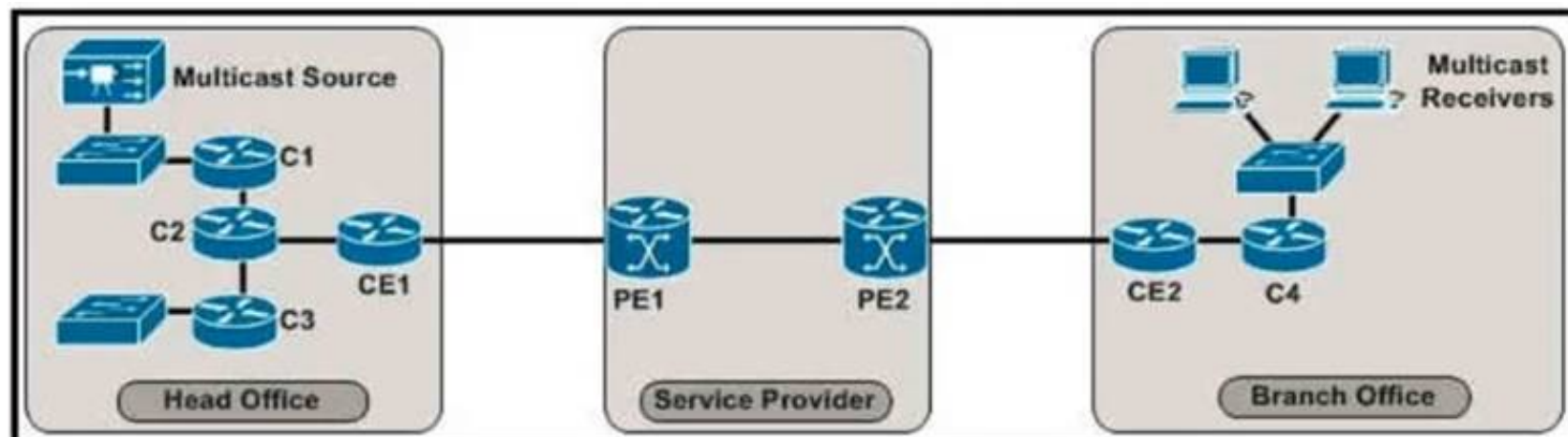
How can EIGRP topologies be designed to converge as fast as possible in the event of a point-to-point link failure?

- A. Limit the query domain by use of distribute lists.
- B. Build neighbor adjacencies in a triangulated fashion.
- C. Build neighbor adjacencies in squared fashion.
- D. Limit the query domain by use of summarization.
- E. Limit the query domain by use of default routes.

Answer: D

NEW QUESTION 17

Refer to the exhibit.



The enterprise customer wants to stream one-way video from their head office to eight branch offices using multicast. Their current service provider provides a Layer3 VPN solution and manages the CE routers, but they do not currently support multicast. Which solution quickly allows this multicast traffic to go through while allowing for future scalability?

- A. Enable a GRE tunnel between nodes CE1 and CE2
- B. Enable a GRE tunnel between nodes C2 and C4
- C. Enable a GRE tunnel between nodes C1 and C4
- D. Implement hub and spoke MPLS VPN over DMVPN (also known as 2547o DMVPN) between CE1 and CE2
- E. The service provider must provide a Draft Rosen solution to enable a GRE tunnel between nodes PE1 and PE2

Answer: B

NEW QUESTION 20

What is a disadvantage of the traditional three-tier architecture model when east west traffic between different pods must go through the distribution and core layers?

- A. low bandwidth
- B. securityC scalability
- C. high latency

Answer: A

NEW QUESTION 23

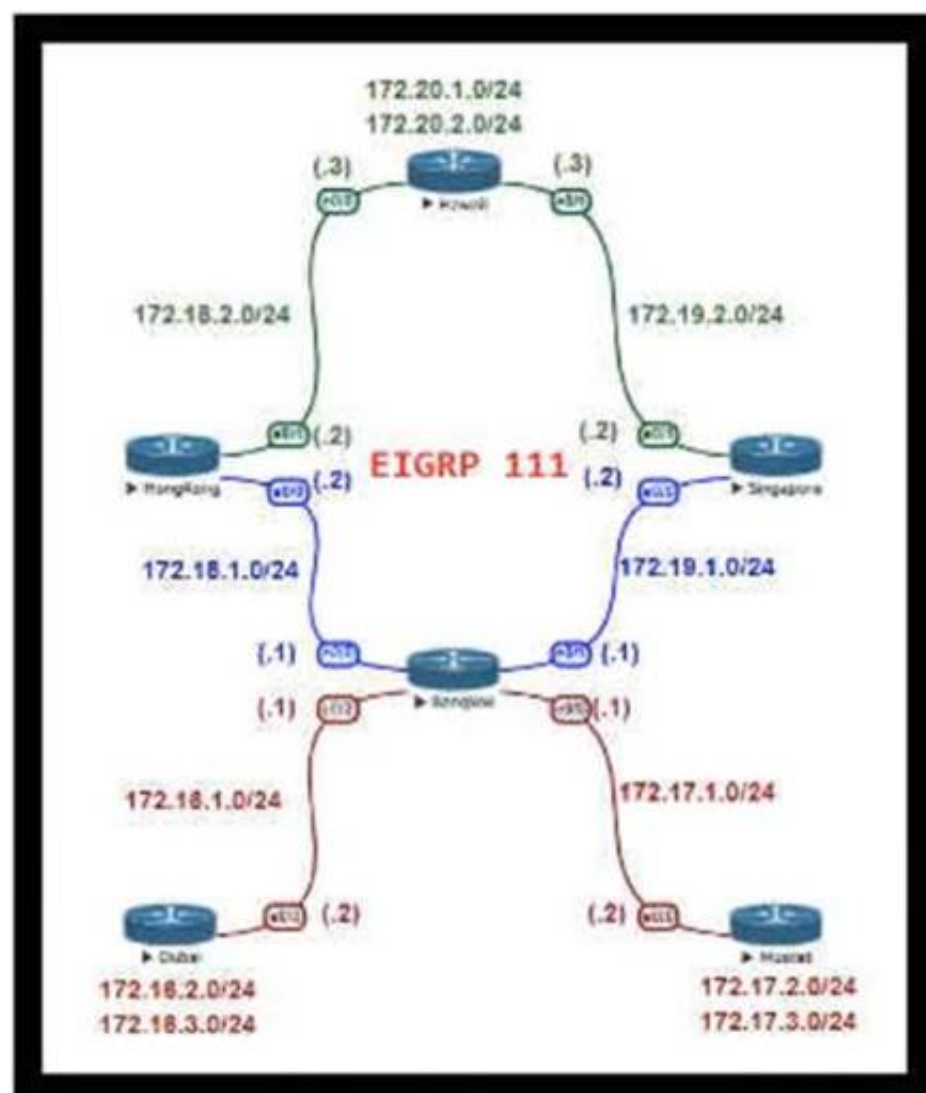
Which three components are part of the foundational information security principles of the CIA triad? (Choose three.)

- A. cryptography
- B. confidentiality
- C. authorization
- D. identification
- E. integrity
- F. availability

Answer: BEF

NEW QUESTION 27

Refer to the exhibit.



For Company XYZ Bangkok is using ECMP to reach the 172.20.2.0/24 network. The company wants a design that would allow them to forward traffic from 172.16.2.0/24 toward 172.20.2.0/24 via the Singapore router as the preferred route. The rest of the traffic should continue to use ECMP. Which technology fulfills this design requirement?

- A. policy-based routing
- B. route summarization
- C. unequal-cost load balancing using variance
- D. LFA

Answer: A

NEW QUESTION 29

An architect designs a multi-controller network architecture with these requirements:

- Achieve fast failover to control traffic when controllers fail.
- Reduce connectivity loss and enable smart recovery to improve the SDN survivability.
- Improve connectivity by adding path diversity and capacity awareness for controllers.

Which control plane component of the multi-controller must be built to meet the requirements?

- A. control node reliability
- B. controller state consistency
- C. control path reliability
- D. controller clustering

Answer: B

NEW QUESTION 34

A multicast network is using Bidirectional PIM. Which two combined actions achieve high availability so that two RPs within the same network can act in a redundant manner? (Choose two)

- A. Use two phantom RP addresses
- B. Manipulate the administrative distance of the unicast routes to the two RPs
- C. Manipulate the multicast routing table by creating static mroutes to the two RPs
- D. Advertise the two RP addresses in the routing protocol
- E. Use anycast RP based on MSDP peering between the two RPs
- F. Control routing to the two RPs through a longest match prefix

Answer: AF

Explanation:

<https://community.cisco.com/t5/networking-knowledge-base/rp-redundancy-with-pim-bidir-phantom-rp/ta-p/31>

NEW QUESTION 38

Which actions are performed at the distribution layer of the three-layer hierarchical network design model? (Choose two)

- A. Fast transport
- B. Reliability
- C. QoS classification and marking boundary

- D. Fault isolation
- E. Redundancy and load balancing

Answer: DE

NEW QUESTION 42

Which methodology is the leading lifecycle approach to network design and implementation?

- A. PPDIOO
- B. Waterfall model
- C. Spiral model
- D. V model

Answer: A

NEW QUESTION 44

Which feature must be part of the network design to wait a predetermined amount of time before notifying the routing protocol of a change in the path in the network?

- A. Transmit delay
- B. Throttle timer
- C. SPF hold time
- D. Interface dampening

Answer: B

NEW QUESTION 47

Company XYZ wants to redesign the Layer 2 part of their network and wants to use all available uplinks for increased performance. They also want to have end host reachability supporting conversational learning. However, due to design constraints, they cannot implement port-channel on the uplinks. Which other technique can be used to make sure the uplinks are in active/active state?

- A. TRILL
- B. LISP
- C. MSTP
- D. switch stack

Answer: B

NEW QUESTION 48

Company XYZ has 30 sites using MPLS L3 VPN and the company is now concerned about data integrity. The company wants to redesign the security aspect of their network based on these requirements:

- Securely transfer the corporate data over the private WAN
- Use a centralized configuration model.
- Minimize overhead on the tunneled traffic.

Which technology can be used in the new design to meet the company's requirements?

- A. S-VTI
- B. DMVPN
- C. MGRE
- D. GET VPN

Answer: D

NEW QUESTION 50

Which three elements help network designers to construct secure systems that protect information and resources (such as devices, communication, and data) from unauthorized access, modification, inspection, or destruction? (Choose three.)

- A. confidential
- B. serviceability
- C. reliability
- D. availability
- E. integrity
- F. scalability

Answer: ADE

NEW QUESTION 54

Which two impacts of adding the IP event dampening feature to a network design are true? (Choose two.)

- A. It protects against routing loops.
- B. It switches traffic immediately after a link failure.
- C. It speeds up link failure detection.
- D. It reduces the utilization of system processing resources.
- E. It improves overall network stability.

Answer: DE

NEW QUESTION 57

An architect receives a business requirement from a CTO that states the RTO and RPO for a new system should be as close as possible to zero. Which replication method and data center technology should be used?

- A. asynchronous replication over dual data centers via DWDM
- B. synchronous replication over geographically dispersed dual data centers via MPLS
- C. synchronous replication over dual data centers via Metro Ethernet
- D. asynchronous replication over geographically dispersed dual data centers via CWDM

Answer: B

Explanation:

RTO and RPO are measures of how quickly and accurately a system can be recovered after a disaster or failure. RTO refers to the amount of time it takes to restore a system to its normal operation after a failure, while RPO refers to the amount of data that can be lost as a result of a failure. In synchronous replication, data is written to both the primary and secondary systems at the same time. This ensures that the data on the secondary system is always up-to-date and ready for use in the event of a disaster or failure. Geographically dispersed dual data centers refer to two data centers that are located in different geographical locations, which can help to reduce the risk of a disaster or failure impacting both data centers at the same time.

NEW QUESTION 58

Which service abstracts away the management of the operating system, middleware, and runtime?

- A. IaaS
- B. PaaS
- C. SaaS
- D. BMaaS

Answer: B

Explanation:

IaaS, PaaS, and SaaS each offer a progressive layer of abstraction after that. IaaS abstracts away the physical compute, network, storage, and the technology needed to virtualize those resources. PaaS goes a step further and abstracts away the management of the operating system, middleware, and runtime.

<https://www.ibm.com/topics/iaas#:~:text=IaaS%20abstracts%20away%20the%20physical,system%2C%20mid>

NEW QUESTION 59

Which design principal improves network resiliency?

- A. Added load-balancing
- B. Added redundancy
- C. Added confidentiality
- D. Added reliability

Answer: B

NEW QUESTION 63

Which development model is closely associated with traditional project management?

- A. static model
- B. Agile model
- C. evolutionary delivery model
- D. lifecycle model

Answer: C

NEW QUESTION 66

Which Interconnectivity method offers the fastest convergence in the event of a unidirectional issue between three Layer 3 switches connected together with routed links in the same rack in a data center?

- A. Copper Ethernet connectivity with BFD enabled
- B. Copper Ethernet connectivity with UDLD enabled
- C. Fiber Ethernet connectivity with BFD enabled
- D. Fiber Ethernet connectivity with UDLD enabled

Answer: C

NEW QUESTION 70

You have been tasked with designing a data center interconnect to provide business continuity. You want to encrypt the traffic over the DCI using IEEE 802.1AE MACsec to prevent the deployment of any firewall or IPS. Which two interconnect technologies support MACsec? (Choose two.)

- A. EoMPLS
- B. MPLS Layer 3 VPN
- C. DMVPN
- D. GET VPN
- E. KVPLS

Answer: AE

NEW QUESTION 74

You are designing an Out of Band Cisco Network Admission Control. Layer 3 Real-IP Gateway deployment for a customer Which VLAN must be trunked back to the Clean Access Server from the access switch?

- A. authentication VLAN
- B. user VLAN
- C. untrusted VLAN
- D. management VLAN

Answer: D

NEW QUESTION 79

An international media provider is an early adopter of Docker and micro services and is using an open-source homegrown container orchestration system. A few years ago, they migrated from on-premises data centers to the cloud Now they are faced with challenges related to management of the deployed services with their current homegrown orchestration system.

Which platform is well-suited as a state-aware orchestration system?

- A. Puppet
- B. Kubernetes
- C. Ansible
- D. Terraform

Answer: B

NEW QUESTION 80

Which two data plane hardening techniques are true? (Choose two)

- A. warning banners
- B. redundant AAA servers
- C. Control Plane Policing
- D. SNMPv3
- E. infrastructure ACLs
- F. disable unused services
- G. routing protocol authentication

Answer: EF

NEW QUESTION 82

Company XYZ is planning to deploy primary and secondary (disaster recovery) data center sites. Each of these sites will have redundant SAN fabrics and data protection is expected between the data center sites. The sites are 100 miles (160 km) apart and target RPO/RTO are 3 hrs and 24 hrs, respectively. Which two considerations must Company XYZ bear in mind when deploying replication in their scenario? (Choose two.)

- A. Target RPO/RTO requirements cannot be met due to the one-way delay introduced by the distance between sites.
- B. VSANs must be routed between sites to isolate fault domains and increase overall availability.
- C. Synchronous data replication must be used to meet the business requirements
- D. Asynchronous data replication should be used in this scenario to avoid performance impact in the primary site.
- E. VSANs must be extended from the primary to the secondary site to improve performance and availability.

Answer: CD

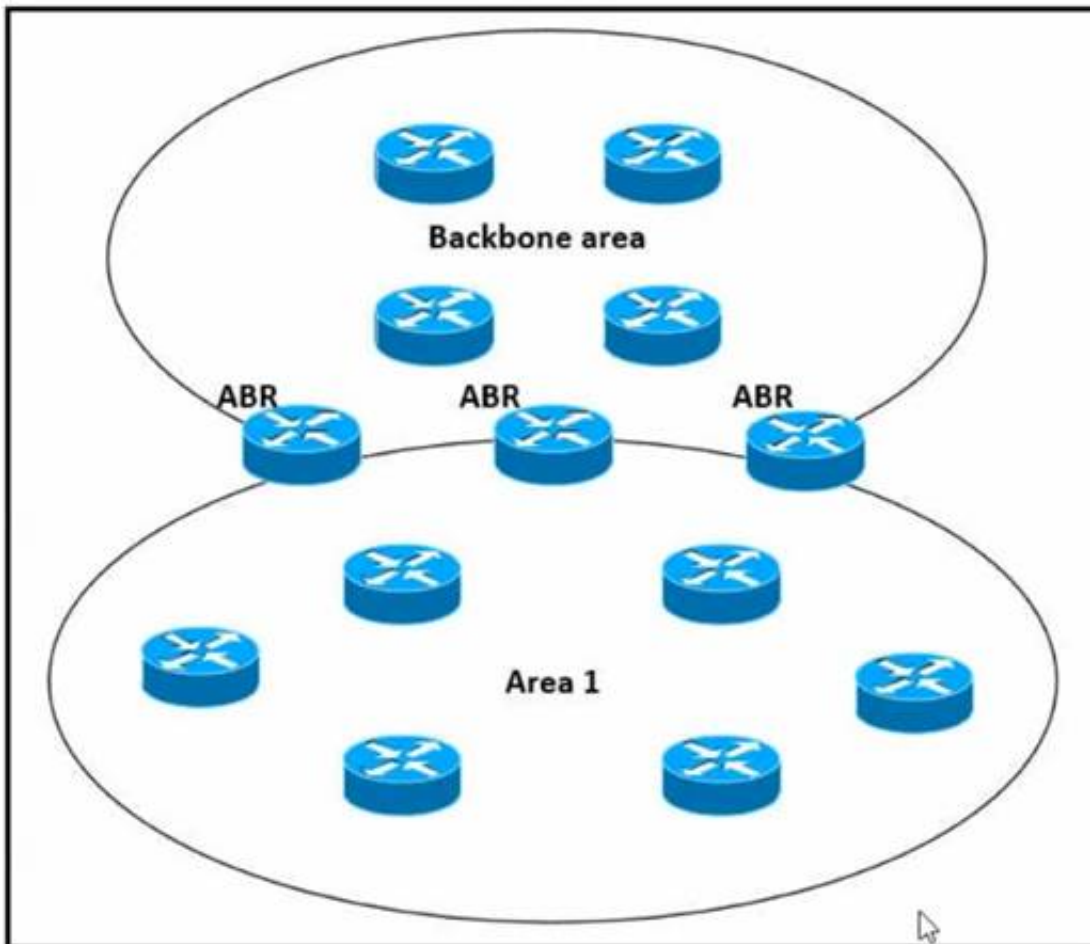
Explanation:

synchronous data replication must be used to meet the business requirements, is incorrect. As described above, asynchronous replication would be a better choice in this scenario due to the distance between the data center sites and the target RPO/RTO requirements.

asynchronous data replication should be used in this scenario to avoid performance impact in the primary site, is correct. Asynchronous replication would allow Company XYZ to meet the target RPO/RTO requirements while avoiding the performance impact of synchronous replication.

NEW QUESTION 87

Refer to the exhibit.



Which impact of using three or more ABRs between the backbone area and area 1 is true?

- A. In a large-scale network LSA replication by all ABRs can cause serious scalability issues
- B. Multiple ABRs reduce the CPU processing on each ABR due to splitting prefix advertisement
- C. In a large-scale network multiple ABRs can create microloops.
- D. Prefixes from the non-backbone area are advertised by one ABR to the backbone

Answer: A

NEW QUESTION 90

Which two possible drawbacks should you consider when introducing Network Functions Virtualization in a network design? (Choose two)

- A. Bandwidth utilization increases
- B. Traffic flows are suboptimal
- C. High-end routers are required to support NFV
- D. OpenFlow must be supported in the network
- E. An SDN orchestration layer is required to support NFV

Answer: CE

NEW QUESTION 91

Which two technologies enable multilayer segmentation? (Choose two.)

- A. policy-based routing
- B. segment routing
- C. data plane markings
- D. firewalls
- E. filter lists

Answer: AD

NEW QUESTION 95

A European government passport agency considers upgrading its IT systems to increase performance and workload flexibility in response to constantly changing requirements. The budget manager wants to reduce capital expenses and IT staff and must adopt the lowest-cost technology. Which technology choice is suitable?

- A. on premises
- B. private cloud
- C. public cloud
- D. hybrid cloud

Answer: B

NEW QUESTION 97

Company XYZ wants to use the FCAPS ISO standard for network management design. The focus of the design should be to monitor and keep track of any performance issues by continuously collecting and analyzing statistical information to monitor, correct, and optimize any reduced responsiveness across the network. Which layer accomplishes this design requirement?

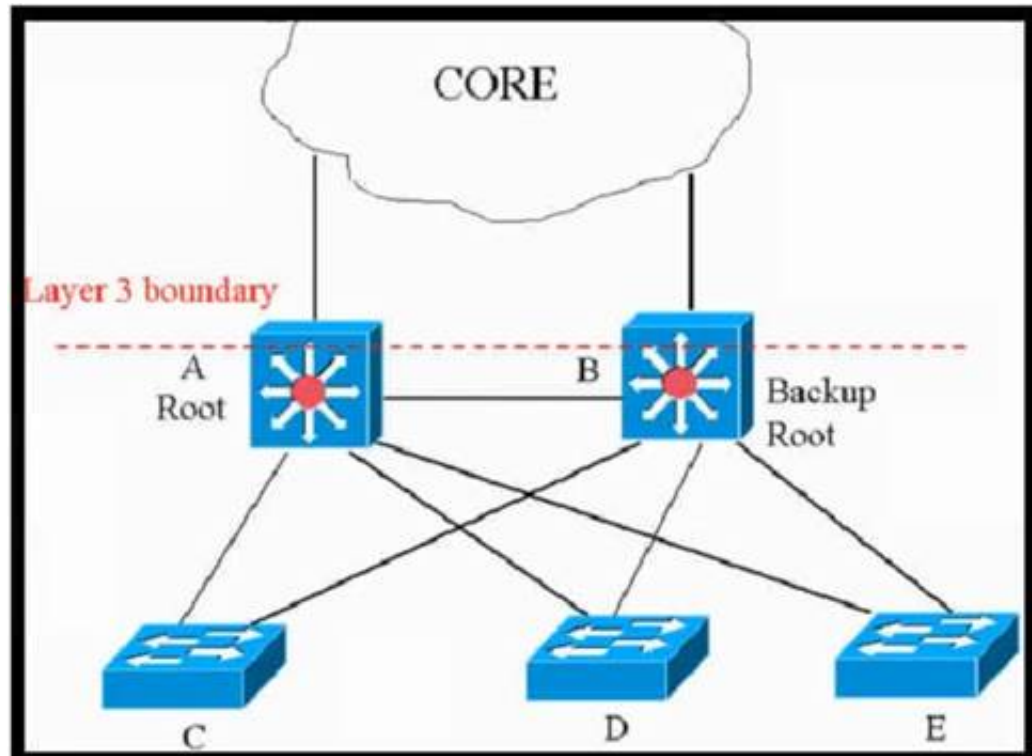
- A. fault management
- B. accounting management
- C. performance management

D. security management

Answer: C

NEW QUESTION 100

Refer to the exhibit.



This network is running legacy STP 802.1 d. Assuming "hello_timer" is fixed to 2 seconds, which parameters can be modified to speed up convergence times after single link/node failure?

- A. The transit_delay=5 and dpdu_delay=20 are recommended values, considering helto_timer=2 and specified
- B. Only the maximum_transmission_halt_delay and diameter parameters are configurable parameters in 802. to speed up STP convergence process
- C. The max_age and forward delay parameters can be adjusted to speed up STP convergence process.
- D. Only the transit_delay and bpdu_delay timers are configurable parameters in 802.1d to speed up STP convergence process.

Answer: C

NEW QUESTION 101

A healthcare provider discovers that protected health information of patients was altered without patient consent. The healthcare provider is subject to HIPAA compliance and is required to protect PHI data. Which type of security safeguard should be implemented to resolve this issue?

- A. technical and physical access control
- B. administrative security management processes
- C. physical device and media control
- D. technical integrity and transmission security

Answer: D

Explanation:

https://www.cisco.com/en/US/docs/solutions/Enterprise/Compliance/HIPAA/HIP_AppC.html#wp1085353

NEW QUESTION 105

What are two advantages of controller-based networks versus traditional networks? (Choose two.)

- A. the ability to have forwarding tables at each device
- B. more flexible configuration per device
- C. more consistent device configuration
- D. programmatic APIs that are available per device
- E. the ability to configure the features for the network rather than per device

Answer: CE

NEW QUESTION 106

An external edge router provides connectivity from a service provider to an enterprise Which two Internet edge best practices meet compliance regulations'? (Choose two)

- A. Implement filterng to control traffic that is sourced from the infrastructure IP space.
- B. Enable and use only secure protocols.
- C. Send logs to a centralized logging collection server.
- D. Implement EBGP to advertise all owned IP blocks.
- E. Use login banners and interface access lists to restrict administrative access to the system

Answer: BE

NEW QUESTION 107

Company XYZ network runs IPv4 and IPv6 and they want to Introduce a multidomain, multicast-based network. The new design should use a flavor of PIM that forwards traffic using SPT. Which technology meets this requirement?

- A. PIM-DM
- B. PIM-SM
- C. PIM-SSM
- D. BIDIR-PIM

Answer: C

NEW QUESTION 108

What is a web-based model in which a third-party provider hosts applications that are available to customers over the Internet?

- A. PaaS
- B. SaaS
- C. IaaS
- D. WaaS

Answer: B

NEW QUESTION 112

An engineer is designing a DMVPN network where OSPF has been chosen as the routing protocol. A spoke-to-spoke 'J' propagation model must be set up. Which two design considerations must be taken into account? (Choose two.)

- A. Configure all the sites as network type broadcast
- B. The network type on all sites should be point-to-multipoint
- C. The network type should be point-to-multipoint for the hub and point-to-point for the spokes.
- D. The hub should be set as the DR by specifying the priority to 255.
- E. The hub should be the DR by changing the priority of the spokes to 0.

Answer: AE

NEW QUESTION 114

A network security team observes phishing attacks on a user machine from a remote location. The organization has a policy of saving confidential data on two different systems using different types of authentication. What is the next step to control such events after the security team verifies all users in Zero Trust modeling?

- A. Enforce risk-based and adaptive access policies.
- B. Assess real-time security health of devices.
- C. Apply a context-based network access control policy for users.
- D. Ensure trustworthiness of devices.

Answer: B

NEW QUESTION 117

As a network designer, you need to support an enterprise with hundreds of remote sites connected over a single WAN network that carries different types of traffic, including VoIP, video, and data applications. Which of the following design considerations will not impact design decision?

- A. Focus on the solution instead of the problem, which helps to reduce downtime duration
- B. The location of the data collection
- C. What direction the data or flows should be metered
- D. Identify traffic types and top talkers over this link

Answer: A

NEW QUESTION 118

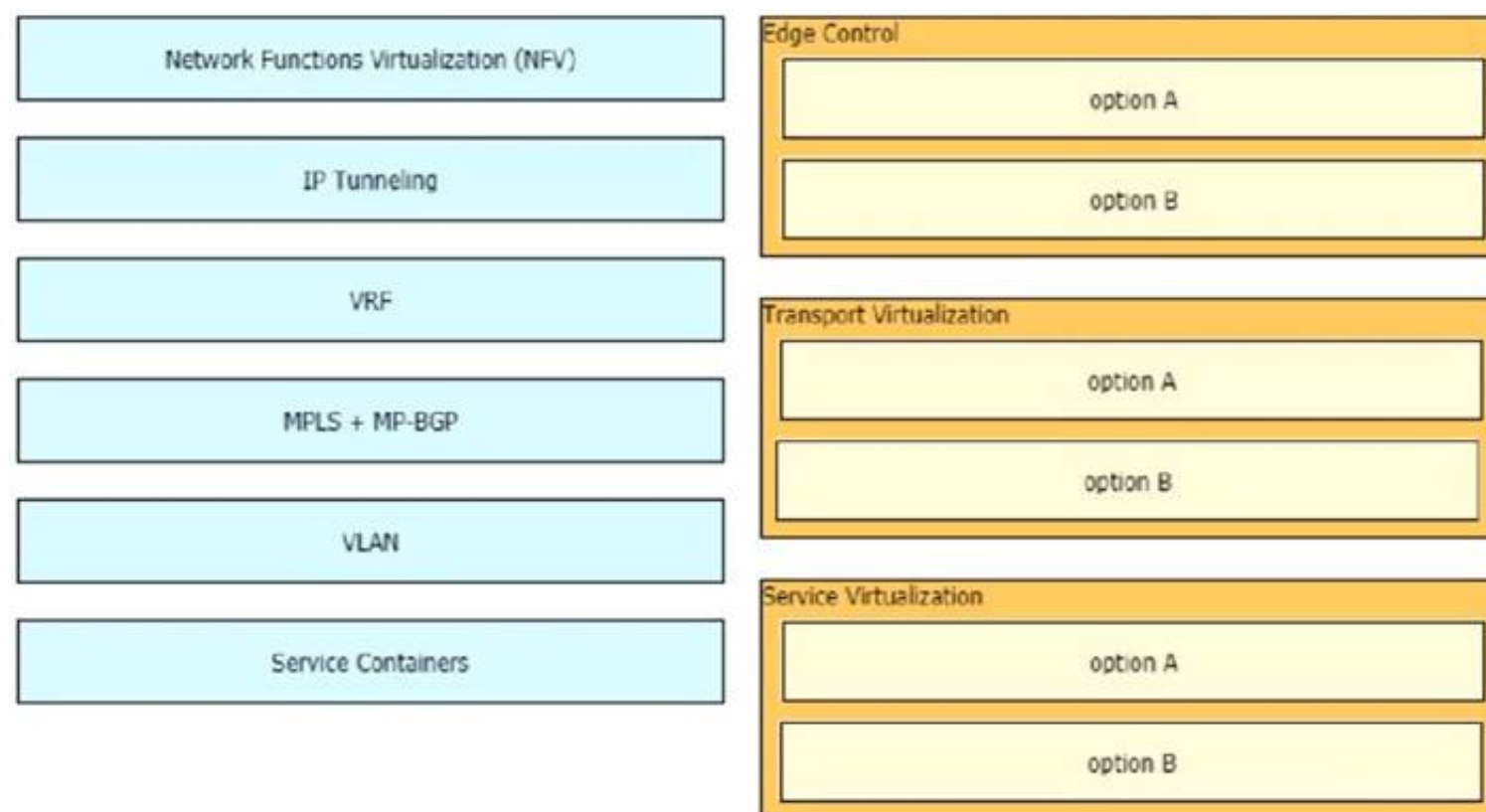
The network designer needs to use GLOP IP addresses in order to make them unique within their ASN. Which multicast address range should be used?

- A. 232.0.0.0 to 232.255.255.255
- B. 233.0.0.0 to 233.255.255.255
- C. 239.0.0.0 to 239.255.255.255
- D. 224.0.0.0 to 224.255.255.255

Answer: B

NEW QUESTION 120

Drag and drop the end-to-end network virtualization elements from the left onto the correct network areas on the right.



- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Graphical user interface Description automatically generated with medium confidence

NEW QUESTION 125

An IT service provider is upgrading network infrastructure to comply with PCI security standards. The network team finds that 802.1X and VPN authentication based on locally-significant certificates are not available on some legacy phones. Which workaround solution meets the requirement?

- A. Replace legacy phones with new phones because the legacy phones will lose trust if the certificate is renewed.
- B. Enable phone VPN authentication based on end-user username and password.
- C. Temporarily allow fallback to TLS 1.0 when using certificates and then upgrade the software on legacy phones.
- D. Use authentication-based clear text password with no EAP-MD5 on the legacy phones.

Answer: B

NEW QUESTION 127

A business invests in SDN and develops its own SDN controller that, due to budget constraints, runs on a single controller. The controller actively places an exclusive lock on the configuration of the devices to ensure it is the only source of changes to the environment. What is the result if the controller fails?

- A. All device configurations are in read-only mode until the controller is restored.
- B. The control plane is unavailable until the controller is restored.
- C. If a device fails, the configuration backup is unavailable
- D. Manual changes are only possible until the controller is restored

Answer: B

NEW QUESTION 132

Which two actions ensure voice quality in a branch location with a low-speed, high-latency WAN connection? (Choose two.)

- A. Increase WAN bandwidth
- B. Increase memory branch switch.
- C. Fragment data packets.
- D. Replace any electrical links with optical links
- E. Prioritize voice packets

Answer: CE

NEW QUESTION 134

A network architect must redesign a service provider edge, where multiservice and multitenant PEs are currently present. Which design feature should be minimized in the new design to achieve reliability?

- A. bridging
- B. fate sharing
- C. redundancy
- D. unicast overlay routing

Answer: B

NEW QUESTION 138

Company XYZ is running OSPF in their network. They have merged with another company that is running EIGRP as the routing protocol. Company XYZ now needs the two domains to talk to each other with redundancy, while maintaining a loop free environment. The solution must scale when new networks are added into the network in the near future. Which technology can be used to meet these requirements?

- A. multipoint route-redistribution with route filtering using ACLs
- B. DUMP multipoint route-redistribution with route filtering using route tags
- C. DUMPS single point route-redistribution with route filtering using route tags
- D. DUMPS single point route-redistribution with route filtering using ACLs

Answer: B

NEW QUESTION 140

Which design solution reduces the amount of IGMP state in the network?

- A. IGMP filtering
- B. IGMPv3 with PIM-SSM
- C. multiple multicast domains
- D. one multicast group address thorough network regardless of IGMP version

Answer: A

NEW QUESTION 143

A customer migrates from a traditional Layer 2 data center network into a new SDN-based. spine-and-leaf VXLAN EVPN data center within the same location. The networks are joined to enable host migration at Layer 2 Which activity should be completed each time a legacy network is migrated?

- A. The migrated VLAN should be pruned from the Layer 2 interconnects.
- B. The migrated network should have a VXLAN VNID configured within the new network.
- C. The migrated network should be advertised to the EVPN network as a Type 2 network.
- D. The migrated network should be added to the EVPN BGP routing.

Answer: C

NEW QUESTION 148

What is a description of a control plane action?

- A. de-encapsulating and re-encapsulating a packet in a data-link frame
- B. matching the destination MAC address of an Ethernet frame to the MAC address table
- C. matching the destination IP address of an IP packet to the IP routing table
- D. hosts locating routers that reside on attached links using the IPv6 Neighbor Discover Protocol

Answer: D

NEW QUESTION 150

Which effect of using ingress filtering to prevent spoofed addresses on a network design is true?

- A. It reduces the effectiveness of DDoS attacks when associated with DSCP remarking to Scavenger.
- B. It protects the network Infrastructure against spoofed DDoS attacks.
- C. It Classifies bogus traffic and remarks it with DSCP bulk.
- D. It filters RFC 1918 IP addresses.

Answer: B

NEW QUESTION 154

A senior network designer suggests that you should improve network convergence times by reducing BGP timers between your CE router and the PE router of the service provider. Which two factors should you consider to adjust the timer values? (Choose two.)

- A. service provider agreement to support tuned timers
- B. manual updates to the peer groups
- C. service provider scheduling of changes to the PE
- D. number of routes on the CE router
- E. number of VRFs on the PE router

Answer: AD

NEW QUESTION 158

Which function is performed at the access layer of the three-layer hierarchical network design model?

- A. fault isolation
- B. QoS classification and marking boundary
- C. reliability
- D. fast transport
- E. redundancy and load balancing

Answer: B

NEW QUESTION 159

Company XYZ is designing their network using the three-layer hierarchical model. At which layer must the QoS design classify or mark the traffic?

- A. access
- B. core
- C. collapsed core
- D. distribution

Answer: A

NEW QUESTION 162

What are two key design principles when using a hierarchical core-distribution-access network model? (Choose two)

- A. A hierarchical network design model aids fault isolation
- B. The core layer is designed first, followed by the distribution layer and then the access layer
- C. The core layer provides server access in a small campus.
- D. A hierarchical network design facilitates changes
- E. The core layer controls access to resources for security

Answer: AD

NEW QUESTION 167

A company requires an RPO of less than 10 seconds to ensure business continuity. Which technology should be deployed?

- A. geographically dispersed data centers with asynchronous replication
- B. a single data center with duplicated infrastructure, dual PSUs, and a UPS
- C. geographically dispersed data centers with synchronous replication
- D. a single data center with duplicated infrastructure and dual PSUs

Answer: C

NEW QUESTION 170

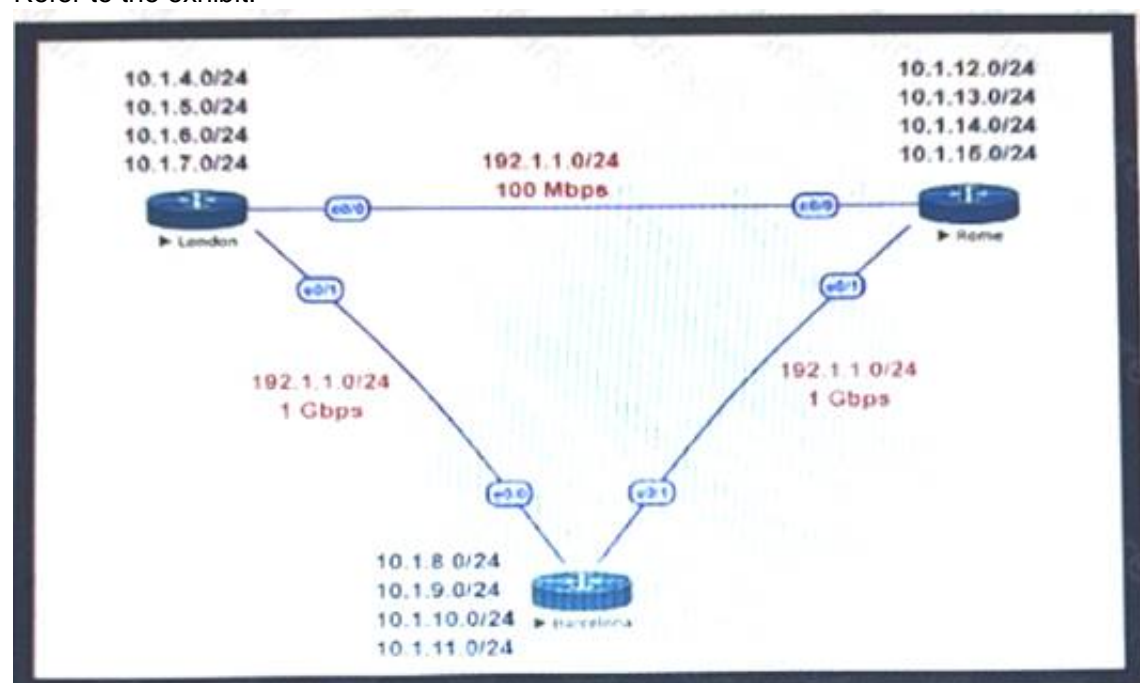
You are designing a large-scale DMVPN network with more than 500 spokes using EIGRP as the IGP protocol. Which design option eliminates potential tunnel down events on the spoke routers due to the holding time expiration?

- A. Increase the hold queue on the physical interface of the hub router.
- B. Increase the hold queue on the tunnel interface of the spoke routers
- C. Increase the hold queue on the tunnel interface of the hub router
- D. Apply QoS for pak_priority class
- E. Increase the hold queue on the physical interface of the spoke routers.

Answer: C

NEW QUESTION 171

Refer to the exhibit.



This network is running OSPF as the routing protocol. The internal networks are being advertised in OSPF. London and Rome are using the direct link to reach each other although the transfer rates are better via Barcelona. Which OSPF design change allows OSPF to calculate the proper costs?

- A. Change the OSPF reference bandwidth to accommodate faster links.
- B. Filter the routes on the link between London and Rome
- C. Change the interface bandwidth on all the links.
- D. Implement OSPF summarisation to fix the issue

Answer: A

NEW QUESTION 174

Company XYZ branch offices connect to the headquarter sites using two links, MPLS and Internet. The company wants to design the traffic flow so that voice traffic goes through the MPLS link and all other traffic uses either the MPLS link or the Internet link. Which technique can the company use in their design to

ensure that the traffic is not process switched?

- A. policy-based routing
- B. virtual links
- C. visualization
- D. floating static route

Answer: A

NEW QUESTION 177

Which two control plane policer designs must be considered to achieve high availability? (Choose two.)

- A. Control plane policers are enforced in hardware to protect the software path, but they are hardware platform dependent in terms of classification ability.
- B. Control plane policers are really needed only on externally facing devices.
- C. Control plane policers can cause the network management systems to create false alarms.
- D. Control plane policers must be processed before a forwarding decision is made.
- E. Control plane policers require that adequate protocols overhead are factored in to allow protocol convergence.

Answer: AD

NEW QUESTION 182

A service provider hires you to design its new managed CE offering to meet these requirements

- The CEs cannot run a routing protocol with the PE
- Provide the ability for equal or unequal ingress load balancing in dual-homed CE scenarios.
- Provide support for IPv6 customer routes
- Scale up to 250.000 CE devices per customer.
- Provide low operational management to scale customer growth.
- Utilize low-end (inexpensive) routing platforms for CE functionality. Which tunneling technology do you recommend?

- A. FlexVPN
- B. point-to-point GRE
- C. DMVPN
- D. LISP

Answer: D

NEW QUESTION 184

Company XYZ is redesigning their QoS policy. Some of the applications used by the company are real-time applications. The QoS design must give these applications preference in terms of transmission. Which QoS strategy can be used to fulfill the requirement?

- A. weighted fair queuing
- B. weighted random early detection
- C. low-latency queuing
- D. first-in first-out

Answer: C

NEW QUESTION 189

An engineer must design a network for a company that uses OSPF LFA to reduce loops. Which type of loop would be reduced by using this design?

- A. DTP
- B. micro loops
- C. STP
- D. REP

Answer: B

NEW QUESTION 194

You are tasked to design a QoS policy for a service provider so they can include it in the design of their MPLS core network. If the design must support an MPLS network with six classes, and CEs will be managed by the service provider, which QoS policy should be recommended?

- A. map IP CoS bits into the IP Precedence field
- B. map flow-label bits into the Exp field
- C. map IP precedence bits into the DSCP field
- D. map DSCP bits into the Exp field

Answer: D

NEW QUESTION 195

Which design benefit of bridge assurance is true?

- A. It supposes a spanning-tree topology change upon connecting and disconnecting a station on a port
- B. It prevents switched traffic from traversing suboptimal paths on the network.
- C. It allows small, unmanaged switches to be plugged into ports of access switches without the risk of switch loops.
- D. It prevents switch loops caused by unidirectional point-to-point link condition on Rapid PVST + and MST

Answer: D

NEW QUESTION 200

You have been tasked with designing a data center interconnect as part of business continuity. You want to use FCoE over this DCI to support synchronous replication. Which two technologies allow for FCoE via lossless Ethernet or data center bridging? (Choose two.)

- A. DWDM
- B. EoMPLS
- C. SONET/SDH
- D. Multichassis EtherChannel over Pseudowire
- E. VPLS

Answer: AC

NEW QUESTION 204

Company XYZ has a multicast domain that spans across multiple autonomous systems. The company wants to choose a technology that provides simplified and controlled approach to interconnecting the multicast domains. Which technology is the best fit for this purpose?

- A. MSDP
- B. PIM SSM
- C. MPLS
- D. PIM sparse mode

Answer: A

NEW QUESTION 208

Which mechanism provides Layer 2 fault isolation between data centers?

- A. fabric path
- B. OTL
- C. advanced VPLS
- D. LISP
- E. TRILL

Answer: D

NEW QUESTION 212

Your network operations team is deploying Access Control Lists (ACLs) across your Internet gateways. They wish to place an ACL inbound on the Internet gateway interface facing the core network (the "trusted" interface). Which IP address would the ACL need for traffic sourced from the inside interface, to match the source address of the traffic?

- A. inside global
- B. outside global
- C. inside local
- D. outside local

Answer: C

NEW QUESTION 214

Two routers R1 and R2 are directly connected through an Ethernet link. Both routers are running OSPF over the Ethernet link and OSPF has been registered with BFD. R1 has been set up to transmit BFD at a 50 ms interval, but R2 can receive only at a 100 ms rate due to platform limitations. What does this mean?

- A. After the initial timer exchange
- B. R2 sets its transmission rate to the R1 Desired Min TX interval
- C. After the initial timer exchange
- D. R1 sets its transmission rate to the R2 Required Min RX interval
- E. Timers renegotiate indefinitely, so the timer exchange phase never converges
- F. R2 sets the P-bit on all BFD control packets until R2 sends a packet with the F-bit set

Answer: B

NEW QUESTION 218

Company XYZ wants to secure the data plane of their network. Which two technologies can be included in the security design? (Choose two)

- A. DAI
- B. IP Source Guard
- C. BEEP
- D. CPPr
- E. MPP

Answer: AB

NEW QUESTION 222

Company XYZ must design a strategy to protect their routers from DoS attacks, such as traffic destined to the router's own route processor, using separate control plane categories. Which two capabilities can be used to achieve this requirement? (Choose two.)

- A. Control Plane Protection using queue thresholding on the transit subinterface
- B. Control Plane Protection using port filtering on the transit subinterface

- C. Control Plane Protection using port filtering on the main interface
- D. Control Plane Protection using queue thresholding on the host subinterface
- E. Control Plane Protection using port filtering on the host subinterface

Answer: DE

NEW QUESTION 224

Which technology is an open-source infrastructure automation tool that automates repetitive tasks for users who work in networks such as cloud provisioning and intraservice orchestration?

- A. Ansible
- B. Contrail
- C. Java
- D. Jinja2

Answer: A

NEW QUESTION 225

How must the queue sizes be designed to ensure that an application functions correctly?

- A. Each individual device queuing delay in the chain must be less than or equal to the application required delay.
- B. The queuing delay on every device in the chain must be exactly the same to the application required delay.
- C. The default queue sizes are good for any deployment as it compensates the serialization delay.
- D. The sum of the queuing delay of all devices plus serialization delay in the chain must be less than or equal to the application required delay.

Answer: D

NEW QUESTION 229

Which two factors must be considered for high availability in campus LAN designs to mitigate concerns about unavailability of network resources? (Choose two.)

- A. device resiliency
- B. device type
- C. network type
- D. network resiliency
- E. network size

Answer: AD

NEW QUESTION 231

What are two common approaches to analyzing and designing networks? (Choose two.)

- A. bottom-up approach
- B. high-low security approach
- C. top-down approach
- D. left-right approach
- E. three-tier approach

Answer: AC

NEW QUESTION 233

You are designing the routing design for two merging companies that have overlapping IP address space. Which of these must you consider when developing the routing and NAT design?

- A. Local to global NAT translation is done after routing
- B. Global to local NAT translation is done before routing.
- C. Local to global NAT translation is done before policy-based routing
- D. Global to local NAT translation is done after policy-based routing.

Answer: B

NEW QUESTION 234

Customer XYZ network consists of an MPLS core. IS-IS running as IGP a pair of BGP route reflectors for route propagation, and a few dozens of MPLS-TE tunnels for specific tactical traffic engineering requirements. The customer's engineering department has some questions about the use of the Overload Bit in the IS-IS networks and how it could be used to improve their current network design. Which two concepts about the Overload Bit are true? (Choose two.)

- A. It can be set on a router during the startup process for a fixed period of time
- B. Networks advertised within the LSPs of the respective node will become unreachable
- C. It forces the midpoint MPLS-TE node to reoptimize the primary tunnels going through the OL node.
- D. It can be set on a router until other interacting protocols have signaled convergence.
- E. It is not recommended on BGP Route Reflectors

Answer: AD

NEW QUESTION 239

Which two features describe controller-based networking solutions compared to traditional networking solutions? (Choose two.)

- A. inflate licensing costs
- B. reduce network configuration complexity
- C. provide centralization of primary IT functions
- D. allow for fewer network failures
- E. increase network bandwidth usage

Answer: BC

NEW QUESTION 243

An enterprise campus is adopting a network virtualization design solution with these requirements

- It must include the ability to virtualize the data plane and control plane by using VLANs and VRFs
- It must maintain end-to-end logical path transport separation across the network
- resources available grouped at the access edge

Which two primary models can this network virtualization design be categorized? (Choose two)

- A. Path isolation
- B. Session isolation
- C. Group virtualization
- D. Services virtualization
- E. Edge isolation

Answer: AD

NEW QUESTION 245

Which two conditions must be met for EIGRP to maintain an alternate loop-free path to a remote network? (Choose two.)

- A. The Reported Distance from a successor is lower than the local Feasible Distance.
- B. The Reported Distance from a successor is higher than the local Feasible Distance.
- C. The feasibility condition does not need to be met.
- D. The Feasible Distance from a successor is lower than the local Reported Distance.
- E. A feasible successor must be present.

Answer: AE

NEW QUESTION 249

Company XYZ wants to use the FCAPS ISO standard for network management design. The focus of the design should be to minimize network outages by employing a set of procedures and activities to detect and isolate network issues and the appropriate corrective actions to overcome current issues and prevent them from occurring again. Which layer accomplishes this design requirement?

- A. fault management
- B. performance management
- C. security management
- D. accounting management

Answer: A

NEW QUESTION 250

How many fully established neighbour relationships exist on an Ethernet with five routers running OSPF as network type broadcast?

- A. 5
- B. 6
- C. 7
- D. 10
- E. 20

Answer: C

Explanation:

Assuming routers R1-R5, R1 is elected DR, R2 BDR. Fully established neighborships only occur to DR and BDR, all other neighbors are in 2Way DR other state.
DR|BDRFull relationships:
R2-R1 R3-R1 R3-R2 R4-R1 R4-R2 R5-R1
R5-R2

NEW QUESTION 253

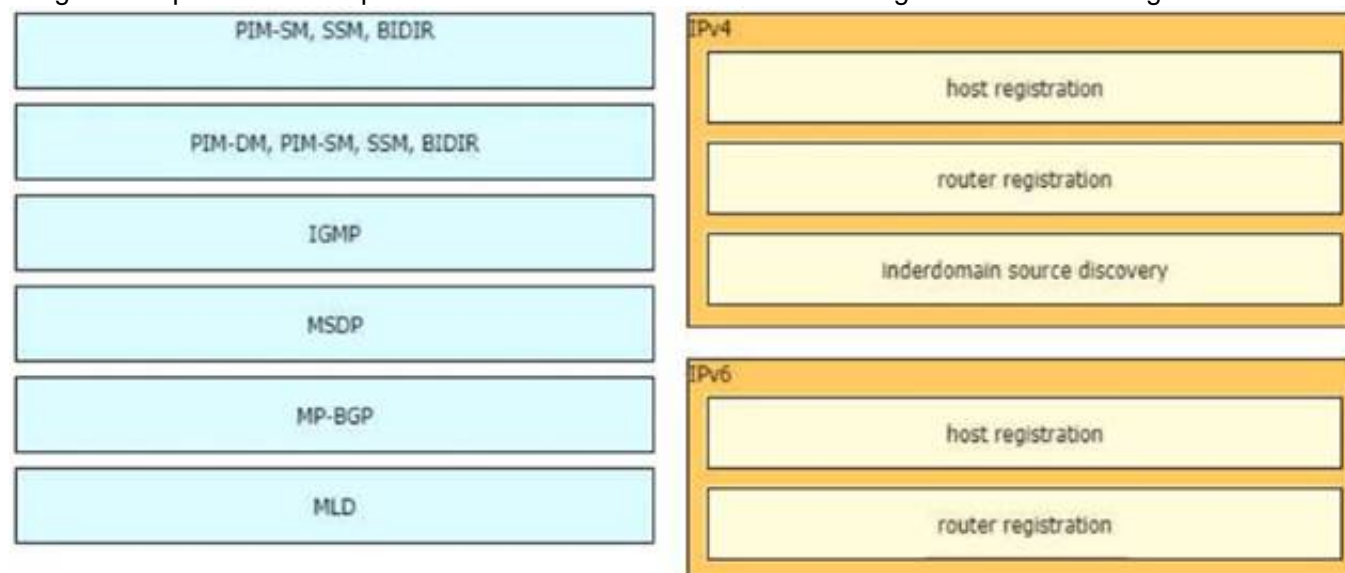
A network engineering team is in the process of designing a lab network for a customer demonstration. The design engineer wants to show that the resiliency of the MPLS traffic Engineering Fast Reroute solution has the same failover/failback times as a traditional SONET/SDH network (around 50MSEC). In order to address both link failure and node failure within the lab typology network, which type of the MPLS TE tunnels must be considered for this demonstration?

- A. TE backup tunnel
- B. Next-hop (NHop) tunnel
- C. FRR Backup tunnel
- D. next-next-hop (NNHop) tunnel

Answer: D

NEW QUESTION 255

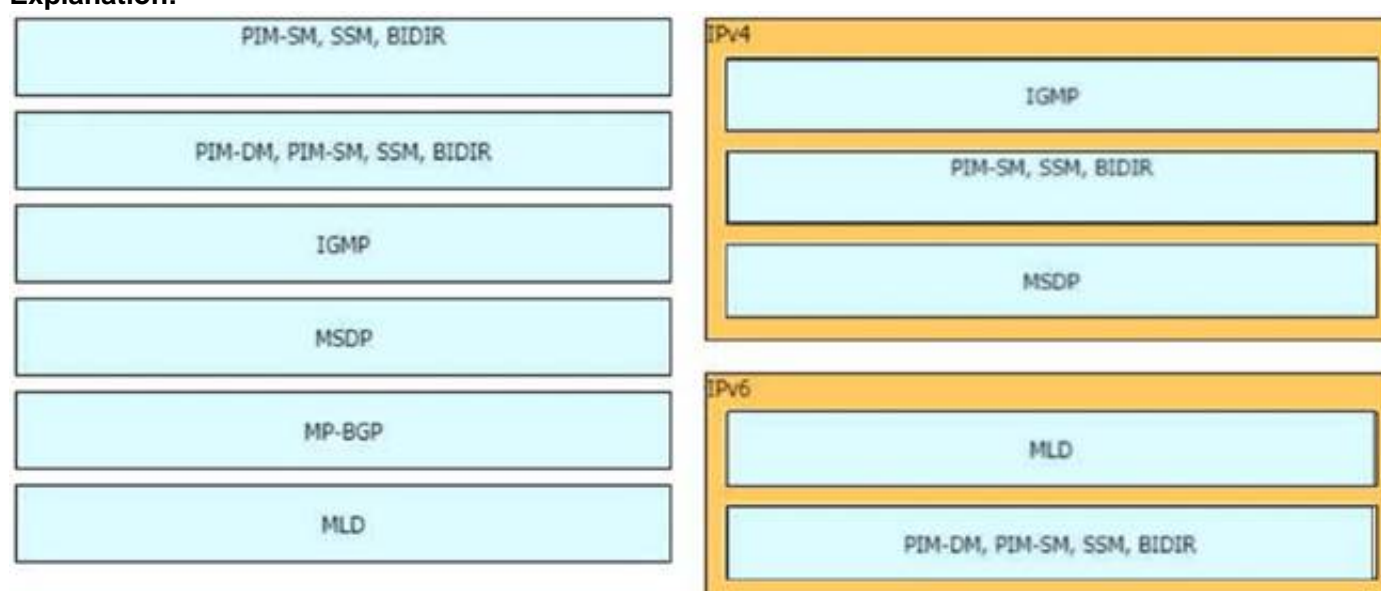
Drag and drop the multicast protocols from the left onto the current design situation on the right.



- A. Mastered
- B. Not Mastered

Answer: A

Explanation:



NEW QUESTION 259

An enterprise solution team is performing an analysis of multilayer architecture and multicontroller SDN solutions for multisite deployments. The analysis focuses on the ability to run tasks on any controller via a standardized interface. Which requirement addresses this ability on a multicontroller platform?

- A. Deploy a root controller to gather a complete network-level view.
- B. Use the East-West API to facilitate replication between controllers within a cluster.
- C. Build direct physical connectivity between different controllers.
- D. Use OpenFlow to implement and adapt new protocols.

Answer: D

NEW QUESTION 263

Which two features control multicast traffic in a VLAN environment? (Choose two)

- A. IGMP snooping
- B. MLD snooping
- C. RGMP
- D. PIM snooping
- E. pruning

Answer: AB

NEW QUESTION 267

Company XYZ has a hub-and-spoke topology over an SP-managed infrastructure. To measure traffic performance metrics, they implemented IP SLA senders on all spoke CE routers and an IP SLA responder on the hub CE router. What must they monitor to have visibility on the potential performance impact due to the constantly increasing number of spoke sites?

- A. CPU and memory usage on the spoke routers
- B. memory usage on the hub router
- C. CPU usage on the hub router
- D. interface buffers on the hub and spoke routers

Answer: C

NEW QUESTION 271

SD-WAN can be used to provide secure connectivity to remote offices, branch offices, campus networks, data centers, and the cloud over any type of IP-based underlay transport network. Which two statements describe SD WAN solutions? (Choose two.)

- A. SD-WAN networks are inherently protected against slow performance.
- B. Control and data forwarding planes are kept separate.
- C. Improved operational efficiencies result in cost savings.
- D. Solutions include centralized orchestration, control, and zero-touch provisioning.
- E. Solutions allow for variations of commodity and specialized switching hardware.

Answer: BD

NEW QUESTION 276

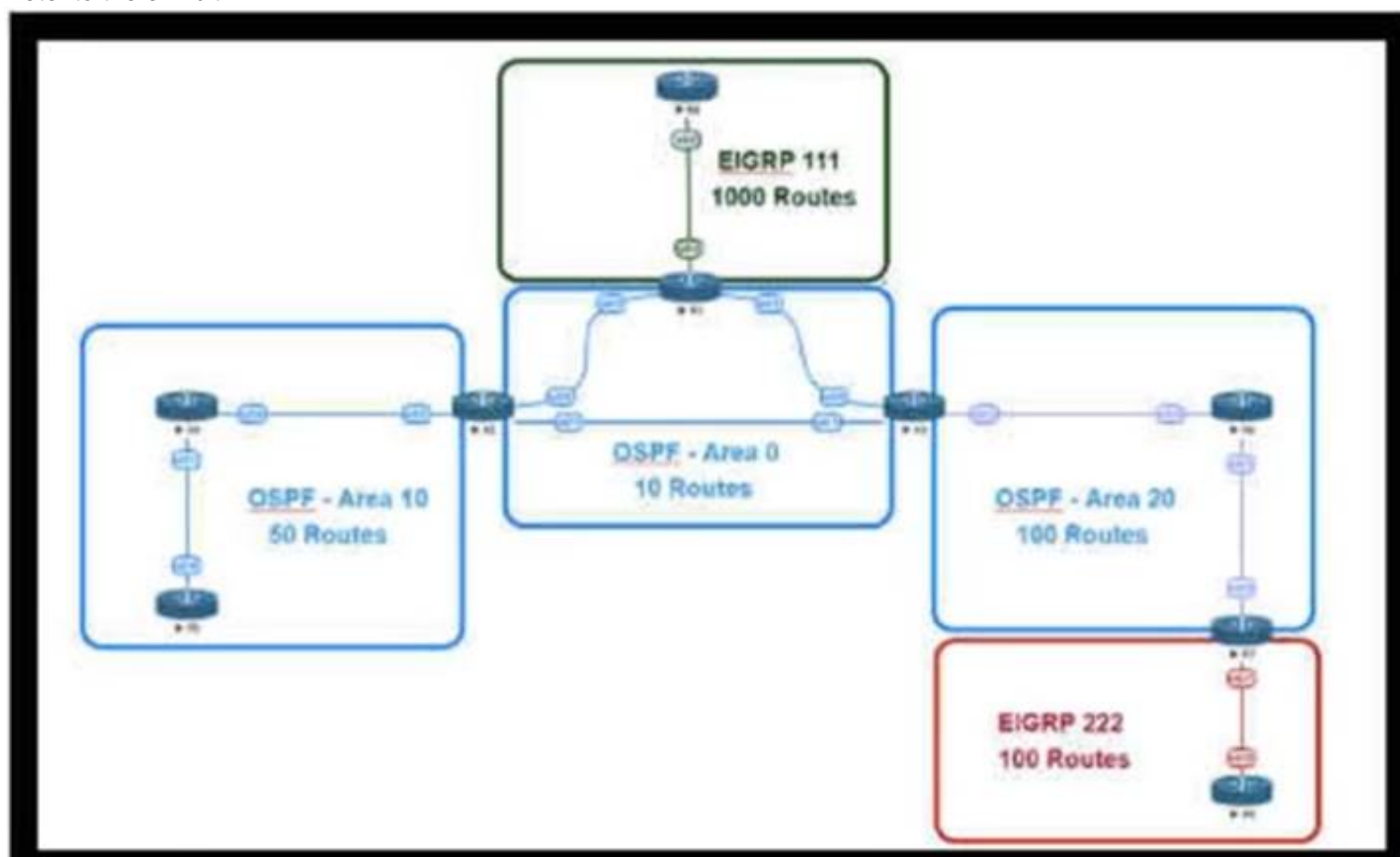
IPFIX data collection via standalone IPFIX probes is an alternative to flow collection from routers and switches. Which use case is suitable for using IPFIX probes?

- A. performance monitoring
- B. security
- C. observation of critical links
- D. capacity planning

Answer: A

NEW QUESTION 279

Refer to the exhibit.



This network is running OSPF and EIGRP as the routing protocols. Mutual redistribution of the routing protocols has been configured on the appropriate ASBRs. The OSPF network must be designed so that flapping routes in EIGRP domains do not affect the SPF runs within OSPF. The design solution must not affect the way EIGRP routes are propagated into the EIGRP domains. Which technique accomplishes the requirement?

- A. route summarization on the ASBR interfaces facing the OSPF domain
- B. route summarization on the appropriate ASBRs.
- C. route summarization on the appropriate ABRS.
- D. route summarization on EIGRP routers connecting toward the ASBR

Answer: B

NEW QUESTION 280

Which two factors provide multifactor authentication for secure access to applications and data, no matter where the users are or which devices they are on? (Choose two.)

- A. persona-based
- B. power-based
- C. push-based
- D. possession-based
- E. pull-based

Answer: CD

NEW QUESTION 281

A company plans to use BFD between its routers to detect a connectivity problem inside the switched network. An IPS is transparently installed between the switches. Which packets should the IPS forward for BFD to work under all circumstances?

- A. Fragmented packet with the do-not-fragment bit set

- B. IP packets with broadcast IP source addresses
- C. IP packets with the multicast IP source address
- D. IP packet with the multicast IP destination address
- E. IP packets with identical source and destination IP addresses
- F. IP packets with the destination IP address 0.0.0.0.

Answer: E

NEW QUESTION 282

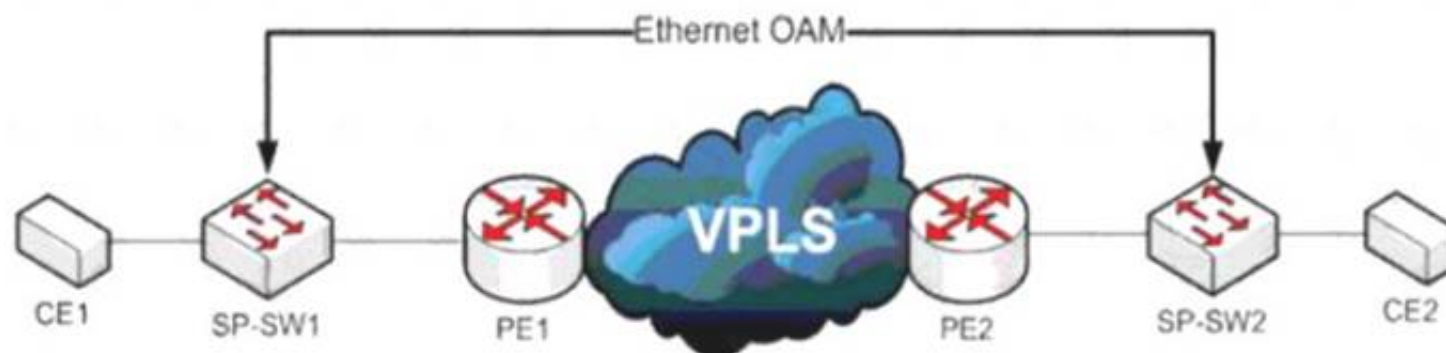
As network designer, which option is your main concern with regards to virtualizing multiple network zones into a single hardware device?

- A. Fate sharing
- B. CPU resource allocation
- C. Congestion control
- D. Security
- E. Bandwidth allocation

Answer: A

NEW QUESTION 284

Refer to the exhibit



A service provider has a requirement to use Ethernet OAM to detect end-to-end connectivity failures between SP-SW1 and SP-SW2. Which two ways to design this solution are true? (Choose two)

- A. Enable unicast heartbeat messages to be periodically exchanged between MEPs
- B. Enable Connectivity Fault Management on the SP switches
- C. Use upward maintenance endpoints on the SP switches
- D. Forward E-LMI PDUs over VPLS
- E. Forward LLD PDUs over the VPLS

Answer: BC

NEW QUESTION 289

Which three Cisco products are used in conjunction with Red Hat to provide an NFVi solution? (Choose three.)

- A. Cisco Prime Service Catalog
- B. Cisco Open Virtual Switch
- C. Cisco Nexus switches
- D. Cisco UCS
- E. Cisco Open Container Platform
- F. Cisco Virtual Network Function

Answer: CDF

NEW QUESTION 293

Router R1 is a BGP speaker with one peering neighbor over link "A". When the R1 link/interface "A" fails, routing announcements are terminated, which results in the tearing down of the state for all BGP routes at each end of the link. What is this a good example of?

- A. fault isolation
- B. resiliency
- C. redundancy
- D. fate sharing

Answer: D

NEW QUESTION 295

Your company wants to deploy a new data center infrastructure. Based on the requirements you have chosen VXLAN as encapsulation technology. The customer is concerned about mis-configuration of Layer 2 devices and DC wide outages caused by Layer 2 loops. What do you answer?

- A. VXLAN offers native loop avoidance mechanism
- B. Storm Control should be enabled on all ports
- C. VPC+ could prevent L2 loop on access ports
- D. BPDU Guard should be enabled on all VTEP access ports

Answer: D

NEW QUESTION 297

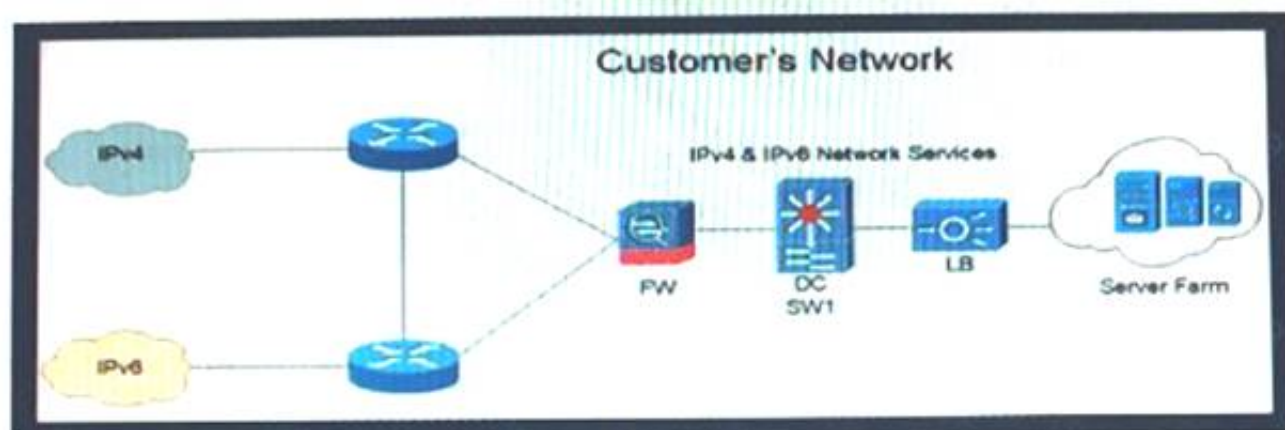
Company XYZ runs OSPF in their network. A design engineer decides to implement hot-potato routing architecture. How can this implementation be achieved?

- A. Enable iBGP and apply prepend to ensure all prefixes will have the same length of the AS path attribute value.
- B. Redistribute the external prefixes onto OSPF and ensure the total metric calculation includes only the ext value and the value is the same in all ASBRs.
- C. Enable OSPF load-balancing over unequal cost path.
- D. Redistribute the external prefixes onto OSPF and ensure that the total metric calculation includes external internal values.

Answer: D

NEW QUESTION 301

Refer to the exhibit.



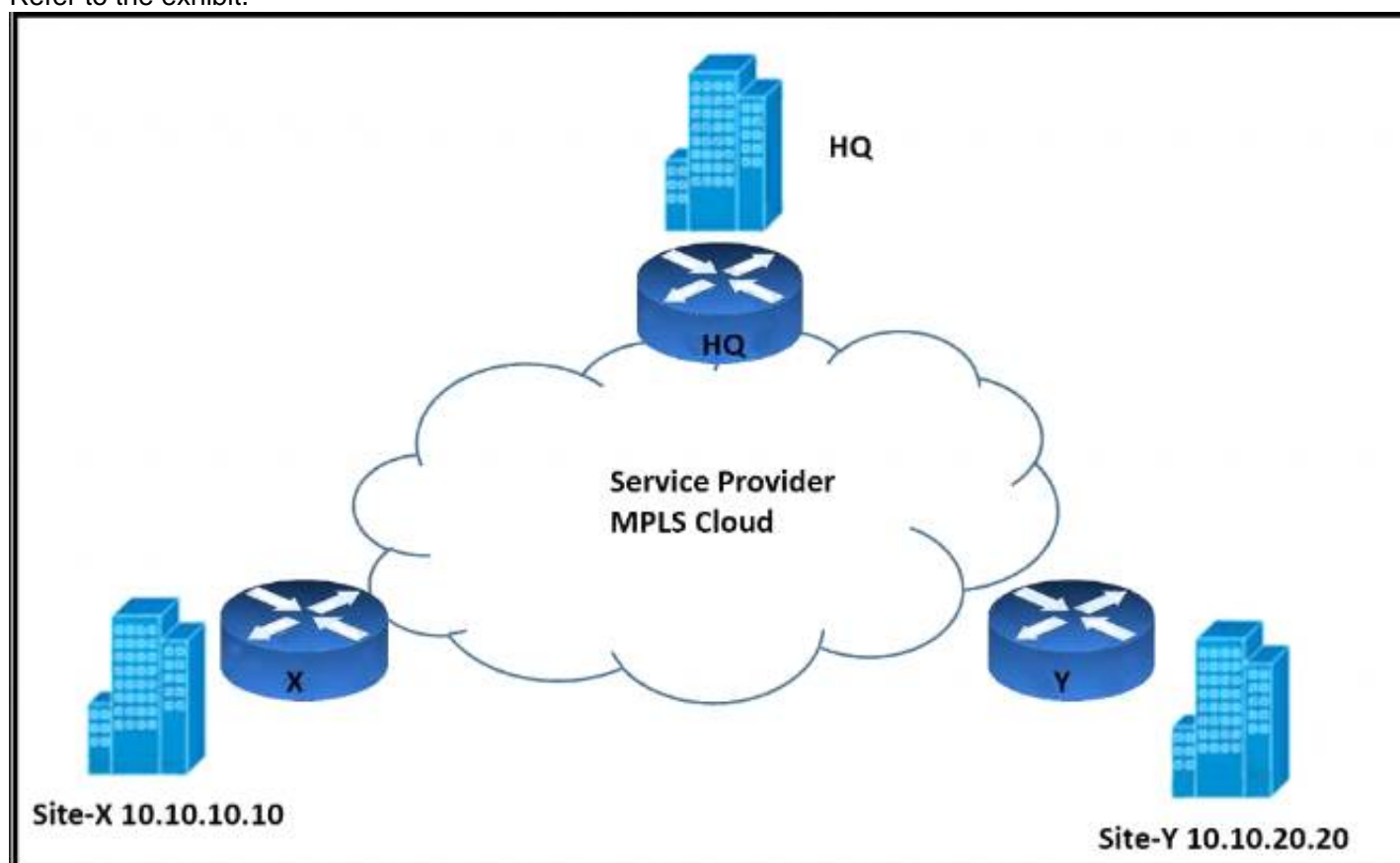
Company XYZ is currently running IPv4 but has decided to start the transition into IPv6. The initial objective is to allow communication based on IPv6 wherever possible, and there should still be support in place for devices that only support IPv4. These devices must be able to communicate to IPv6 devices as well. Which solution must be part of the design?

- A. address family translation
- B. dual stack
- C. host-to-host tunneling
- D. 6rd tunneling

Answer: B

NEW QUESTION 306

Refer to the exhibit.



An architect must design an enterprise WAN that connects the headquarters with 22 branch offices. The number of remote sites is expected to triple in the next three years. The final solution must comply with these requirements:

- Only the loopback address of each of the enterprise CE X and Y routers must be advertised to the interconnecting service provider cloud network.
- The transport layer must carry the VPNv4 label and VPN payload over the MP-BGP control plane.
- The transport layer must not be under service provider control.

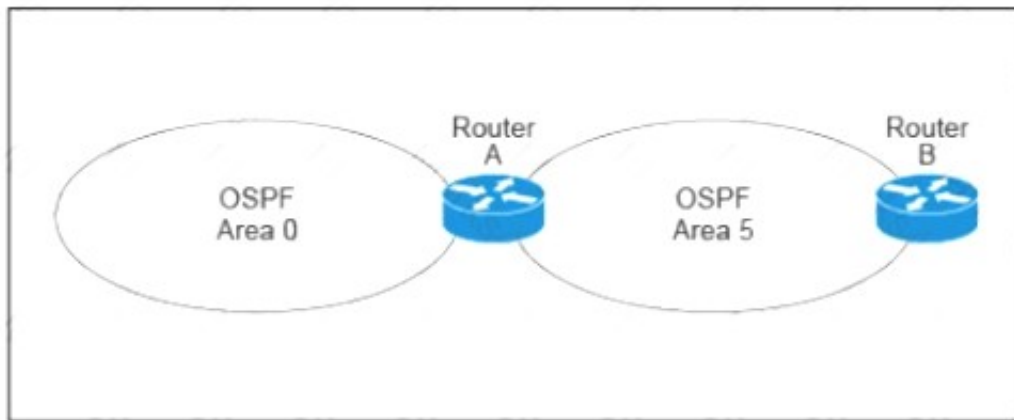
Which enterprise WAN transport virtualization technique meets the requirements?

- A. EIGRP Over the Top
- B. MPLS over BGP over multipoint GRE
- C. DMVPN per VRF
- D. point-to-point GRE per VRF

Answer: B

NEW QUESTION 310

Refer to the exhibit.



A customer runs OSPF with Area 5 between its aggregation router and an internal router. When a network change occurs in the backbone, Area 5 starts having connectivity issues due to the SPF algorithm recalculating an abnormal number of times in Area 5. You are tasked to redesign this network to increase resiliency on the customer network with the caveat that Router B does not support the stub area. How can you accomplish this task*?

- A. Increase the bandwidth on the connection between Router A and Router B
- B. Implement LSA filtering on the ABR, allowing summary routes and preventing more specific routes into Area 5
- C. Create a virtual link to Area 0 from Router B to the ABR
- D. Turn on LSA throttling on all devices in Area 5
- E. Set Area 5 to stubby at the ABR anyway

Answer: B

NEW QUESTION 314

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