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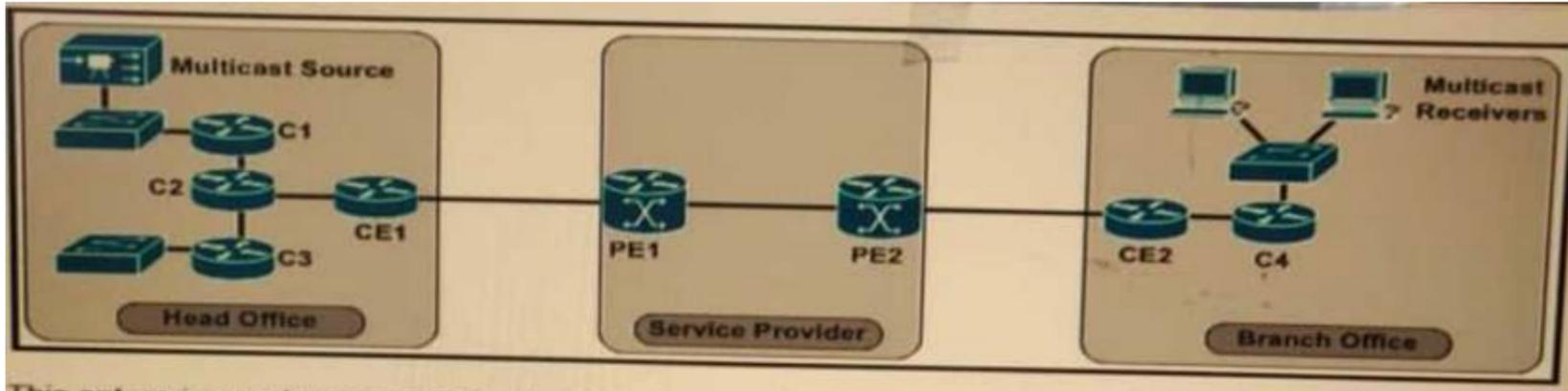
Exam Questions 400-007

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



NEW QUESTION 1

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 2

An enterprise network has two core routers that connect to 200 distribution routers and uses fullmesh IBGP peering between these routers as its routing method. The distribution routers are experiencing high CPU utilization due to the BGP process. Which design solution is the most cost effective?

- A. Implement route reflectors on the two core routers
- B. Increase the memory on the core routers
- C. Implement e BGP between the core and distribution routers
- D. Increase the memory on the distribution routers
- E. Increase bandwidth between the core routers

Answer: A

NEW QUESTION 3

You want to mitigate failures that are caused by STP loops that occur before UDLD detects the failure or that are caused by a device that is no longer sending BPDUs. Which mechanism do you use along with UDLD?

- A. Root guard
- B. BPDU guard
- C. Loop guard
- D. BPDU filtering

Answer: C

NEW QUESTION 4

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 administration 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

NEW QUESTION 5

Refer to the table.

CONNECTIVITY	CAPEX	OPEX ANNUAL	INSTALLATION FEE	TERM
DWDM over dark fiber	\$200,000	\$100,000	\$30,000	12 months
CWDM over dark fiber	\$150,000	\$100,000	\$25,000	18 months
MPLS wires only	\$50,000	\$180,000	\$5,000	12 months
Metro Ethernet	\$65,000	\$100,000	\$5,000	36 months

A customer investigates connectivity options for a DCI between two production data centers to aid a large-scale migration project. The migration is estimated to take 20 months to complete but might extend an additional 10 months if issues arise. All connectivity options meet the requirements to migrate workloads. Which transport technology provides the best ROI based on cost and flexibility?

- A. CWDM over dark fiber
- B. MPLS
- C. DWDM over dark fiber
- D. Metro Ethernet

Answer: D

NEW QUESTION 6

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 bogon traffic and remarks it with DSCP bulk.
- D. It filters RFC 1918 IP addresses.

Answer: B

NEW QUESTION 7

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 8

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

- A. warning banners
- B. redundant AAA servers
- C. Control Plane Policing
- D. SNMPv3
- E. routing protocol authentication

Answer: EF

NEW QUESTION 9

Which two advantages of using DWDM over traditional optical networks are true? (Choose two.)

- A. inherent topology flexibility and service protection provided without penalty through intelligent oversubscription of bandwidth reservation
- B. ability to expand bandwidth over existing optical Infrastructure
- C. inherent topology flexibility with built-in service protection
- D. inherent topology flexibility with intelligent chromatic dispersion
- E. inherent topology flexibility with a service protection provided through a direct integration with an upper layer protocol

Answer: BC

NEW QUESTION 10

Company XYZ is designing the network for IPv6 security and they have these design requirements:

- A switch or router must deny access to traffic from sources with addresses that are correct, but are topologically incorrect
- Devices must block Neighbor Discovery Protocol resolution for destination addresses that are not found in the binding table.

Which two IPv4 security features are recommended for this company? (Choose two)

- A. IPv6 DHCP Guard
- B. IPv6 Source Guard

- C. IPv6 Destination Guard
- D. IPv6 Prefix Guard
- E. IPv6 RA Guard

Answer: CD

NEW QUESTION 10

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 11

Company XYZ asks for design recommendations for Layer 2 redundancy. The company wants to prioritize fast convergence and resiliency elements in the design. Which two technologies are recommended? (Choose two.)

- A. Design MLAG/MC-LAG into the network wherever possible.
- B. Configure DHCP snooping on the switches.
- C. Use root guard.
- D. Use BPDU guard.
- E. Use UniDirectional Link Detection.

Answer: AE

NEW QUESTION 14

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 18

Company XYZ is running a redundant private WAN network using OSPF as the underlay protocol. The current design accommodates for redundancy in the network, but it is taking over 30 seconds for the network to reconverge upon failure. Which technique can be implemented in the design to detect such a failure in a subsecond?

- A. STP
- B. fast hello
- C. OSPF LFA
- D. BFD
- E. flex links

Answer: D

NEW QUESTION 22

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 23

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. confidentiality
- B. serviceability
- C. reliability

- D. availability
- E. integrity
- F. scalability

Answer: ADE

NEW QUESTION 28

What is the most important operational driver in building a resilient and secure modular network design?

- A. Dependencies on hardware or software that is difficult to scale
- B. Minimize app downtime
- C. Reduce the frequency of failures requiring human intervention
- D. Increase time spent on developing new features

Answer: C

NEW QUESTION 31

Which two types of planning approaches are used to develop business-driven network designs and to facilitate the design decisions? (Choose two)

- A. cost optimization approach
- B. strategic planning approach
- C. modular approach
- D. tactical planning approach
- E. business optimization approach

Answer: BD

NEW QUESTION 34

According to the CIA triad principles for network security design, which principle should be priority for a Zero Trust network?

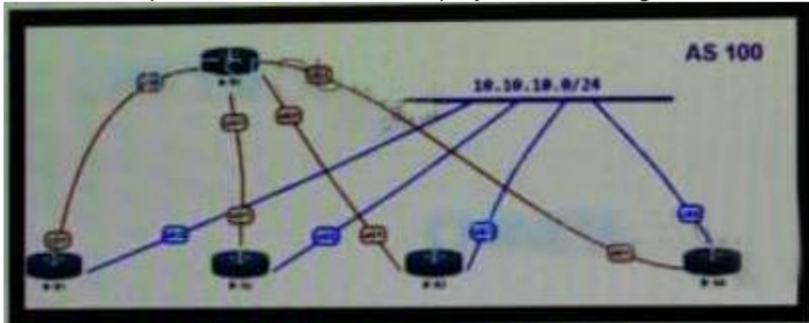
- A. requirement for data-in-motion encryption and 2FA authentication
- B. requirement for data-at-rest encryption for user identification within the VPN termination hardware
- C. categorization of systems, data, and enterprise BYOD assets that are connected to network zones based on individual privacy needs
- D. ensuring that authorized users have high-availability system access from defined zones to defined systems or zones

Answer: A

NEW QUESTION 36

Refer to the exhibit. OSPF is running as the IGP to provide reachability to all AS100 networks. R3 and R4 are the current ABRs at the boundary of OSPF Area 0 and Area 1. Now BGP must be deployed within AS 100 because it will be receiving Internet routes from its eBGP peers (the service provider) connected to R1 and R2.

What is an optimal solution for this deployment to configure BGP relationships and redistribute BGP learned routes into OSPF?



- A. R5 should be configured as a route reflector for R1, R2, R3 and R4. BGP routes must be redistributed at R1 and R2 into OSPF.
- B. Configuration should be set up with R1 and R2, and R3 in one sub AS, with and R4 in another, and redistribution at R1 and R2.
- C. A full mesh should be deployed between all the routers with mutual redistribution to take place at R1 and R2.
- D. R1, R2, R3 and R4 must be set up with a neighbor relationship with R5 only must not be a route reflector.

Answer: C

NEW QUESTION 37

Company ABC wants to minimize the risk of users plugging unauthorized switches and hubs into the network. Which two features can be used on the LAN access ports to support this design requirement? (Choose two.)

- A. Loop Guard
- B. PortFast
- C. DTF
- D. Root Guard
- E. BPDU Guard

Answer: BE

NEW QUESTION 40

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 miss-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 45

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 49

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 53

Which two aspects are considered when designing a dual hub dual DMVPN cloud topology? (Choose two)

- A. will only work with single-tier headend architecture
- B. hub sites must connect to both DMVPN clouds
- C. recommended for high availability
- D. spoke-to-spoke traffic will transit the hub unless spokes exchange dynamic routing directly
- E. requires all sites to have dual Internet connections

Answer: AC

NEW QUESTION 54

A green data center is being deployed and a design requirement is to be able to readily scale server virtualization. Which IETF standard technology can provide this requirement?

- A. data center bridging
- B. unified fabric
- C. Transparent Interconnection of Lots of Links
- D. fabric path

Answer: C

NEW QUESTION 56

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 60

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 63

An MPLS service provider is offering a standard EoMPLS-based VPLS service to CustomerA providing Layer 2 connectivity between a central site and approximately 100 remote sites.
 CustomerA wants to use the VPLS network to carry its internal multicast video feeds which are sourced at the central site and consist of 20 groups at Mbps each.
 Which service provider recommendation offers the most scalability?

- A. EoMPLS-based VPLS can carry multicast traffic in a scalable manner
- B. Use a mesh of GRE tunnels to carry the streams between sites
- C. Enable snooping mechanisms on the provider PE routers.
- D. Replace VPLS with a Layer 3 MVPN solution to carry the streams between sites

Answer: D

NEW QUESTION 68

A customer asks you to perform a high level review of their upcoming WAN refresh for remote sites.
 The review is specially focused on their retail store operations consisting of 500+ locations connected via multipoint IPsec VPN solution.
 Which routing protocol would be valid but would also be the most restrictive for the expansion of this deployment model?

- A. EIGRP
- B. IS-IS
- C. OSPF
- D. BGP

Answer: B

NEW QUESTION 73

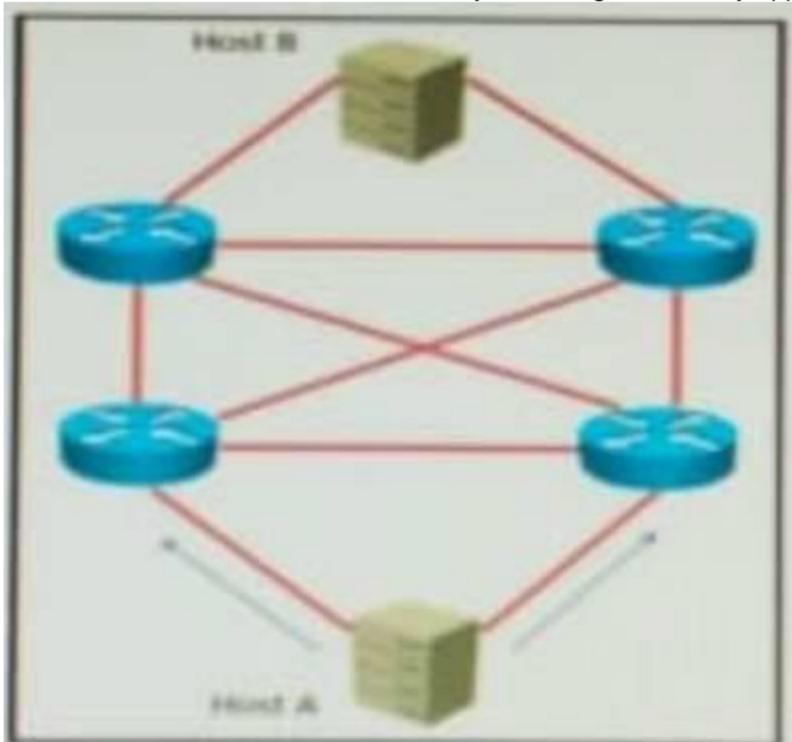
As part of a new network design documentation, you are required to explain the reason for choosing cisco FabricPath for Layer 2 loop avoidance.
 Which two elements help Cisco FabricPath mitigate Layer 2 loops if they happen in the Layer 2 MP network? (Choose two)

- A. MAC tunneling
- B. IS-IS multipath
- C. RPF check
- D. TTL header

Answer: CD

NEW QUESTION 77

Refer to the exhibit. A/J links are P2P Layer 3. A high availability application is synchronizing data between host A and host B.



To increase chance of delivery the same data is sent twice from host A on two different NICs toward the two NICs on host B.
 Which solution must be deployed in the network to ensure that any failure in the network does not trigger data loss on host B?

- A. EIGRP with feasible successors
- B. BFD
- C. IP Fast Reroute
- D. Static routes

Answer: C

NEW QUESTION 80

Which encoding format does cisco ios XE software support for NETCONF?

- A. It supports HTML encoding for NETCONF
- B. It supports YAML encoding for NETCONF
- C. It supports XML encoding for NETCONF
- D. It supports JSON encoding for NETCONF

Answer: C

NEW QUESTION 85

You want to split an Ethernet domain in two.
Which parameter must be unique in this design to keep the two domains separated?

- A. VTP domain
- B. VTP password
- C. STP type
- D. VLAN ID

Answer: D

NEW QUESTION 86

Which option is a fate-sharing characteristic in regards to network design?

- A. A failure of a single element causes the entire service to fail
- B. It protects the network against failures in the distribution layer
- C. It acts as a stateful forwarding device
- D. It provides data sequencing and acknowledgment mechanisms

Answer: A

NEW QUESTION 90

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

NEW QUESTION 91

Two enterprise networks must be connected together. Both networks are using the same private IP addresses.
The client requests from both sides should be translated using hide NAT (dynamic NAT) with the overload feature to save IP addresses from the NAT pools.
Which design addresses this requirement using only one Cisco IOS NAT router for both directions?

- A. This is not possible, because two Cisco IOS NAT routers are required to do dynamic NAT, with overload in both directions.
- B. The ip nat inside and ip nat outside commands must be configured at the interfaces with the overload option in both directions.
- C. The overload feature is the default and does not have to be configured.
- D. Two different NAT pools must be used for the ip nat inside source and the ip nat outside source commands for the overload feature in both directions.
- E. The Nat Virtual interface must be used to achieve this requirement.

Answer: D

NEW QUESTION 96

A BGP route reflector in the network is taking longer than expected to coverage during large network changes.
Troubleshooting shows that the router cannot handle all the TCP acknowledgements during route updates.
Which action can be performed to tune the device performance?

- A. Increase the size of the hold queue.
- B. Increase the size of the large buffers.
- C. Decrease the size of the small buffers.
- D. Increase the keepalive timers for each BGP neighbor.

Answer: A

NEW QUESTION 97

Which two application requirements are mandatory for traffic to receive proper treatment when placed in the priority queue? (Choose two.)

- A. small transactions (HTTP-like behavior)
- B. WRED drop treatment
- C. tolerance to packet loss
- D. intolerance to jitter
- E. TCP-based application

Answer: AD

NEW QUESTION 100

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 104

Which two descriptions of CWDM are true? (Choose two)

- A. typically used over long distances, but requires optical amplification
- B. uses the 850nm band
- C. allows up to 32 optical carriers to be multiplexed onto a single fiber
- D. shares the same transmission window as DWDM
- E. Passive CWDM devices require no electrical power

Answer: DE

NEW QUESTION 109

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 110

What are two primary design constraints when a robust infrastructure solution is created? (Choose two.)

- A. monitoring capabilities
- B. project time frame
- C. staff experience
- D. component availability
- E. total cost

Answer: BE

NEW QUESTION 114

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

- Achieve fast failover to control traffic when controllers fail.
- Yield a short distance and high resiliency in the connection between the switches and the controller.
- 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 118

Which undesired effect of increasing the jitter compensation buffer is true?

- A. The overall transport jitter decreases and quality improves.
- B. The overall transport jitter increases and quality issues can occur.
- C. The overall transport delay increases and quality issues can occur.
- D. The overall transport delay decreases and quality improves.

Answer: C

NEW QUESTION 120

Which three tools are used for ongoing monitoring and maintenance of a voice and video environment? (Choose three.)

- A. flow-based analysis to measure bandwidth mix of applications and their flows
- B. call management analysis to identify network convergence-related failures
- C. call management analysis to identify CAC failures and call quality issues
- D. active monitoring via synthetic probes to measure loss, latency, and jitter
- E. passive monitoring via synthetic probes to measure loss, latency, and jitter

F. flow-based analysis with PTP time-stamping to measure loss, latency, and jitter

Answer: ACD

NEW QUESTION 123

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 126

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. andIPsec 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 130

Which MPLS TE design consideration is true?

- A. MPLS TE replaces LDP and the dependency of the IGP to identify the best path.
- B. MPLS TE provides link and node protection
- C. MPLS TE optimizes the routing of IP traffic, given the constraints imposed by backbone capacity and application requirements.
- D. MPLS TE requires Layer 3 VPN full-mesh topology deployment

Answer: C

NEW QUESTION 131

The network designer needs to use GLOP IP address in order make them unique within their ASN, which multicast address range will be considered?

- A. 239.0.0.0 to 239.255.255.255
- B. 224.0.0.0 to 224.0.0.255
- C. 233.0.0.0 to 233.255.255.255
- D. 232.0.0.0 to 232.255.255.255

Answer: C

NEW QUESTION 135

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