Cisco

Exam Questions 400-007

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

NEW QUESTION 1
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 2
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 3
A multicast network is sing 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 4
Which purpose of a dynamically created tunnel interface on the design of IPv6 multicast services Is
true?

A. first-hop router registration to the RP
B. multicast client registration to the RP
C. multicast source registration to the RP
D. transport of all IPv6 multicast traffic

Answer: D

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 BGP feature provides fast convergence?

A. BGP PIC |
B. BGP-EVPN
C. BGP FlowSpec
D. BGP-LS

Answer: A

NEW QUESTION 7
Which network management framework can be used to develop a network architecture that contains business requirements analysis, gap analysis, and network diagrams as artifacts to be used for design and implementation later?

A. TOG
B. ITIL
C. FCAPS
D. Cobit

Answer: C

NEW QUESTION 8
You are designing a network for a branch office. In order to improve convergence time, you are required to use the BFD feature Which four routing protocols can you use to facilitate this? (Choose four.)

A. IS-IS
B. static
C. RIP
D. EIGRP
E. BGP

Answer: ABDE

NEW QUESTION 9
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 10
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 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 11
A small organization of 20 employees is looking to deliver a network design service for
modernizing customer networks to support advanced solutions:
- Project scope and weekly progress should be visualized by the management.
- Always consider feedback and make changes accordingly during the project.
- Should consider flexibility to change scope at the point of time.

Which project methodology meets the requirements and have the least impact on the outcome?

A. Scrum
B. LEAN
C. Kanban
D. Six-Sigma

Answer: C

NEW QUESTION 14
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 19
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 23
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 arehardware 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 protocolconvergence.

Answer: AD

NEW QUESTION 24
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 27
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 31
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 36
Company XYZ has a new network based on IPv6. Some of the subnets that they are planning to use will be confidential and need an addressing scheme that confines them to the local campus network.
Which type of IPv6 addresses can be used for these networks in the IPv6 addressing design?

A. local addresses
B. private addresses
C. link-local addresses
D. unique local addresses

Answer: D

NEW QUESTION 39
Refer to the exhibit. An engineer has been asked to redesign the traffic flow toward AS 111 coming from AS 500. Traffic destined to AS 111 network 91.7.0.0/16 should come in via AS 100. while traffic destined to all other networks in AS 111 should continue to use the existing path. Which BGP attributes are best suited to control this inbound traffic coming from BGP AS 500 Into the 91.7.0.0/16 network?
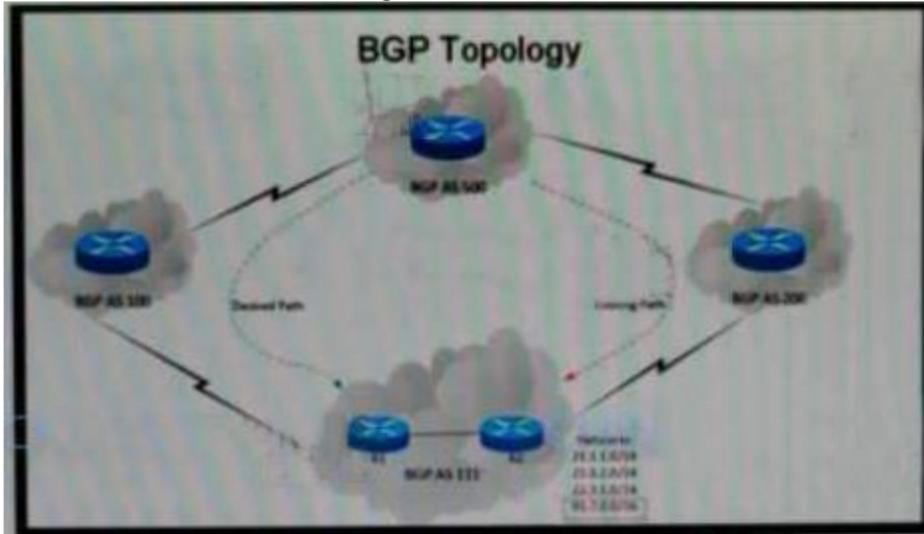
A. Prepend AS path for the 91.7.0.0/16 network and set it for neighbor in AS 200.
B. Use extended community for the 91.7.0.0/16 network, not advertising it to the bi-lateral peer.
C. Use local preference on R1 for the networks that AS 500 advertises to AS 111.
D. Set higher MED for neighbor in AS 100 to influence incoming traffic for the 91. 7.0.0/16 network.

Answer: A

NEW QUESTION 40
Company XYZ has 30 sites running a legacy private WAN architecture that connects to the Internet via multiple highspeed connections.
The company is now redesigning their network and must comply with these design requirements:
- Use a private WAN strategy that allows the sites to connect to each other directly and caters for future expansion.
- Use the Internet as the underlay for the private WAN. Securely transfer the corporate data over the private WAN.
Which two technologies should be Incorporated into the design of this network? (Choose two.)
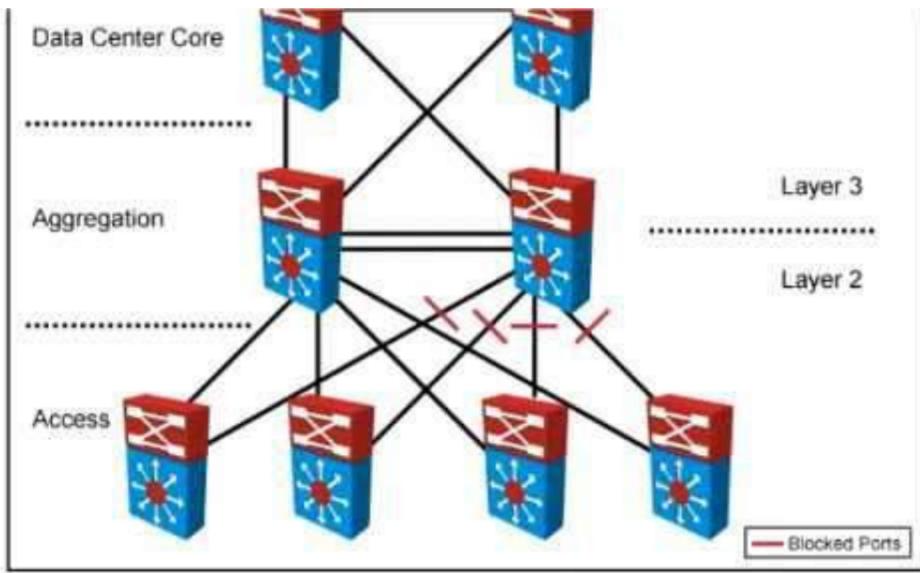
A. S-VTI
B. IPsec
C. DMVPN
D. GET VPN
E. PPTP

Answer: BC

NEW QUESTION 42
Refer to the exhibit. Your company designed a network to allow server VLANs to span all access switches in a data center.
In the design, Layer 3 VLAN interfaces and HSRP are configured on the aggregation switches.
Which two features improve STP stability within the network design? (Choose two.)

A. BPDU guard on access ports
B. BPDU guard on the aggregation switch downlinks toward access switches
C. root guard on the aggregation switch downlinks toward access switches
D. root guard on access ports
E. edge port on access ports
F. access switch pairs explicitly determined to be root and backup root bridges

Answer: AE

NEW QUESTION 46
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)
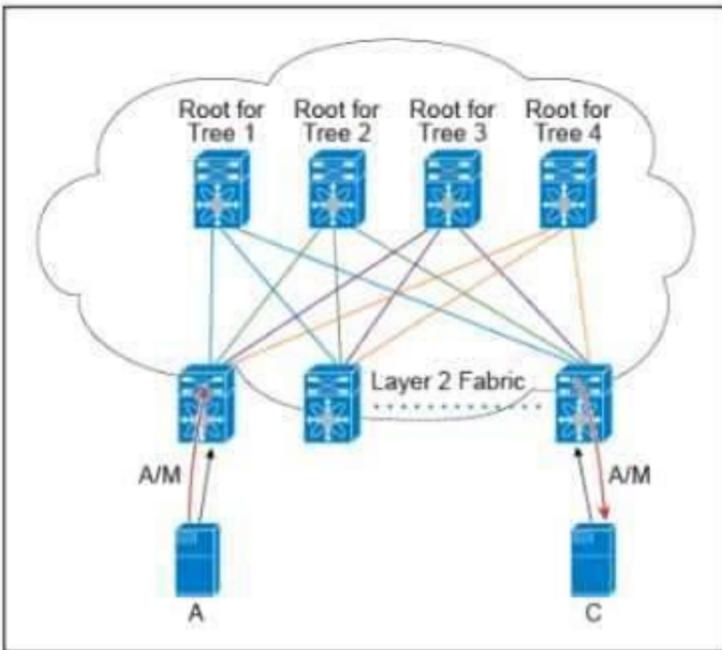
A. A specific (S.G) traffic is not load-balanced
B. All trees are utilized at the same level of the traffic rate
C. Every leaf node assigns the specific (S.G) to the same tree.
D. A specific (S.G) multicast traffic is load-balanced across all trees due to better link utilization efficiency.
E. The multicast traffic is generally load-balanced across all trees

Answer: BD

NEW QUESTION 49
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 52
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 57
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 59
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 61
When designing a WAN that will be carrying real-time traffic, what are two important reasons to consider serialization delay? (Choose two)

A. Serialization delays are invariable because they depend only on the line rate of the interface
B. Serialization delays are variable because they depend on the line rate of the interface and on thetype of the packet being serialized.
C. Serialization delay is the time required to transmit the packet on the physical media.
D. Serialization delays are variable because they depend only on the size of the packet beingserialized
E. Serialization delay depends not only on the line rate of the interface but also on the size of thepacket

Answer: BD

NEW QUESTION 66
Which two foundational aspects of loT are still evolving and being worked on by the industry at large? (Choose two)

A. WiFi protocols
B. Regulatory domains
C. Low energy Bluetooth sensors
D. IoT consortia
E. Standards

Answer: AC

NEW QUESTION 68
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 73
You are designing a network running both IPv4 and IPv6 to deploy QoS.
Which consideration is correct about the QoS for IPv4 and IPv6?

A. IPv4 and IPv6 traffic types can use use queuing mechanisms such as LLQ, PQ and CQ.
B. IPv6 packet classification is only available with process switching, whereas IPv4 packetclassification is available with both process switching and CEF.
C. IPv6 and IB/4 traffic types can use a single QoS policy to match both protocols
D. Different congestion management mechanisms need to be used for IPv4 and IPv6 traffic types

Answer: C

NEW QUESTION 78
A Tier-3 Service Provider is evolving into a Tier-2 Service Provider due to the amount of Enterprise business it is receiving.
The network engineers are re-evaluating their IP/MPLS design considerations in order to support duplicate/overlapping IP addressing from their Enterprise customers within each Layer3 VPN.
Which concept would need to be reviewed to ensure stability in their network?

A. Assigning unique Route Distinguishers
B. Assigning unique Route Target ID'S
C. Assigning unique IP address space for the Enterprise NAT/Firewalls
D. Assigning unique VRF ID's to each L3VPN

Answer: A

NEW QUESTION 81
A Service Provider is designing a solution for a managed CE service to a number of local customers using a single CE platform and wants to have logical separation on the CE platform using Virtual Routing and Forwarding (VRF) based on IP address ranges or packet length.
Which is the most scalable solution to provide this type of VRF Selection process on the CE edge device?

A. Static Routes for Route Leaking
B. Policy Based Routing
C. OSPF per VRF Instance
D. Multi-Protocol BGP

Answer: B

NEW QUESTION 82
What best describes the difference between Automation and Orchestration?

A. Automation refers to an automatic process for completing a single task and Orchestration refersto assembling and coordinating a set of tasks and conditions.
B. Automation describes a hands-off configuration process while Orchestration refers to sets ofautomation tasks that require the network administrator to coordinate
C. Automation refers to an automatic process for completing multiple tasks with conditions andOrchestration refers to executing tasks in parallel.
D. Automation refers to scripting languages (Pytho
E. Ansible etc.) and Orchestration refers tocommercial products that control configuration deployment

Answer: A

NEW QUESTION 83
Refer to the exhibit. A new high availability DB sever cluster is installed in the network.
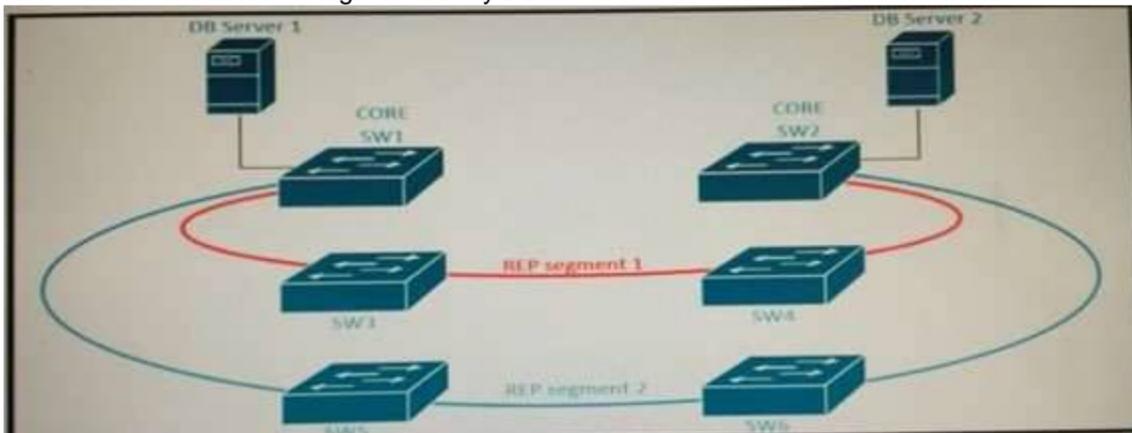
These two servers require high bandwidth and low latency Layer 2 connectivity for database replication.
Which solution supports these requirements?

A. Add two new links between SW1 and SW2 configured as LACP trunk with STP
B. Add secondary links to REP segments 1 and 2
C. Add two new links between SW1 and SW2 configured as REP segment 3
D. Add two new links between SW1 and SW2 configured as REP segments 1 and 2 respectively

Answer: C

NEW QUESTION 84
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 87
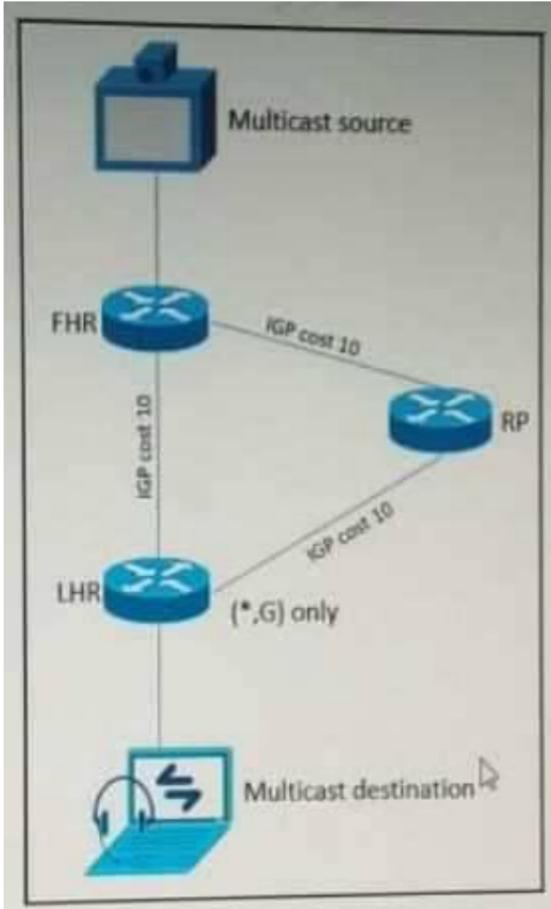How many fully established neighbour relationships exist on an Ethernet with five routers running OSPF as network

type broadcast?

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

Answer: C

NEW QUESTION 90
Refer to the exhibit.

As part of a redesign project, you must predict multicast behavior.
What happens to the multicast traffic received on the shared tree (*,G), if it is received on the LHR interface indicated*?

A. It is dropped due to an unsuccessful RPF check against the multicast source
B. It is switched give that no RPF check is performed
C. It is switched due to a successful RPF check against the routing table
D. It is dropped due to an unsuccessful RPk8t8ck against the multicast receiver.

Answer: C

NEW QUESTION 93
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 95
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 97
Which two design option are available to dynamically discover the RP in an IPv6 multicast network? (Choose two)

A. embedded RP
B. MSDP

C. BSR
D. Auto-RP
E. MLD

Answer: AC

NEW QUESTION 102

SDWAN networks capitalize the usage of broadband Internet links over traditional MPLS links to offer more cost benefits to enterprise customers. However, due to the insecure nature of the public Internet, it is mandatory to use encryption of traffic between any two SDWAN edge devices installed behind NAT gateways. Which overlay method can provide optimal transport over unreliable underlay networks that are behind NAT gateways?

A. TLS
B. DTLS
C. IPsec
D. GRE

Answer: C

NEW QUESTION 103

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 105

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 stale consistency
C. control path reliability
D. controller clustering

Answer: B

NEW QUESTION 108

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 112

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 115

Retef to the exhibit. This network is running OSPF and EIGRP as the routing protocols. Mutual redistribution of the routing protocols has been contoured 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?
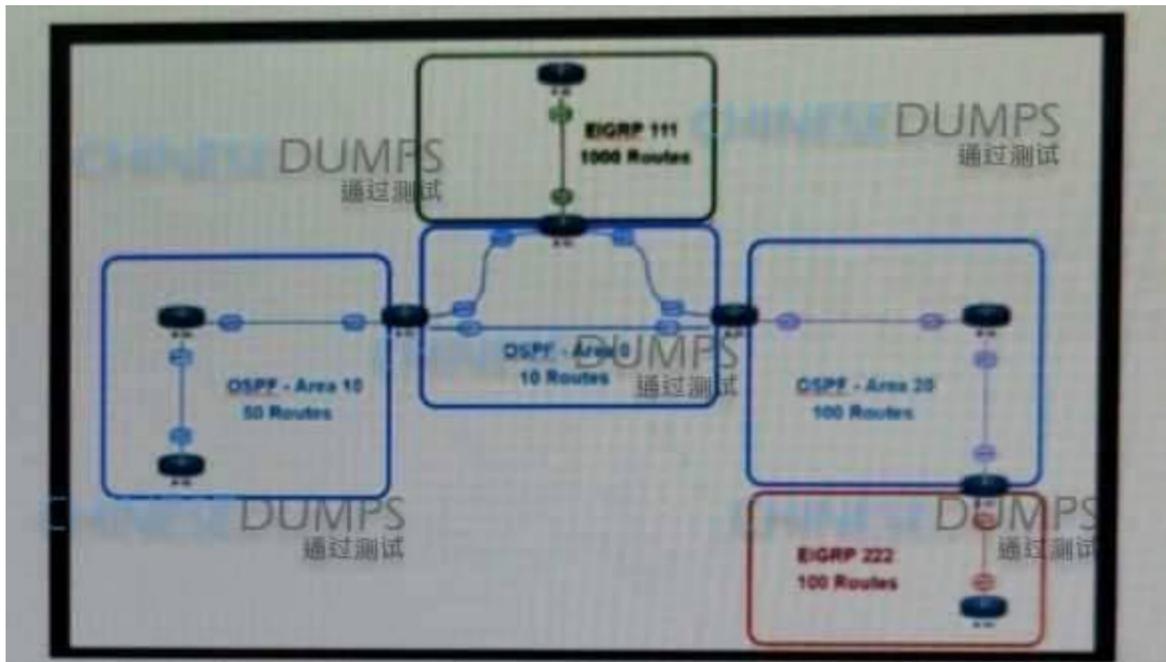
A. route summarization the ASBR interfaces facing the OSPF domain
B. route summarization on the appropriate ASBRS.
C. route summarization on the appropriate ABRS.
D. route summarization on EIDRP routers connecting toward the ASBR

Answer: B

NEW QUESTION 118
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 theprimary 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 Interne
G. It is widelyused with defined best practices and an industry standard.

Answer: A

NEW QUESTION 120
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 capacityand application requirements.
D. MPLS TE requires Layer 3 VPN full-mesh topology deployment
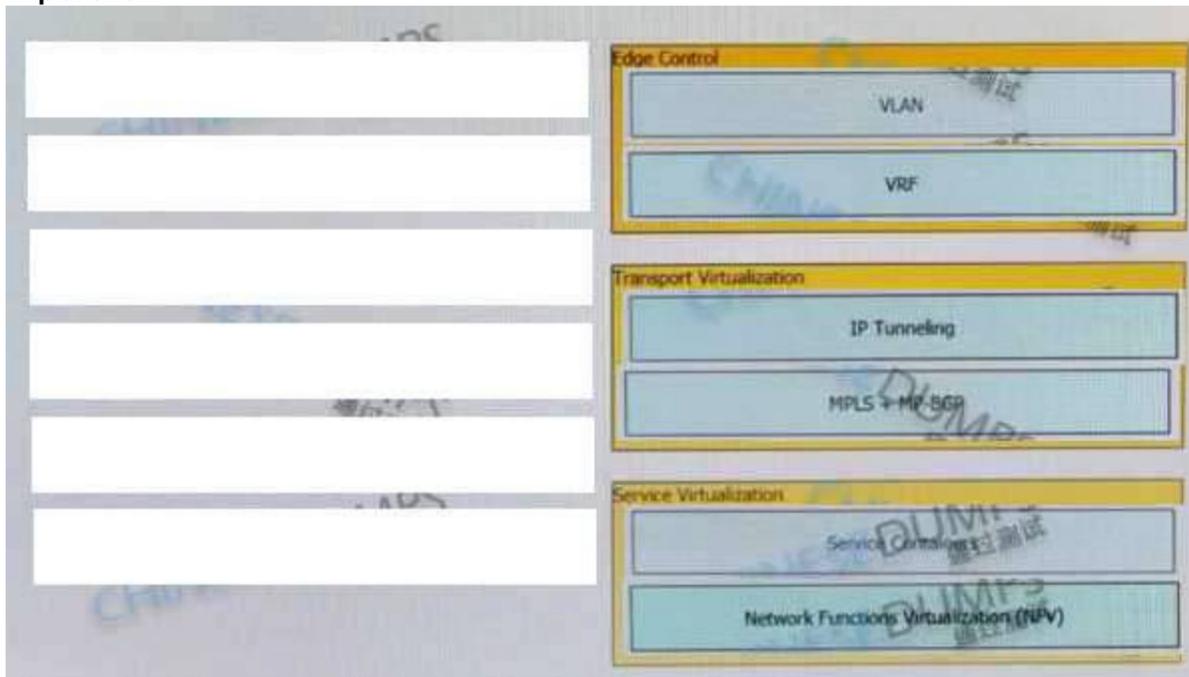
Answer: C

NEW QUESTION 122
Drag and Drop Question
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:

NEW QUESTION 125
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