Vendor: Cisco

Exam Code: 400-007

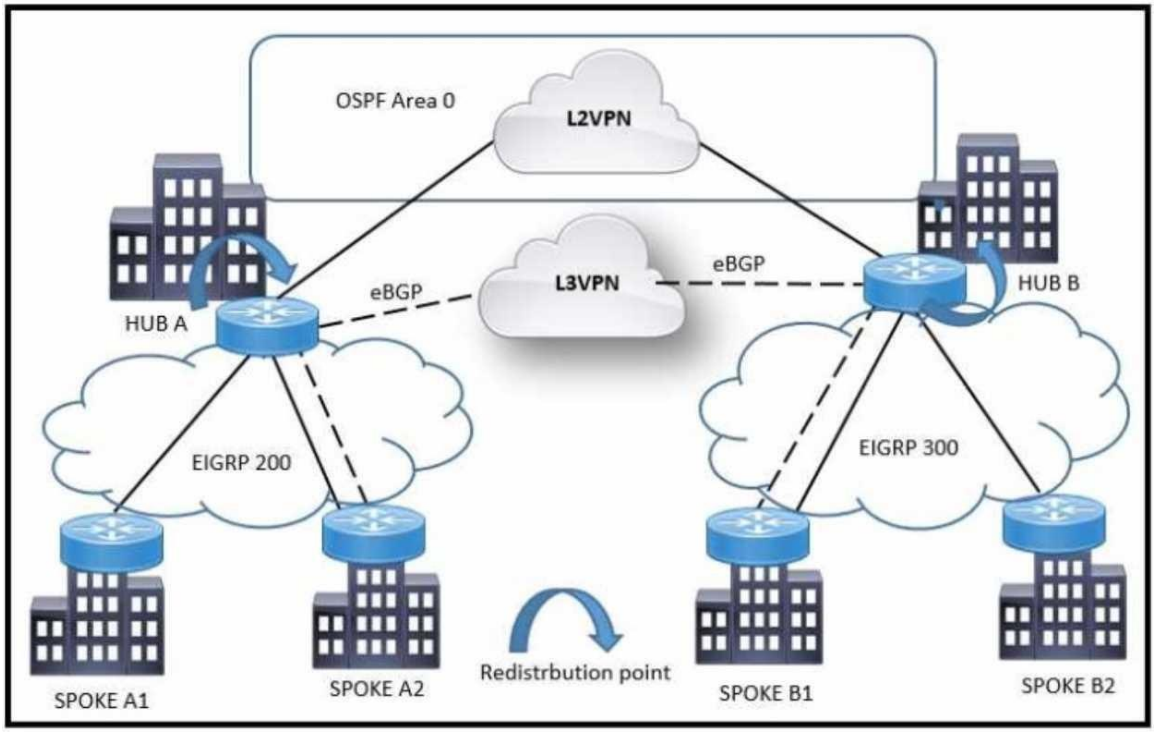
Exam Name: Cisco Certified Design Expert (CCDE v3.1) Written Exam

Version: DEMO

QUESTION 1
Refer to the exhibit A customer network design team is planning a migration from a legacy TDM-based L2VPN to an MPLS-based L3VPN Migration is planned in a phased approach:

```
- OSPF backbone Link between HUB A and HUB B sites to be migrated to
eBGP
- Spoke A2 and Spoke B1 will be migrated to the L3VPN
```

Which solution design can be considered to avoid routing loops during backbone link migration?



A. Enable route-filtering on OSPF backbone routers for spoke traffic
B. Advertise low AD value for transit traffic on hub sites.
C. OSPF backbone area advertises summarized routes to hub.
D. Redistribute EIGRP 200 and 300 with low cost into BGP

Answer: C

QUESTION 2
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.

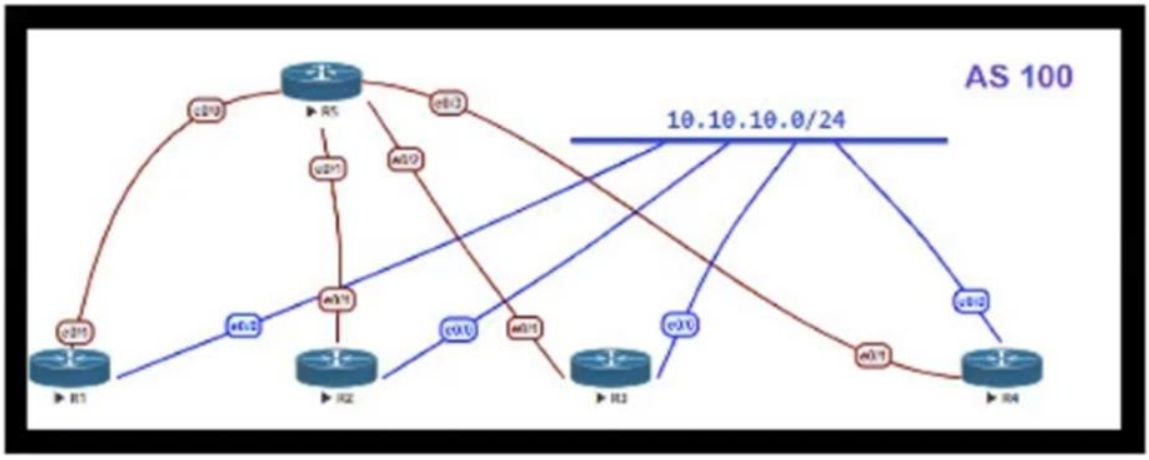
Which two IPv4 security features are recommended for this company? (Choose two)

A. IPv6 DHCP Guard

B. IPv6 Source Guard
C. IPv6 Destination Guard
D. IPv6 Prefix Guard
E. IPv6 RA Guard

Answer: CD
Explanation:
IPv6 source guard is an interface feature between the populated binding table and data traffic filtering. This feature enables the device to deny traffic when it is originated from an address that is not stored in the binding table.
The IPv6 Destination Guard feature works with IPv6 neighbor discovery to ensure that the device performs address resolution only for those addresses that are known to be active on the link. It relies on the address glean functionality to populate all destinations active on the link into the binding table and then blocks resolutions before they happen when the destination is not found in the binding table.
The IPv6 Prefix Guard feature works within the IPv6 Source Guard feature, enabling the device to deny traffic originated from nontopologically correct addresses.
https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/ipv6_fhsec/configuration/xe-16/ip6f-xe-16-book/ip6-src-guard.html

QUESTION 3
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 Area0 and Area1. Now BGP must be deployed within AS100 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: A

QUESTION 4
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

QUESTION 5
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

QUESTION 6
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

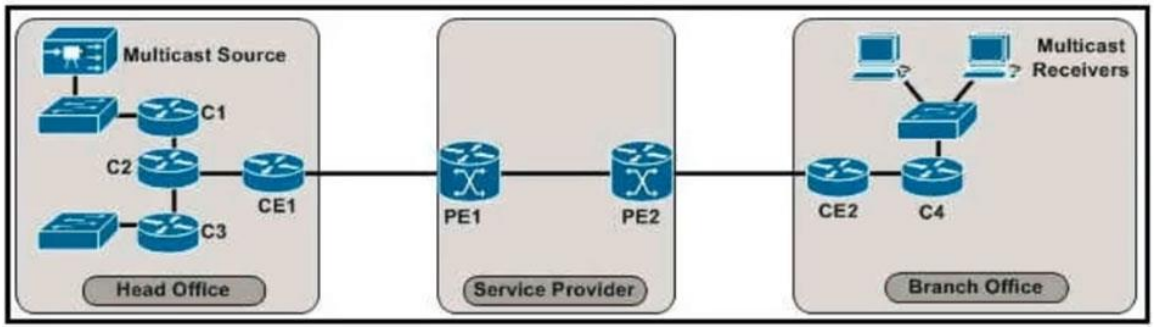
QUESTION 7
A European government passport agency considers upgrading its IT systems to increase performance and workload flexibility in response to constantly changing requirements. The budget manager wants to reduce capital expenses and IT staff and must adopt the lowest-cost technology. Which technology choice is suitable?

A. on premises

B. private cloud
C. public cloud
D. hybrid cloud

Answer: B

QUESTION 8
Refer to the exhibit. This enterprise customer wants to stream one-way video from their head office to eight branch offices using multicast. Their current service provider provides a Layer 3 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: A

QUESTION 9
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

QUESTION 10
Company XYZ Is running a redundant private WAN network using OSPF as the underlay protocol.

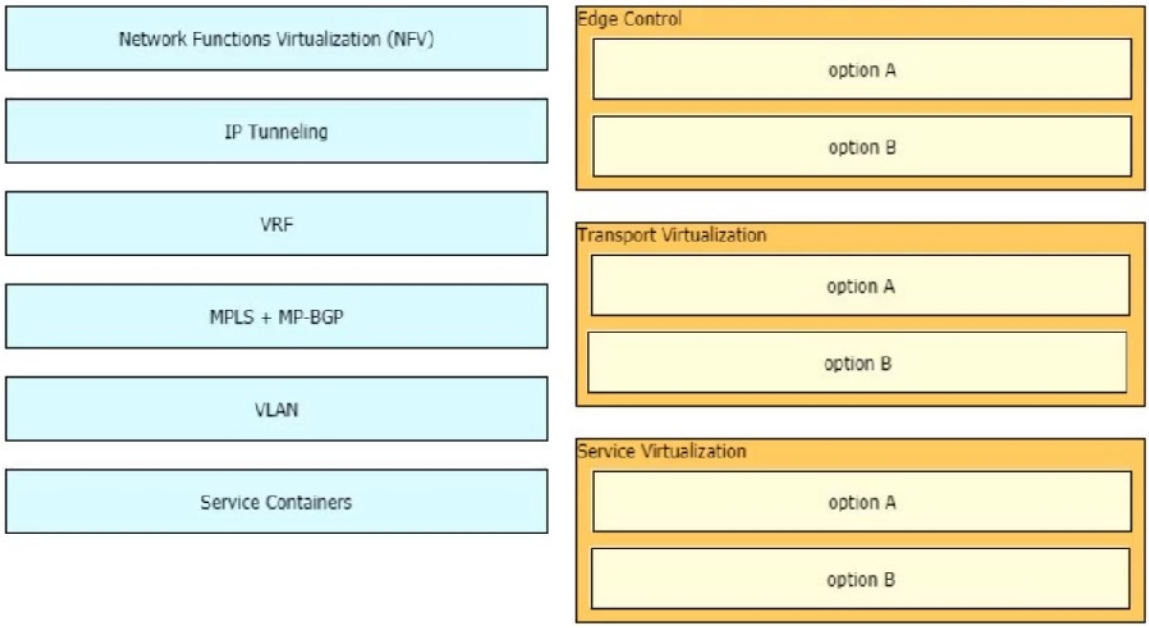
The current design accommodates for redundancy. In the network, but it Is taking over 30 seconds for the network to reconverge upon failure.
Which technique can be Implemented In the design to detect such a failure in a subsecond?

A. STP
B. fate sharing
C. OSPF LFA
D. BFD
E. flex links

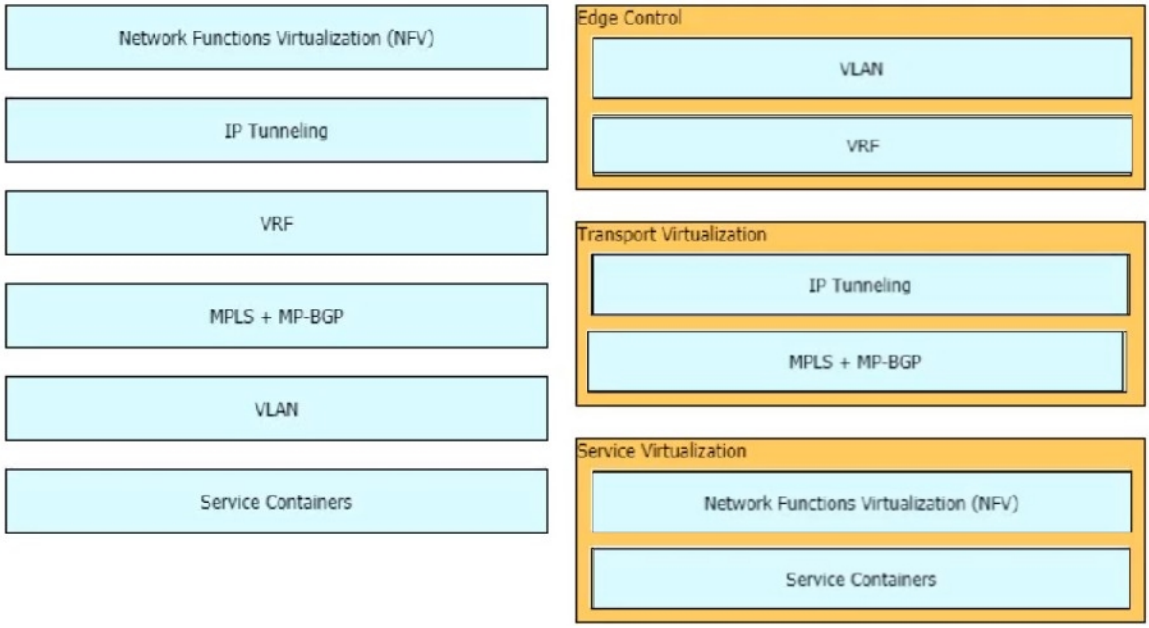
Answer: D

QUESTION 11
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.



Answer:



QUESTION 12
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

QUESTION 13
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 SLA. and IPsec for secure transport over the public Internet.
C. Both technologies should be used. 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).

D. MPLS meets all these requirements and it is more reliable than using the Internet. It is widely used with defined best practices and an industry standard.

Answer: A

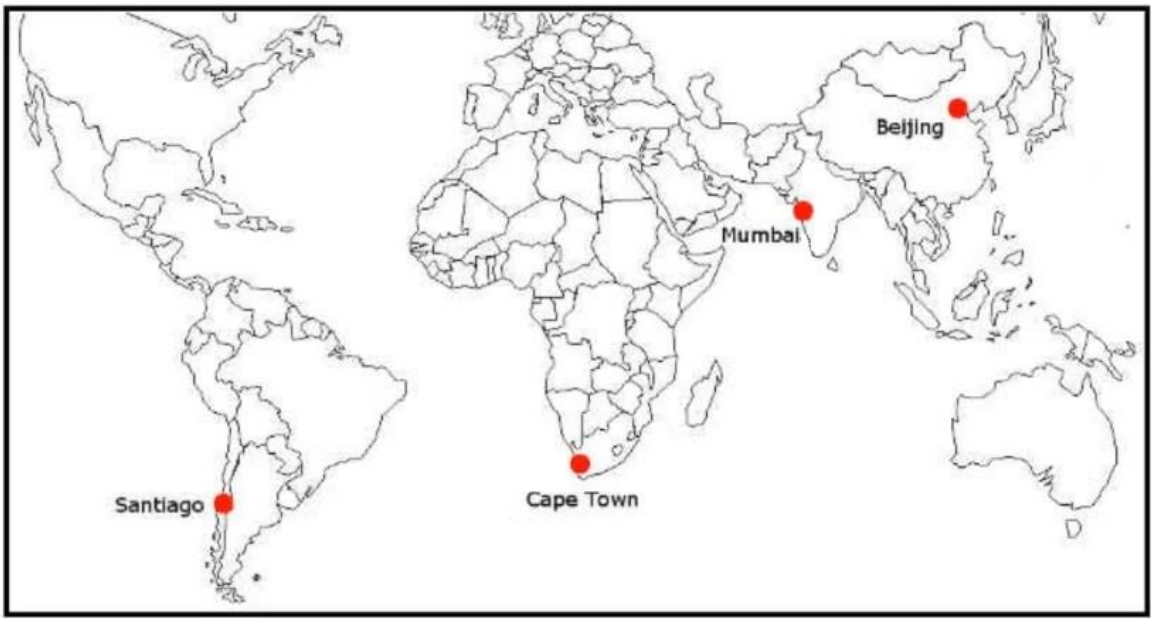
QUESTION 14
Refer to the table. A customer investigates connectivity options for a DCI between two production data centers. The solution must provide dual 10G connections between locations with no single points of failure for Day 1 operations. It must also include an option to scale for up to 20 resilient connections in the second year to accommodate isolated SAN over IP and isolated dedicated replication IP circuits. All connectivity methods are duplex 10 Gbps. Which transport technology costs the least over two years in this scenario?

CONNECTIVITY	CAPEX	OPEX ANNUAL	INSTALLATION FEE	TERM
DWDM over dark fiber	$250,000	$100,000	$30,000	60 months
CWDM over dark fiber	$150,000	$100,000	$25,000	60 months
MPLS	$50,000	$150,000	$75,000	12 months
Metro Ethernet	$45,000	$125,000	$5,000	36 months

A. Metro Ethernet
B. DWDM
C. CWDM
D. MPLS

Answer: B

QUESTION 15
Refer to the exhibit. ACME Mining has four data centers in Santiago, Cape Town, Mumbai, and Beijing, full-mesh connected via a 400 Mb/s EVP-LAN.



They want to deploy a new mission-critical application with these requirements:

```
- cluster heartbeat 2 Mb/s continuous (250 KB/s)
- cluster heartbeat one-way maximum latency 100 ms
```

These are the current ping tests results between the four data centers:

	Santiago	Cape Town	Mumbai	Beijing
Santiago	-	280 ms	378 ms	409 ms
Cape Town	280 ms	-	185 ms	445 ms
Mumbai	383 ms	176 ms	-	443 ms
Beijing	430 ms	448 ms	442 ms	-

Which hosting data center pair can host the new application?

A. Mumbai and Beijing
B. Santiago and Cape Town
C. Santiago and Mumbai
D. Cape Town and Mumbai
E. Cape Town and Beijing
F. Santiago and Beijing

Answer: D

QUESTION 16
Refer to the table. 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?

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

Answer: D

QUESTION 17
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

QUESTION 18
An IT services company offers cloud services to a banking customer. The banking customer has raised a ticket about unauthorized access and data loss. They use an authentication token on a mobile phone for authenticating access to the cloud platform from their local applications. The security response team has determined that the attacker used a phishing scheme in an effort to replace the token allowing them to direct the banking data to which policy change can help prevent identical situations in the future ?

A. Monitor connections to unknown cloud instances through the use of SSL decryption
B. Monitor all API interfacing to the storage platform for suspicious activity
C. Monitor any access from the outside except for expected operational areas of an organization
D. Monitor the privileges for users that are making changes in the firewall configuration.

Answer: B

QUESTION 19
An enterprise service provider is designing the network for a customer who runs a video application in both a centralized and distributed fashion. The team has looked at the following parameters:

```
- The available bandwidth for branches and the associated cost
- Video resource cost
- Usage patterns at hub-and-spoke sites.
- Call agent bridge selection algorithm
```

Which key piece of information is missing and needs to be taken into consideration in order to determine the correct resource allocation model?

A. video traffic jitter and delay
B. type of video resources
C. transport protocol and traffic engineering
D. network management and monitoring

Answer: A

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