



**Cisco**

## **Exam Questions 400-007**

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

**NEW QUESTION 1**

Which solution component helps to achieve comprehensive threat protection and compliance for migration to multicloud SDX architectures?

- A. system-oriented architecture
- B. OSASE architecture
- C. platform-oriented architecture
- D. SASE architecture

**Answer: D**

**NEW QUESTION 2**

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 3**

Drag and drop the QoS technologies from the left onto the correct capabilities on the right

low latency queuing	allows you to buffer traffic so that it adheres to the bandwidth provided by the service provider
CB-WFQ	used for scavenger traffic when it exceeds a specified limit
policing	allows you to prioritize traffic
traffic shaping	allows you to reserve bandwidth

- A. Mastered
- B. Not Mastered

**Answer: A**

**Explanation:**

low latency queuing	traffic shaping
CB-WFQ	policing
policing	low latency queuing
traffic shaping	CB-WFQ

**NEW QUESTION 4**

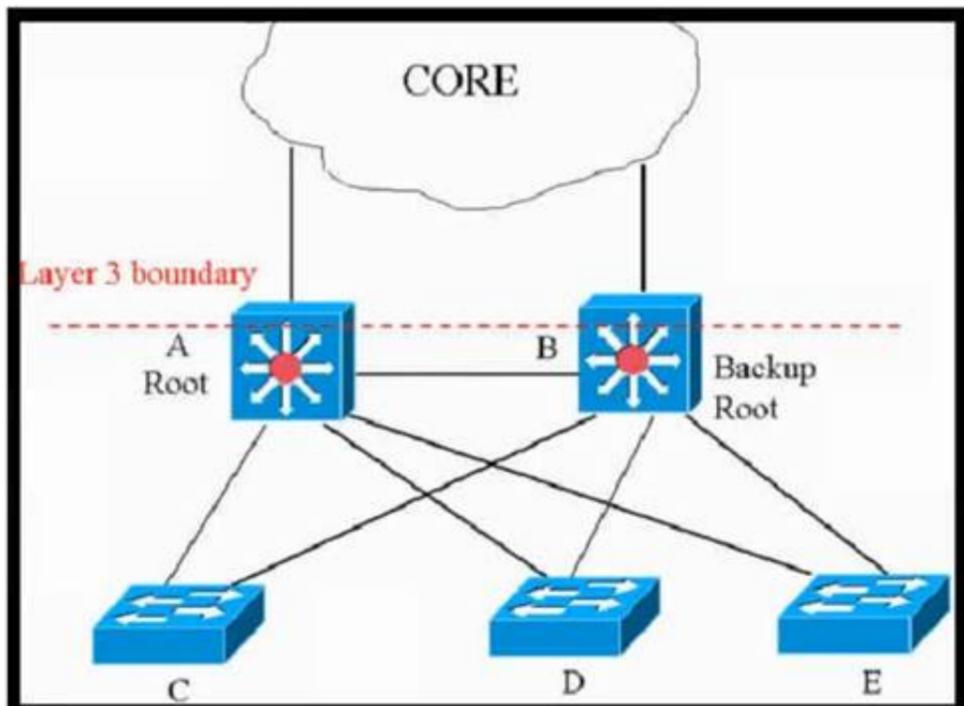
According to the CIA triad principles for network security design, which principle should be priority for a Zero Trust network?

- A. requirement for data-in-motion encryption and 2FA authentication
- B. requirement for data-at-rest encryption foe 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 5**

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 6**

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

Network Functions Virtualization (NFV)	Edge Control
IP Tunneling	option A
VRF	option B
MPLS + MP-BGP	Transport Virtualization
VLAN	option A
Service Containers	option B
	Service Virtualization
	option A
	option B

- A. Mastered
- B. Not Mastered

Answer: A

**Explanation:**

Graphical user interface Description automatically generated with medium confidence

**NEW QUESTION 7**

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 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 8**

Which issue poses a challenge for security architects who want end-to-end visibility of their networks?

- A. too many overlapping controls
- B. too many disparate solutions and technology silos
- C. an overabundance of manual processes
- D. a network security skills shortage

**Answer: B**

#### NEW QUESTION 9

You have been asked to design a remote access VPN solution to support up to 2000 devices. You must ensure that only corporate assets are allowed to connect to the VPN, and users must authenticate to gain access of their based on their user role. Users must use a password that they are already using to access existing applications . A user may not always use the same device to access the VPN. Which two options combined meet the requirements? (Choose two)

- A. Use local usernames and passwords on the VPN device
- B. Deploy a central authentication directory that users can be authenticated and authorized against
- C. Deploy certificates that are unique to each user
- D. Deploy an IPsec VPN solution
- E. Deploy certificates that are unique to each device
- F. Deploy a SSL VPN solution

**Answer: BF**

#### NEW QUESTION 10

A company uses equipment from multiple vendors in a data center fabric to deliver SDN, enable maximum flexibility, and provide the best return on investment. Which YANG data model should be adopted for comprehensive features to simplify and streamline automation for the SDN fabric?

- A. proprietary
- B. OpenConfig
- C. native
- D. IETF

**Answer: B**

#### NEW QUESTION 10

Company XYZ uses an office model where the employees can use any open desk and plug their laptops in. They want to authenticate the end users using their domain username and password before allowing them access to the network. The design must also accommodate the ability of controlling traffic within the same group or subnet if a macro (or micro) segmentation-based model is adopted in the future. Which protocol can be recommended for this design to authenticate end users?

- A. LDAP
- B. EAP
- C. TACACS+
- D. RADIUS

**Answer: D**

#### Explanation:

<https://www.networkstraining.com/what-is-cisco-ise/>

#### NEW QUESTION 11

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 14

You were tasked to enhance the security of a network with these characteristics:

- A pool of servers is accessed by numerous data centers and remote sites
- The servers are accessed via a cluster of firewalls
- The firewalls are configured properly and are not dropping traffic
- The firewalls occasionally cause asymmetric routing of traffic within the server data center.

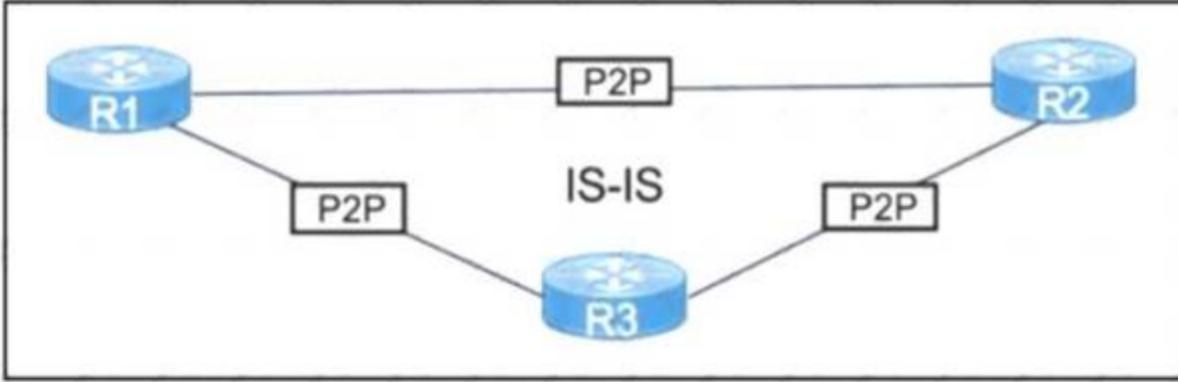
Which technology should you recommend to enhance security by limiting traffic that could originate from a hacker compromising a workstation and redirecting flows at the servers?

- A. Poison certain subnets by adding static routes to Null0 on the core switches connected to the pool of servers.
- B. Deploy uRPF strict mode.
- C. Limit sources of traffic that exit the server-facing interface of the firewall cluster with ACLs.
- D. Deploy uRPF loose mode

**Answer: C**

#### NEW QUESTION 18

Refer to the exhibit.



After a network audit a network engineer must optimize the current network convergence time. The proposed solution must consider link layer and control plane failures. Which solution meets the requirements?

- A. Configure debounce timers
- B. Increase fast hello timers
- C. Implement BFD
- D. Enable LSP fast flood

Answer: C

**NEW QUESTION 20**

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 21**

Drag and drop the design characteristics from the left onto the correct network filter techniques on the right. Not all options are used.

It is used to prevent spoofing attacks when there are alternate routes to a given IP address	Ingress Access Lists target 1
It is used to check the existence of a route without regard to the incoming interface	Strict Reverse Path Forwarding target 2
It is a dynamic filter	Feasible Path Reverse Path Forwarding target 3
It requires manual configuration	Loose Reverse Path Forwarding target 4
It is used as a filtering technique for Martian IP addresses	

- A. Mastered
- B. Not Mastered

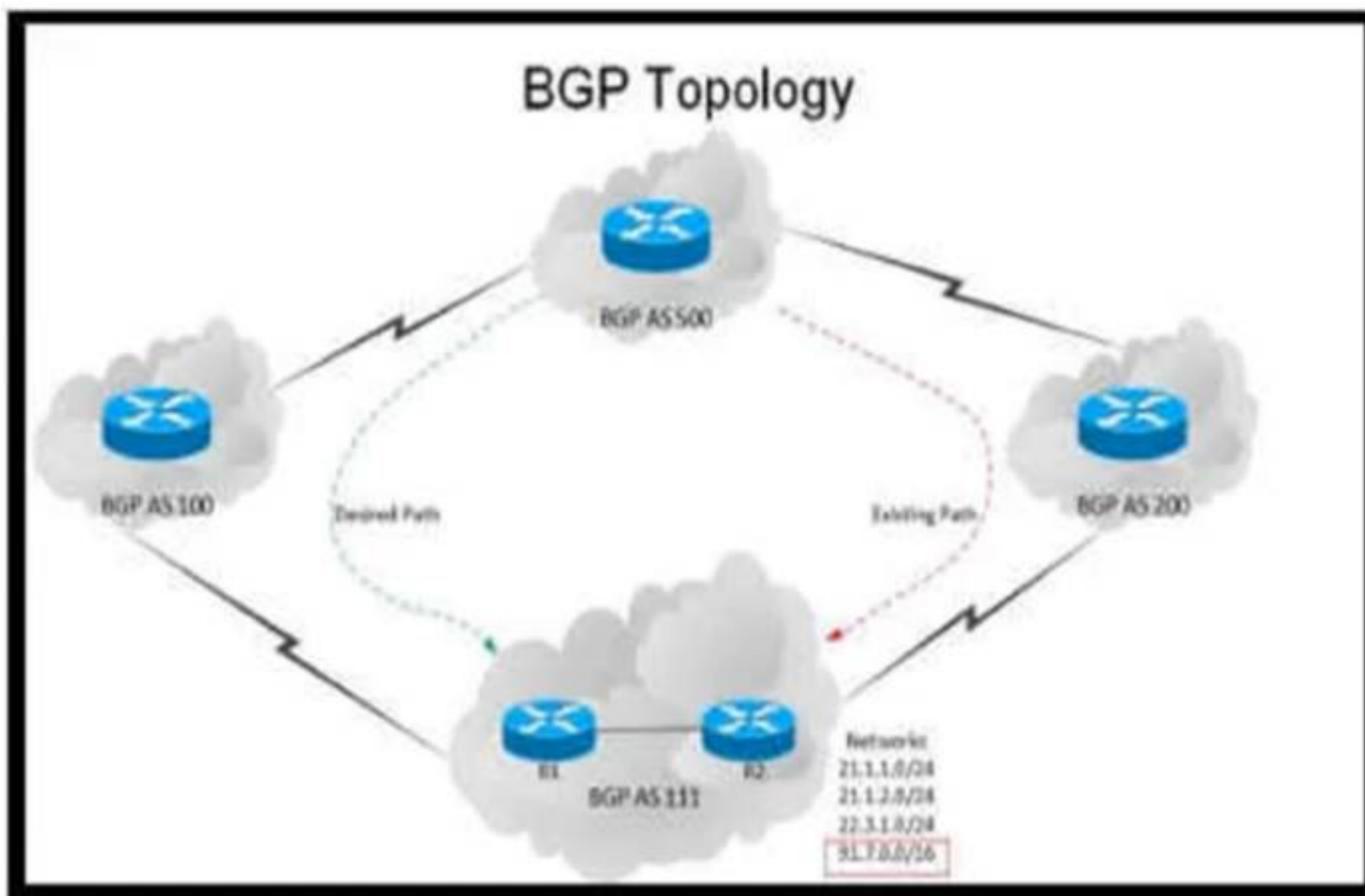
Answer: A

Explanation:

It is used to prevent spoofing attacks when there are alternate routes to a given IP address	<b>Ingress Access Lists</b> It requires manual configuration
It is used to check the existence of a route without regard to the incoming interface	<b>Strict Reverse Path Forwarding</b> It is a dynamic filter
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**NEW QUESTION 23**

Refer to the exhibit.



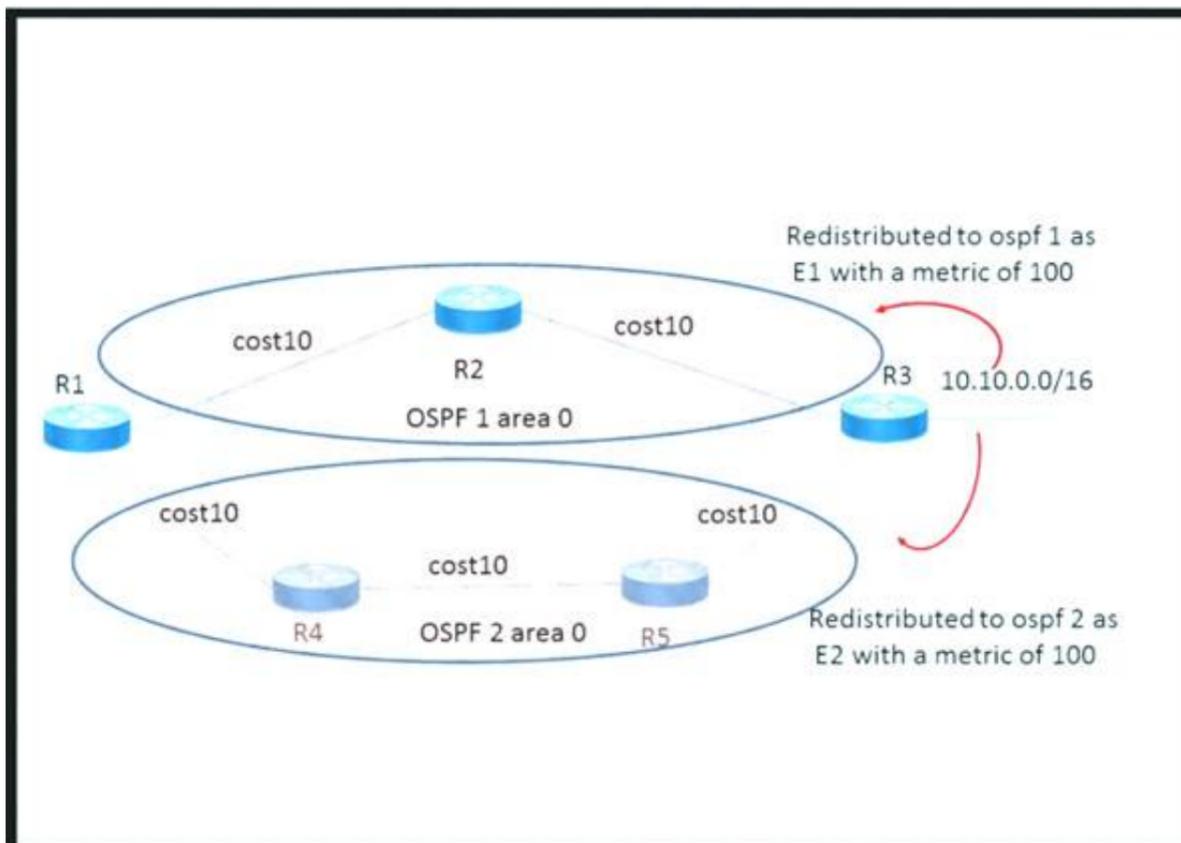
An engineer has been asked to redesign the traffic flow toward AS 111 coming from AS 500. Traffic destined to AS 111 network 91.7.0.0/16 should come in via AS 100, while traffic destined to all other networks in AS 111 should continue to use the existing path. Which BGP attributes are best suited to 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 27**

Refer to the exhibit.



The network 10.10.0.0/16 has been redistributed to OSPF processes and the best path to the destination from R1 has been chosen as R1-R2-R3. A failure occurred on the link between R2 and R3 and the path was changed to R1-R4-R5-R3. What happens when the link between R2 and R3 is restored?

- A. The path R1-R4-R5-R3 continues to be the best path because the metric is better
- B. The path reverts back to R1-R2-R3 because the route type is E1
- C. The path R1-R4-R5-R3 continues to be the best path because OSPF does not compare the metrics between two domains
- D. The path reverts to R1-R2-R3 because this was the previous best path

**Answer:** D

**Explanation:**

When the link between R2 and R3 is restored, the path reverts back to R1-R2-R3 because this was the previous best path. This is because OSPF uses the Dijkstra algorithm to calculate the shortest path tree (SPT) and the path with the lowest cost is chosen as the best path. In this case, the cost of the path R1-R2-R3 is lower than the cost of the path R1-R4-R5-R3, so the path R1-R2-R3 is chosen as the best path. OSPF also has a preference order for different types of routes, such as intra-area, inter-area, external type 1, external type 2, NSSA type 1, and NSSA type 2. However, this preference order only applies when OSPF has to choose between routes of different types to the same destination. In this scenario, both paths are external type 2 routes so the preference order does not affect the path selection.

**NEW QUESTION 31**

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 32**

A business wants to centralize services via VDI technology and to replace remote WAN desktop PCs with thin client-type machines to reduce operating costs. Which consideration supports the new business requirement?

- A. VDI servers should be contained centrally within a DMZ
- B. The thin client traffic should be placed in a WAN QoS priority queue
- C. VDI servers should be contained within dedicated VLANs in each branch location
- D. The WAN should offer low latency and be resized

**Answer:** D

**NEW QUESTION 37**

In search of a system capable of hosting, monitoring, compiling, and testing code in an automated way, what can be recommended to the organization?

- A. Jenkins
- B. Ansible
- C. Perl
- D. Chef

**Answer:** A

**NEW QUESTION 42**

Which two protocols are used by SDN controllers to communicate with switches and routers? (Choose two)

- A. OpenFlash
- B. OpenFlow
- C. NetFlash
- D. Open vSwitch Database
- E. NetFlow

**Answer:** BD

#### NEW QUESTION 44

A network attacker exploits application flaws to compromise critical systems in the organization with these objectives:

- Obtain sensitive data and export the data out of the network.
- Compromise developer and administrator credentials to potentially

What is the next step after application discovery is completed in Zero Trust networkings

- A. Establish visibility and behavior modeling
- B. Enforce policies and microsegmentation.
- C. Assess real-time security health.
- D. Ensure trustworthiness of systems.

**Answer:** A

#### Explanation:

<https://www.cisco.com/c/en/us/solutions/collateral/enterprise/design-zone-security/zt-arch-guide.html>

#### NEW QUESTION 47

Company XYZ wants to deploy OSPF. The design plan requires that two OSPF networks be mutually redistributed at multiple locations and ensure end-to-end connectivity to all of the company's networks Which technology can be used to fulfill the requirements while avoiding the creation of routing loops?

- A. Create a virtual link between ASBRs.
- B. Change the router ID for both ASBRs.
- C. Redistribute routes as external type 2 routes.
- D. Use route maps on ASBRs to filter routes with tags so they are not redistributed.

**Answer:** D

#### Explanation:

<https://www.cisco.com/c/en/us/support/docs/ip/open-shortest-path-first-ospf/4170-ospfprocesses.html>

#### NEW QUESTION 48

What are two examples of business goals to be considered when a network design is built? (Choose two.)

- A. standardize resiliency
- B. minimize operational costs
- C. integrate endpoint posture
- D. ensure faster obsolescence
- E. reduce complexity

**Answer:** BE

#### NEW QUESTION 51

Company XYZ is revisiting the security design for their data center because they now have a requirement to control traffic within a subnet and implement deep packet inspection Which technology meets the updated requirements and can be incorporated into the design?

- A. routed firewall
- B. VLAN ACLs on the switch
- C. transparent firewall
- D. zone-based firewall on the Layer 3 device

**Answer:** C

#### NEW QUESTION 55

Which three items do you recommend for control plane hardening of an infrastructure device? (Choose three.)

- A. redundant AAA servers
- B. Control Plane Policing
- C. warning banners
- D. to enable unused .services
- E. SNMPv3
- F. routing protocol authentication

**Answer:** BEF

#### NEW QUESTION 56

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

**NEW QUESTION 61**

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 65**

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 66**

A service provider recently migrated to an SD-WAN solution for delivering WAN connections to its customers. One of the main challenges with the SD-WAN deployment is that branch site volume increases every year, which causes management complexity. Which action resolves the issue?

- A. Implement a scalable network management system to manage all sites.
- B. Adopt a well-structured SD-WAN service management lifecycle model
- C. Build a service orchestration platform on top of the network controller
- D. Set up a dedicated team to monitor and provision new customers

**Answer:** C

**NEW QUESTION 69**

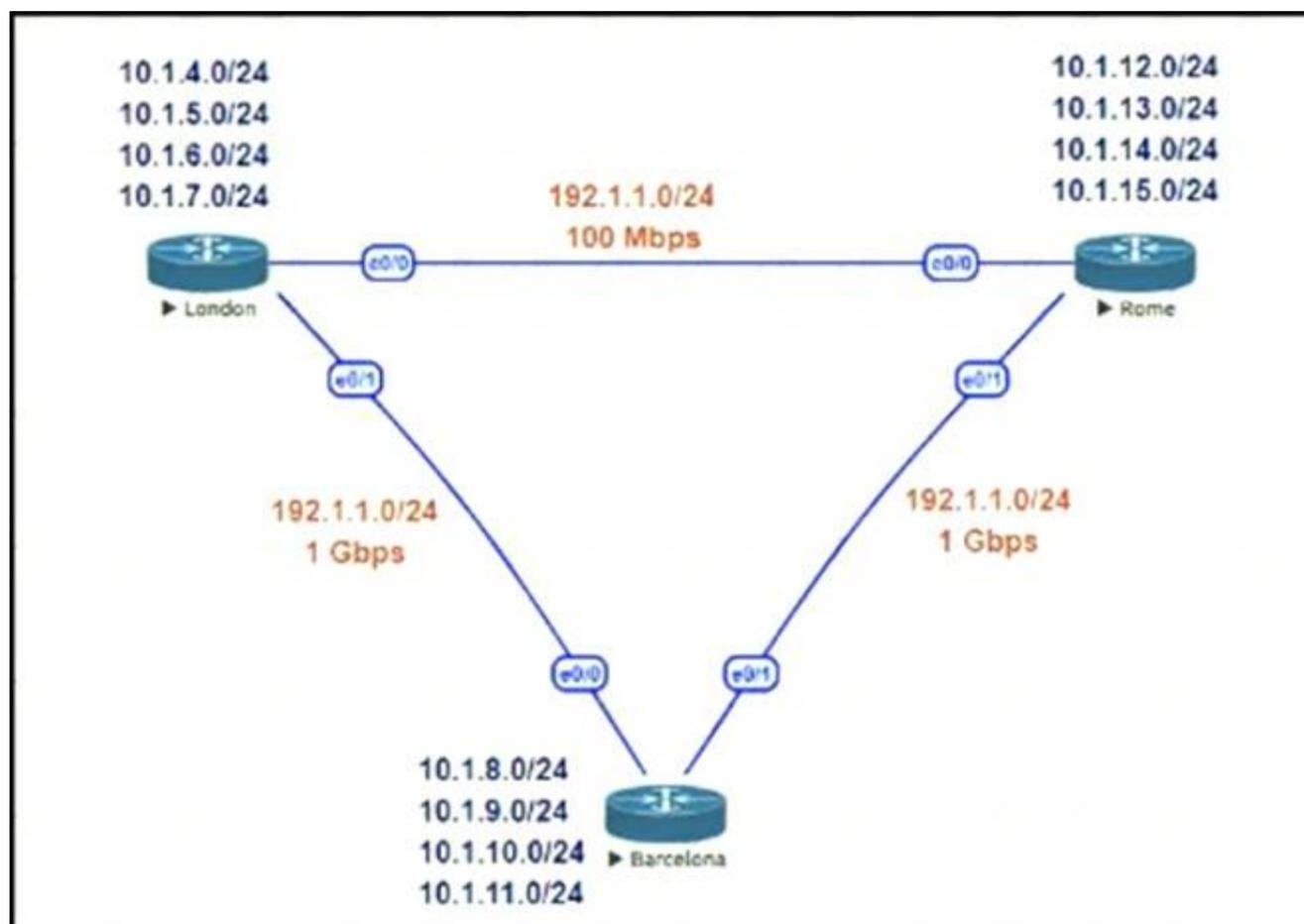
An engineer must design a network for a company that uses OSPF LFA to reduce loops. Which type of loop would be reduced by using this design?

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

**Answer:** B

**NEW QUESTION 72**

Refer to the exhibit.



This network is running EIGRP as the routing protocol and the internal networks are being advertised in EIGRP. Based on the link speeds, all traffic between London and Rome is getting propagated via Barcelona and the direct link between London and Rome is not being utilized under normal working circumstances. The EIGRP design should allow for efficiency in the routing table by minimizing the routes being exchanged. The link between London and Rome should be utilized for specific routes. Which two steps accomplish this task? (Choose two.)

- A. Configure EIGRP route summarization on all the interfaces to summarize the internal LAN routes
- B. Filter the routes on the link between London and Barcelona
- C. Filter the routes on the link between London and Rome
- D. Configure route leaking of summary routes on the link between London and Rome

Answer: AD

**NEW QUESTION 74**

A network architect in an enterprise is designing a network policy for certain database applications. The goal of the policy is to allow these applications to access the internet directly, whereas other user and network applications that communicate with systems or users outside their own network must be routed through the data center. The focus is on achieving higher availability and a better user experience for the database applications, but switching between different network paths based on performance characteristics must be supported. Which solution meets these requirements?

- A. MPLS L3VPN with QoS
- B. Cloud onRamp for IaaS
- C. Cloud onRamp for SaaS
- D. MPLS direct connect

Answer: C

**Explanation:**

<https://www.cisco.com/c/en/us/solutions/collateral/enterprise-networks/sd-wan/nb-06-cloud-onramp-saas-faq-ct>

**NEW QUESTION 77**

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 78**

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 81**

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 83**

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 88**

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 90**

Company ABC uses IPv4-only. Recently they started deploying new endpoint devices. For operational reasons, IPv6 cannot be disabled on these new endpoint devices. Which security measure prevents the new endpoint from learning an IPv6 prefix from an attacker?

- A. Source Guard and Prefix Guard
- B. Router Advertisement Guard
- C. Prefix Guard
- D. Secure Neighbor Discovery

Answer: B

**NEW QUESTION 92**

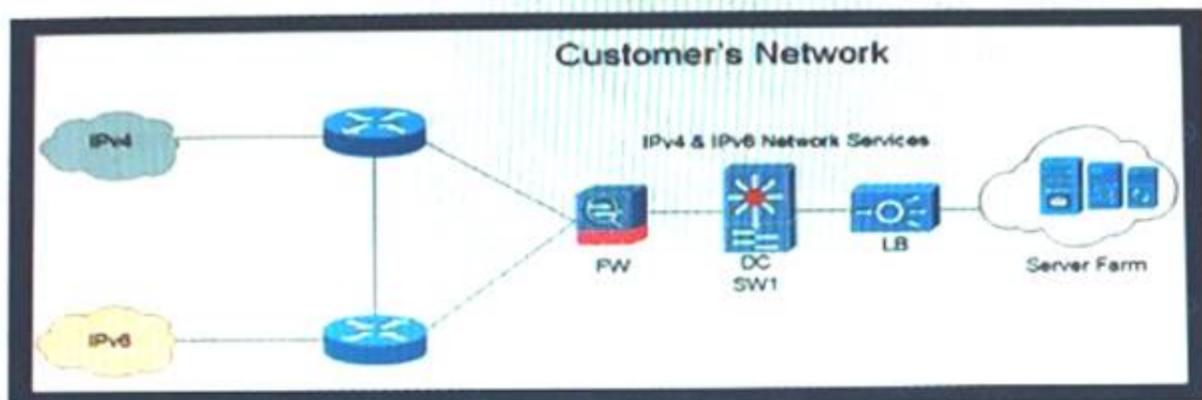
Which feature is supported by NETCONF but is not supported by SNMP?

- A. distinguishing between configuration data and operational data
- B. taking administrative actions
- C. collecting the status of specific fields
- D. changing the configuration of specific fields

Answer: A

**NEW QUESTION 93**

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 97**

A key to maintaining a highly available network is building in the appropriate redundancy to protect against failure. This redundancy is carefully balanced with the inherent complexity of redundant systems. Which design consideration is relevant for enterprise WAN use cases when it comes to resiliency?

- A. Design in a way that expects outages and attacks on the network and its protected resources
- B. The design approach should consider simple and centralized management aspect
- C. Design in a way that it simplifies and improves ease of deployment
- D. Design automation tools wherever it is appropriate for greater visibility

**Answer: A**

**NEW QUESTION 100**

Software-defined networking architecture is used for cost-effective, adaptable, and easily manageable applications. In which two software-defined networks is SDN commonly used? (Choose two.)

- A. wide area network
- B. mobile network
- C. metro network
- D. application network
- E. control network

**Answer: AE**

**NEW QUESTION 105**

Which component of the SDN architecture automatically ensures that application traffic is routed according to policies established by network administrators?

- A. packet forwarding engine
- B. northbound API
- C. southbound API
- D. SDN controller

**Answer: D**

**NEW QUESTION 107**

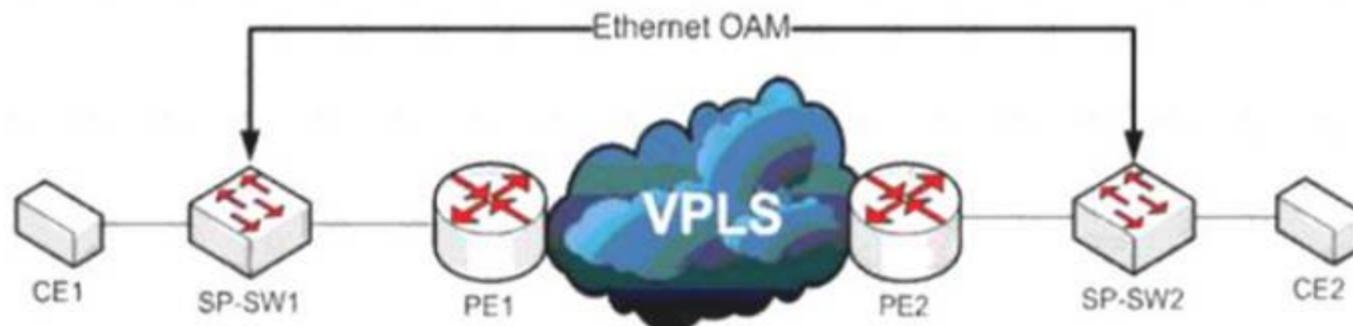
IPFIX data collection via standalone IPFIX probes is an alternative to flow collection from routers and switches. Which use case is suitable for using IPFIX probes?

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

**Answer: A**

**NEW QUESTION 112**

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 117**

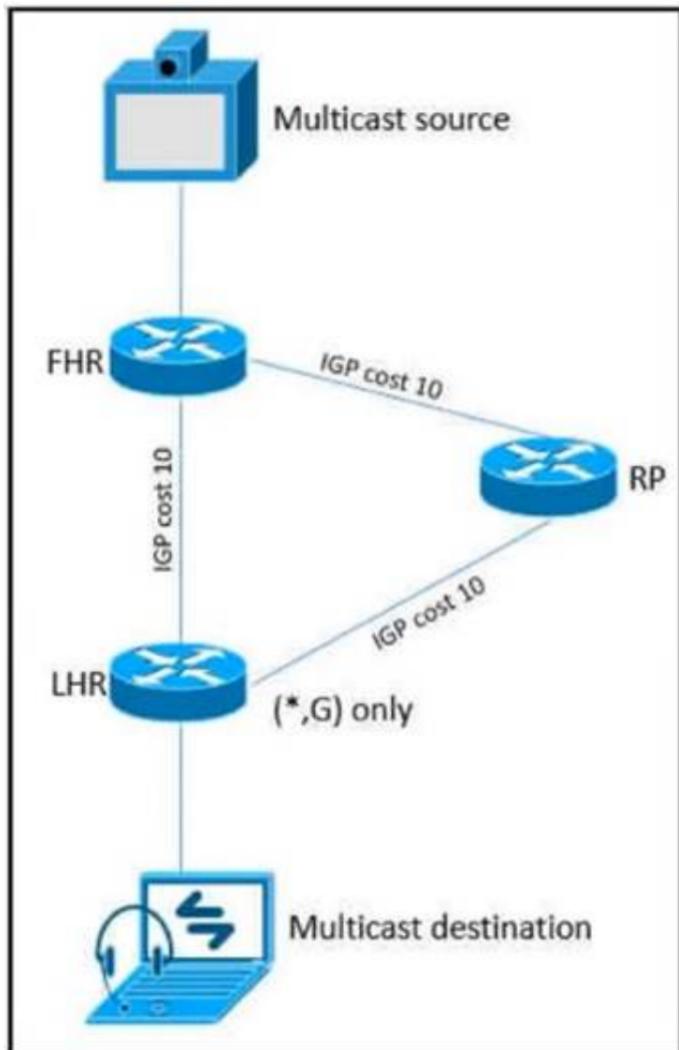
A software-defined networking (SDN) controller teams network topology information by using BGP link-state sessions with the route reflectors of an MPLS-enabled network. The controller then uses the topology information to apply on-demand traffic policies to the network through a protocol that is supported from all Layer 3 routers. Each policy is represented as a RIB entry in the control plane of the router. Which SDN model has been implemented?

- A. SDN centralized
- B. SDN traffic engineering
- C. SD-WAN
- D. SDN hybrid

**Answer: B**

**NEW QUESTION 118**

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 given 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 RPF check against the multicast receiver.

**Answer: A**

**Explanation:**

<https://www.cisco.com/c/en/us/support/docs/ip/ip-multicast/16450-mcastguide0.html>

When a multicast packet arrives on an interface, the RPF process checks to ensure that this incoming interface is the outgoing interface used by unicast routing in order to reach the source of the multicast packet. This RPF check process prevents loops. Multicast routing does not forward a packet unless the source of the packet passes a RPF check. Once a packet passes this RPF check, multicast routing forwards the packet based only upon the destination address.

**NEW QUESTION 119**

Which two benefits can software defined networks provide to businesses? (Choose two.)

- A. provides additional redundancy
- B. decentralized management
- C. reduced latency
- D. enables innovation
- E. reduction of OpEx/CapEx
- F. meets high traffic demands

**Answer: DE**

**NEW QUESTION 120**

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 122

The Agile Manifesto is a document that defines the key values and principles behind the Agile philosophy and helps development teams work more efficiently and sustainably Each of the four key values is split into two sections a left-hand side and a right-hand side In other words, though there is value in the items on the right we value the items on the left more What is one of the key values of the Agile Manifesto?

- A. comprehensive documentation over working software
- B. contract negotiation over customer collaboration
- C. individuals and interactions over processes and tools
- D. following a plan over responding to change

**Answer:** C

#### NEW QUESTION 124

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 129

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 132

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 133

What is a characteristic of a secure cloud architecture model?

- A. limited access to job function
- B. dedicated and restricted workstations
- C. multi-factor authentication
- D. software-defined network segmentation

**Answer:** C

#### NEW QUESTION 135

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 136

The SD-WAN architecture is composed of separate orchestration management, control, and data planes Which activity happens at the orchestration plane?

- A. automatic onboarding of the SD-WAN routers into the SD-WAN overlay
- B. decision-making process on where traffic flows
- C. packet forwarding
- D. central configuration and monitoring

**Answer: D**

#### NEW QUESTION 141

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 143

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 145

A business requirement stating that failure of WAN access for dual circuits into an MPLS provider for a Data Centre cannot happen due to related service credits that would need to be paid has led to diversely routed circuits to different points of presence on the providers network? What should a network designer also consider as part of the requirement?

- A. Provision of an additional MPLS provider
- B. Out of band access to the MPLS routers
- C. Ensuring all related remote branches are dual homed to the MPLS network
- D. Dual PSUs & Supervisors on each MPLS router

**Answer: A**

#### NEW QUESTION 146

Company XYZ has implemented policy-based routing in their network. Which potential problem must be kept in mind about network reconvergence and PBR?

- A. It can limit network scalability
- B. It can create microloops during reconvergence
- C. It increases convergence time.
- D. It reduces convergence time.

**Answer: B**

#### NEW QUESTION 149

Company XYZ has two routing domains in their network, EIGRP and OSPF. The company wants to provide full reachability between the two domains by implementing redistribution on a router running both protocols. They need to design the redistribution in a way that the OSPF routers will see link costs added to external routes. How must the redistribution strategy be designed for this network?

- A. Redistribute using metric type 2 into OSPF.
- B. Redistribute using metric type 1 into OSPF.
- C. Redistribute using metric type 1 into EIGRP.
- D. Redistribute using metric type 2 into EIGRP.

**Answer: B**

#### Explanation:

[https://www.ciscopress.com/articles/article.asp?p=27573&seqNum=4#:~:text=Routes%20are%20redistributed%](https://www.ciscopress.com/articles/article.asp?p=27573&seqNum=4#:~:text=Routes%20are%20redistributed%20)

#### NEW QUESTION 152

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 153**

An engineer is designing the QoS strategy for Company XYZ. Based on initial analysis, a lot of scavenger type of traffic is traversing the network's 20Mb Internet link toward the service provider. The new design must use a QoS technique that limits scavenger traffic to 2 Mbps, which helps avoid oversubscription of the link during times of congestion. Which QoS technique can be used to facilitate this requirement?

- A. class-based traffic policing
- B. LLQ
- C. CBWFQ
- D. class-based traffic shaping

Answer: D

**NEW QUESTION 155**

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 the type 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 being serialized
- E. Serialization delay depends not only on the line rate of the interface but also on the size of the packet

Answer: BD

**NEW QUESTION 156**

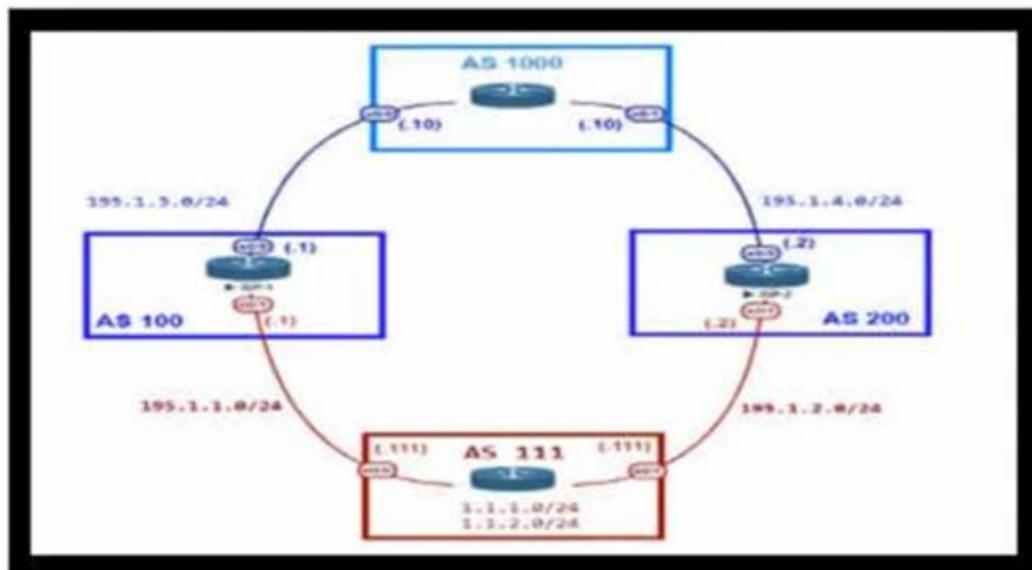
A BGP route reflector in the network is taking longer than expected to coverage during large network changes. Troubleshooting shows that the router cannot handle all the TCP acknowledgements during route updates. Which action can be performed to tune the device performance?

- 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 158**

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 161**

A business customer deploys workloads in the public cloud. Now the customer network faces governance issues with the flow of IT traffic and must ensure the security of data and intellectual property. Which action helps to identify the issue for further resolution?

- A. Set up a secure tunnel from customer routers to ensure that traffic is protected as it travels to the cloud service providers.
- B. Send IPFIX telemetry data from customer routers to a centralized collector to identify traffic to cloud service providers
- C. Build a zone-based firewall policy on Internet edge firewalls that collects statistics on traffic sent to cloud service providers
- D. Apply workload policies that dictate the security requirements to the workloads that are placed in the cloud.

Answer: B

#### NEW QUESTION 163

During evaluation of migrating current on premises infrastructure to add cloud-based infrastructure, a network planning team must meet three core requirements as they make recommendations on which cloud strategy to adopt going forward

- Technology is changing rapidly, therefore the enterprise must be open to adopting new ways of doing things, and be ready to invest CapEx-funds in the next three years
- Network bandwidth capacity requirements are dynamic and are expected to change over the next year
- If new technologies are to be introduced, operational expenses must be kept at a minimum.

Which cloud strategy meets these requirements?

- A. private
- B. hybrid
- C. public
- D. multicloud

**Answer: D**

#### NEW QUESTION 165

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. Kubemetes
- C. Ansible
- D. Terraform

**Answer: B**

#### NEW QUESTION 167

Which action must be taken before new VoIP systems are implemented on a network to ensure that the network is ready to handle the traffic?

- A. Evaluate bandwidth utilization and connection quality
- B. Enable special requirements such as direct DID lines on pickup
- C. Make recommendations to limit the size of the half-open session table on routers
- D. Check if anomaly detection is enabled for SIP and H.323 on Layer 3 devices

**Answer: B**

#### NEW QUESTION 172

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 173

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 178

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 182

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 183

What is an architectural framework created by ETSI that defines standards to decouple network functions from proprietary hardware-based appliances and have them run in software on standard x86 servers?

- A. NPIV
- B. NFVIS
- C. NFV
- D. VNF

**Answer: C**

#### NEW QUESTION 186

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 189

What advantage of placing the IS-IS layer 2 flooding domain boundary at the core Layer in a three-layer hierarchical network is true?

- A. The Layer 1 and Layer 2 domains can easily overlap
- B. It reduces the complexity of the Layer 1 domains
- C. It can be applied to any kind of topology
- D. The Layer 2 domain is contained and more stable

**Answer: D**

#### NEW QUESTION 192

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 194

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 198

Which two statements describe the functionality of OSPF packet-pacing timers? (Choose two ) The group-pacing timer controls the interval that is used for group and individual LSA refreshment

- A. OSPF flood-pacing timers allow dynamic control of the OSPF transmission queue size
- B. OSPF retransmission-pacing timers allow control of interpacket spacing between consecutive link-state update packets in the OSPF retransmission queue.
- C. OSPF retransmission-pacing timers allow control of packet interleaving between nonconsecutive link-state update packets in the OSPF retransmission queue.
- D. OSPF flood-pacing timers allow control of interpacket spacing between consecutive link-state update packets in the OSPF transmission queue

**Answer: BD**

#### NEW QUESTION 203

Organizations that embrace Zero Trust initiatives ranging from business policies to technology infrastructure can reap business and security benefits. Which two domains should be covered under Zero Trust initiatives? (Choose two)

- A. workload
- B. work domain
- C. workplace
- D. workgroup
- E. workspace

**Answer:** AC

#### NEW QUESTION 208

An enterprise requires MPLS connected branches to access cloud-based Microsoft 365 services over an SD-WAN solution. Internet access is available only at dual regional hub sites that are connected to the MPLS network. Which connectivity method provides an optimum access method to the cloud-based services if one ISP suffers loss or latency?

- A. Cloud onRamp gateway site
- B. Cloud onRamp SWG
- C. Cloud onRamp
- D. Cloud onRamp SaaS

**Answer:** D

#### Explanation:

<https://www.cisco.com/c/en/us/td/docs/routers/sdwan/configuration/cloudonramp/vedge-20-x/cloud-onramp-boo>

#### NEW QUESTION 212

Which two actions must merchants do to be compliant with the Payment Card Industry Data Security Standard? (Choose two.)

- A. conduct risk analyses
- B. install firewalls
- C. use antivirus software
- D. establish monitoring policies
- E. establish risk management policies

**Answer:** BC

#### NEW QUESTION 213

Which solution component helps to achieve rapid migration to the cloud for SaaS and public cloud leveraging SD-WAN capabilities?

- A. service-oriented cloud architecture
- B. Cloud onramp
- C. cloud registry
- D. microservices in the cloud

**Answer:** B

#### NEW QUESTION 215

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 218

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 filtering 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 223

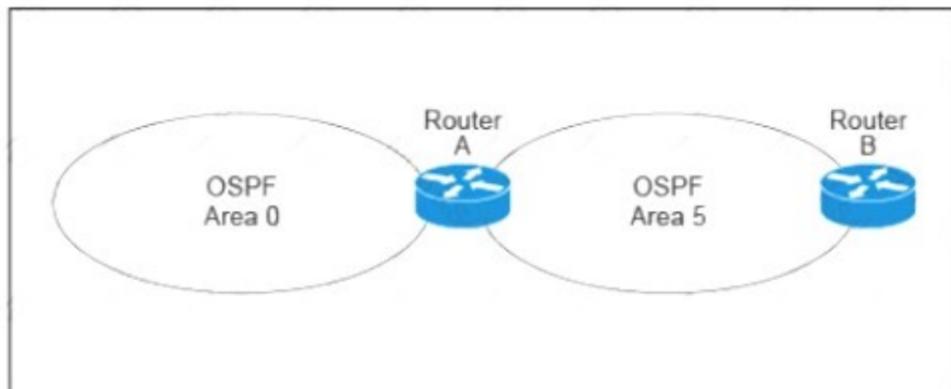
A Tier-3 Service Provider is evolving into a Tier-2 Service Provider due to the amount of Enterprise business it is receiving. The network engineers are re-evaluating their IP/MPLS design considerations in order to support duplicate/overlapping IP addressing from their Enterprise customers within each 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 225**

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 227**

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 228**

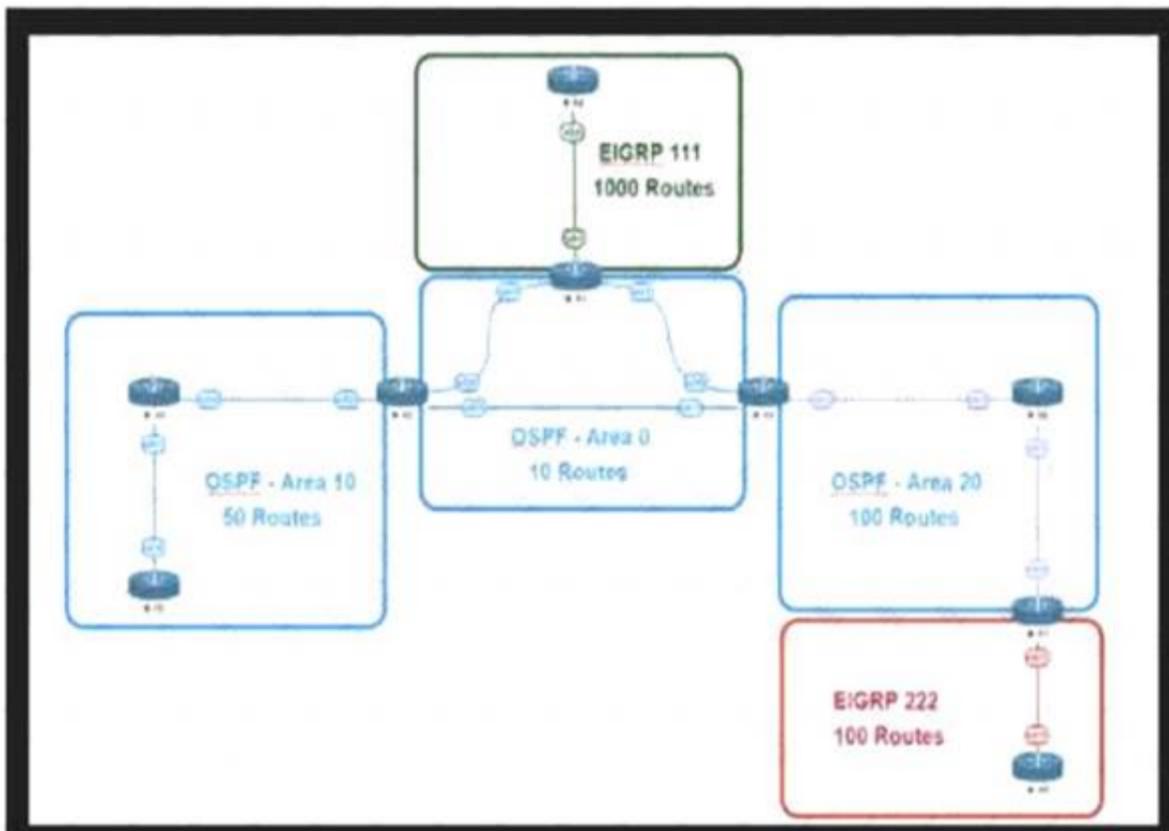
Company XYZ runs OSPF in their network. A design engineer decides to implement hot-potato routing architecture. How can this implementation be achieved?

- 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 231**

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 ASBRs.
- D. route summarization on EIGRP routers connecting toward the ASBR

**Answer: B**

**NEW QUESTION 233**

If the desire is to connect virtual network functions together to accommodate different types of network service connectivity, what must be deployed?

- A. bridging
- B. service chaining
- C. linking
- D. daisy chaining
- E. switching

**Answer: B**

**Explanation:**

Service chaining is the technique of connecting virtual network functions together to provide different types of network service connectivity. Service chaining uses software-defined networking (SDN) programmability to create a chain of connected network services, such as firewalls, load balancers, NAT, and intrusion protection. Service chaining can automate the provisioning of network applications that have different characteristics and requirements, such as security, latency, or quality of service (QoS). Service chaining can also optimize the use of network resources and improve application performance by using SDN analytics and performance tools to select the best available network paths and avoid network congestion. Service chaining is being used in many SDN and network functions virtualization (NFV) use cases and deployments, such as data centers, carrier networks, and virtual customer edge. References:

- > 1: What is Network Service Chaining or Service Function Chaining - SDxCentral
- > 2: On service chaining using Virtual Network Functions in Network-enabled Cloud systems | IEEE Conference Publication | IEEE Xplore
- > 3: Service function chaining - Gini5

**NEW QUESTION 236**

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 240**

Which development model is closely associated with traditional project management?

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

**Answer: D**

#### NEW QUESTION 244

Company XYZ has 30 sites running a legacy private WAN architecture that connects to the Internet via multiple high-speed 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 248

SDN is still maturing. Throughout the evolution of SDN, which two things will play a key role in enabling a successful deployment and avoiding performance visibility gaps in the infrastructure? (Choose two.)

- A. rapid on-demand growth
- B. dynamic real-time change
- C. falling back to old behaviors
- D. peer-to-peer controller infrastructure
- E. integration of device context

**Answer: BE**

#### NEW QUESTION 252

The General Bank of Greece plans to upgrade its legacy end-of-life WAN network with a new flexible, manageable, and scalable solution. The main requirements are ZTP support, end-to-end encryption, application awareness, and segmentation. The CTO states that the main goal of the bank is CAPEX reduction. Which WAN technology should be used for the solution?

- A. SD-branch
- B. DMVPN with PfR
- C. managed SD-WAN
- D. SD-WAN

**Answer: C**

#### NEW QUESTION 255

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