



**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 full-mesh 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

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 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

A legacy enterprise is using a Service Provider MPLS network to connect its head office and branches. Recently, they added a new branch to their network. Due to physical security concerns, they want to extend their existing IP CCTV network of the head office to the new branch, without any routing changes in the network. They are also under some time constraints. What is the best approach to extend the existing IP CCTV network to the new branch, without incurring any IP address changes?

- A. GRE
- B. L2TPv3
- C. VXLAN
- D. EoMPLS

Answer: B

#### NEW QUESTION 5

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 6

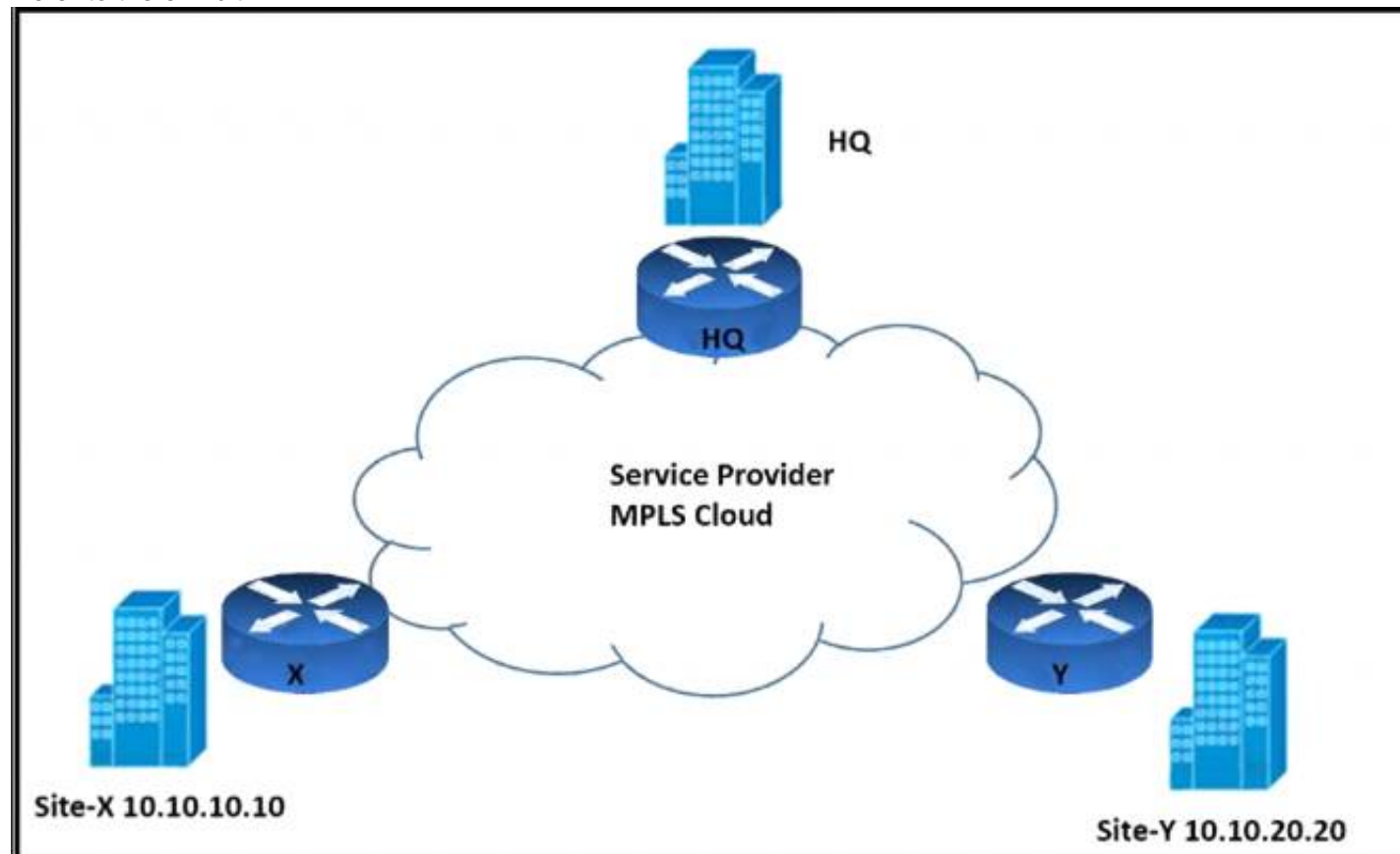
According to the CIA triad principles for network security design, which principle should be priority for a Zero Trust network?

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

**Answer:** A

#### NEW QUESTION 7

Refer to the exhibit.



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

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

Which enterprise WAN transport virtualization technique meets the requirements?

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

**Answer:** B

#### NEW QUESTION 8

A customer migrates from a traditional Layer 2 data center network into a new SDN-based spine-and-leaf VXLAN EVPN data center within the same location. The networks are joined to enable host migration at Layer 2. What is the final migration step after hosts have physically migrated to have traffic flowing through the new network without changing any host configuration?

- A. Shut down legacy Layer 3 SVI
- B. clear ARP caches on all hosts being migrated and then configure the legacy VRRP address onto new VXLAN core switches
- C. Increase VRRP priorities on new infrastructure over legacy VRRP values, then shut down legacy SVIs
- D. Shut down legacy infrastructure to allow VXLAN gateways to become active
- E. Shut down legacy Layer 3 SVIs and activate new preconfigured Layer 3 SVIs on VXLAN

**Answer:** D

#### NEW QUESTION 9

Sometimes SDN leverages various overlay networking technologies to create layer(s) of network abstraction. What describes an overlay network?

- A. It transmits packets that traverse over network devices like switches and routers
- B. It encapsulates packets at source and destination, which incurs additional overhead
- C. Packet delivery and reliability occurs at Layer 3 and Layer 4
- D. It is responsible for the delivery of packets; NAT- or VRF-based segregation is required

**Answer:** B

#### NEW QUESTION 10

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

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

**Answer:** ADE

#### NEW QUESTION 10

Enterprise XYZ wants to implement fast convergence on their network and optimize timers for OSPF. However, they also want to prevent excess flooding of LSAs if there is a constantly flapping link on the network. Which timers can help prevent excess flooding of LSAs for OSPF?

- A. OSPF propagation timers
- B. OSPF throttling timers
- C. OSPF delay timers
- D. OSPF flooding timers

**Answer:** B

#### NEW QUESTION 12

Company XYZ connects its sites over a private WAN. Their overlay network is running a DMVPN setup where the headquarters site is the hub. The company is planning on implementing multicast routing on the network. What should be used in the multicast routing design?

- A. PIM dense mode with RP located at the hub
- B. PIM sparse mode with RP located at each remote site
- C. PIM sparse mode with RP located at the hub
- D. PIM dense mode with RP located at each remote site

**Answer:** C

#### Explanation:

<https://www.ccexpert.us/routing-switching-2/dynamic-multipoint-vpn.html>

#### NEW QUESTION 16

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 21

A healthcare customer requested that SNMP traps must be sent over the MPLS Layer 3 VPN service. Which protocol must be enabled?

- A. SNMPv3
- B. Syslog
- C. Syslog TLS
- D. SNMPv2
- E. SSH

**Answer:** A

#### NEW QUESTION 25

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 30

Refer to the exhibit.



Company XYZ BGP topology is as shown in the diagram. The interface on the LA router connected toward the 10.1.5.0/24 network is faulty and is going up and down, which affects the entire routing domain. Which routing technique can be used in the routing policy design so that the rest of the network is not affected by the flapping issue?

- A. Use route dampening on LA router for the 10.1.5.0/24 network so that it does not get propagated when it flaps up and down
- B. Use route filtering on Chicago router to block the 10.1.5.0/24 network from coming in from the LA router
- C. Use route filtering on LA router to block the 10.1.5.0/24 network from getting propagated toward Chicago and New York
- D. Use route aggregation on LA router to summarize the 10.1.4.0/24, 10.1.5.0/24, 10.1.6.0/24, and 10.1.7.0/24 networks toward Chicago

**Answer:** D

#### NEW QUESTION 32

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

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

**Answer:** C

#### NEW QUESTION 36

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 38

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

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

**Answer:** B

#### Explanation:

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

#### NEW QUESTION 41

Company XYZ, a global content provider, owns data centers on different continents. Their data center design involves a standard three-layer design with a Layer 3-only core. VRRP is used as the FHRP. They require VLAN extension across access switches in all data centers, and they plan to purchase a Layer 2 interconnection between two of their data centers in Europe in the absence of other business or technical constraints. Which termination point is optimal for the Layer 2 interconnection?



- A. at the core layer, to offer the possibility to isolate STP domains
- B. at the access layer because the STP root bridge does not need to align with the VRRP active node
- C. at the core layer because all external connections must terminate there for security reasons
- D. at the aggregation layer because it is the Layer 2 to Layer 3 demarcation point

**Answer: D**

#### NEW QUESTION 46

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

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

**Answer: BE**

#### NEW QUESTION 48

Which two points must network designers consider when designing a new network design or when evaluating an existing network design to help them understand the high-level design direction with regards to the security aspects? (Choose two)

- A. Consider Business objectives and goals
- B. Consider organization's security policy standards
- C. Consider for only multi-site networks
- D. Consider for only new network technologies and components

**Answer: AB**

#### NEW QUESTION 51

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

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

**Answer: C**

#### NEW QUESTION 54

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.

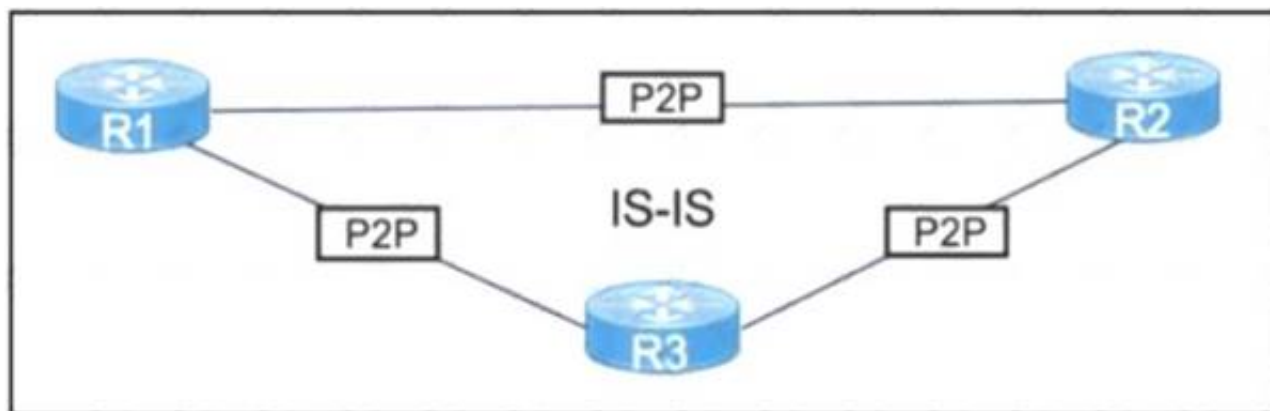
Which technology should you recommend to enhance security by limiting traffic that could originate from a hacker compromising a workstation and redirecting flows at the servers?

- 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 57

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 59

As part of workspace digitization, a large enterprise has migrated all their users to Desktop as a Service (DaaS), by hosting the backend system in their on-premises data center. Some of the branches have started to experience disconnections to the DaaS at periodic intervals, however, local users in the data center and head office do not experience this behavior. Which technology can be used to mitigate this issue?

- A. tail drop
- B. traffic shaping
- C. WRED
- D. traffic policing

**Answer:** B

#### Explanation:

Traffic Shaping does help with congestion and better bandwidth utilization over the WAN.

#### NEW QUESTION 63

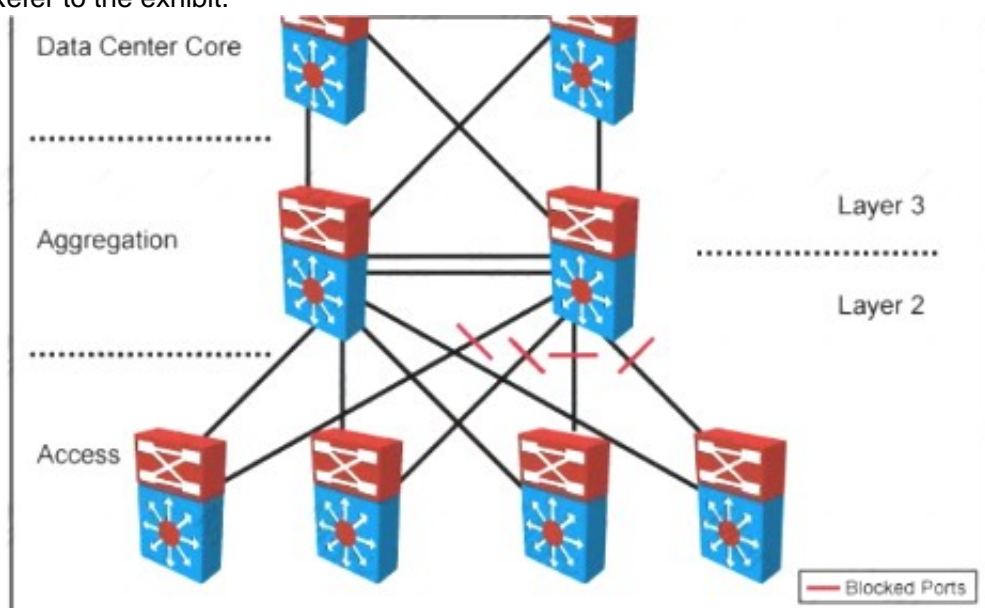
Which two features control multicast traffic in a VLAN environment? (Choose two)

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

**Answer:** AB

#### NEW QUESTION 64

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 66

You are using iSCSI to transfer files between a 10 Gigabit Ethernet storage system and a 1 Gigabit Ethernet server. The performance is only approximately 700 Mbps and output drops are occurring on the server switch port. Which action will improve performance in a cost-effective manner?

- A. Change the protocol to CIFS.
- B. Increase the queue to at least 1 GB
- C. Use a WRED random drop policy
- D. Enable the TCP Nagle algorithm on the receiver

**Answer:** A

#### NEW QUESTION 69

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

- A. Cisco Prime Service Catalog
- B. Cisco Open Virtual Switch

- C. Cisco Nexus switches
- D. Cisco UCS
- E. Cisco Open Container Platform
- F. Cisco Virtual Network Function

**Answer:** CDF

#### NEW QUESTION 70

Which two statements describe the hierarchical LAN design model? (Choose two)

- A. It is a well-understood architecture that provides scalability
- B. It is the best design for modern data centers
- C. It is the most optimal design but is highly complex
- D. It provides a simplified design
- E. Changes, upgrades, and new services can be introduced in a controlled and staged manner

**Answer:** AE

#### NEW QUESTION 71

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

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

**Answer:** B

#### NEW QUESTION 73

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 74

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

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

**Answer:** A

#### NEW QUESTION 78

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:** C

#### NEW QUESTION 83

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 86



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 91

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

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

**Answer:** B

#### NEW QUESTION 93

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 97

Which parameter is the most important factor to consider when deciding service placement in a cloud solution?

- A. data replication cost
- B. application structure
- C. security framework Implementation time
- D. data confidentiality rules

**Answer:** D

#### NEW QUESTION 101

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 105

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 108

Refer to the table.

CONNECTIVITY	CAPEX	OPEX ANNUAL	INSTALLATION FEE	TERM
DWDM over dark fiber	\$250,000	\$100,000	\$30,000	12 months
CWDM over dark fiber	\$150,000	\$100,000	\$25,000	18 months
MPLS wires only	\$50,000	\$80,000	\$5,000	24 months
Metro Ethernet	\$45,000	\$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 solution must provide a single 10G connection between locations and be able to run its own varying QoS profiles without service provider interaction based on the migration stages. All connectivity methods are at 10 Gbps. Which transport technology costs the least if the connectivity is required for just one year?

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

**Answer:** A

#### NEW QUESTION 109

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

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

**Answer:** D

#### NEW QUESTION 113

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

- A. Fast transport
- B. Reliability
- C. QoS classification and marking boundary
- D. Fault isolation
- E. Redundancy and load balancing

**Answer:** DE

#### NEW QUESTION 116

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 119

Which two pain points are the most common for container technology adoption? (Choose two)

- A. Performance
- B. Security
- C. Cost
- D. Container deployment
- E. Skilled staff
- F. Compliance

**Answer:** DE

#### NEW QUESTION 121

Drag and drop the characteristics from the left onto the corresponding network management options on the right.

protocol based on HTTP for configuring data defined in YANG and supports operations such as GET, PUT, POST, PATCH, and DELETE	NETCONF
provides mechanisms to install, manipulate, and delete the configuration of network devices; uses XML for data encoding and the operation is realized as RPC	RESTCONF
application program interface that uses HTTP requests to GET, PUT, POST, and DELETE data	ANSIBLE
open-source software provisioning, configuration management, and application-deployment tool	YANG
data modeling language used to model configuration data, state data, remote procedure calls, and notifications for network management protocols	REST API

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:  
Text Description automatically generated

NEW QUESTION 123

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 127

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

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

NEW QUESTION 129

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 130

Which design principal improves network resiliency?

- A. Added load-balancing

- B. Added redundancy
- C. Added confidentiality
- D. Added reliability

**Answer:** B

#### NEW QUESTION 135

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:

[https://www.cisco.com/c/dam/global/ja\\_jp/td/docs/ios-xml/ios/ipv6\\_fhsec/configuration/xe-16/ip6f-xe-16-book](https://www.cisco.com/c/dam/global/ja_jp/td/docs/ios-xml/ios/ipv6_fhsec/configuration/xe-16/ip6f-xe-16-book).

#### NEW QUESTION 137

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 139

A European national bank considers migrating its on-premises systems to a private cloud offering in a non-European location to significantly reduce IT costs. What is a primary factor prior to migration?

- A. data governance
- B. additional latency
- C. security
- D. cloud connectivity

**Answer:** C

#### NEW QUESTION 142

What are two top cloud-native security challenges faced by today's cloud-oriented organizations? (Choose two.)

- A. establishing user roles
- B. polymorphism
- C. lack of visibility and tracking
- D. increased attack surface
- E. user credential validation

**Answer:** CD

#### NEW QUESTION 143

Company XYZ branch offices connect to the headquarter sites using two links, MPLS and Internet. The company wants to design the traffic flow so that voice traffic goes through the MPLS link and all other traffic uses either the MPLS link or the Internet link. Which technique can the company use in their design to ensure that the traffic is not process switched?

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

**Answer:** A

#### NEW QUESTION 146

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 149

While designing a switched topology, in which two options is UplinkFast recommended? (Choose two )

- A. when switches of different spanning-tree types are connected (for example, 802.1d connecting to 802.1w)
- B. on distribution layer switches
- C. when hello timers are changed to more aggressive values
- D. on access layer switches
- E. on the core switches

**Answer:** AD

#### NEW QUESTION 153

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 155

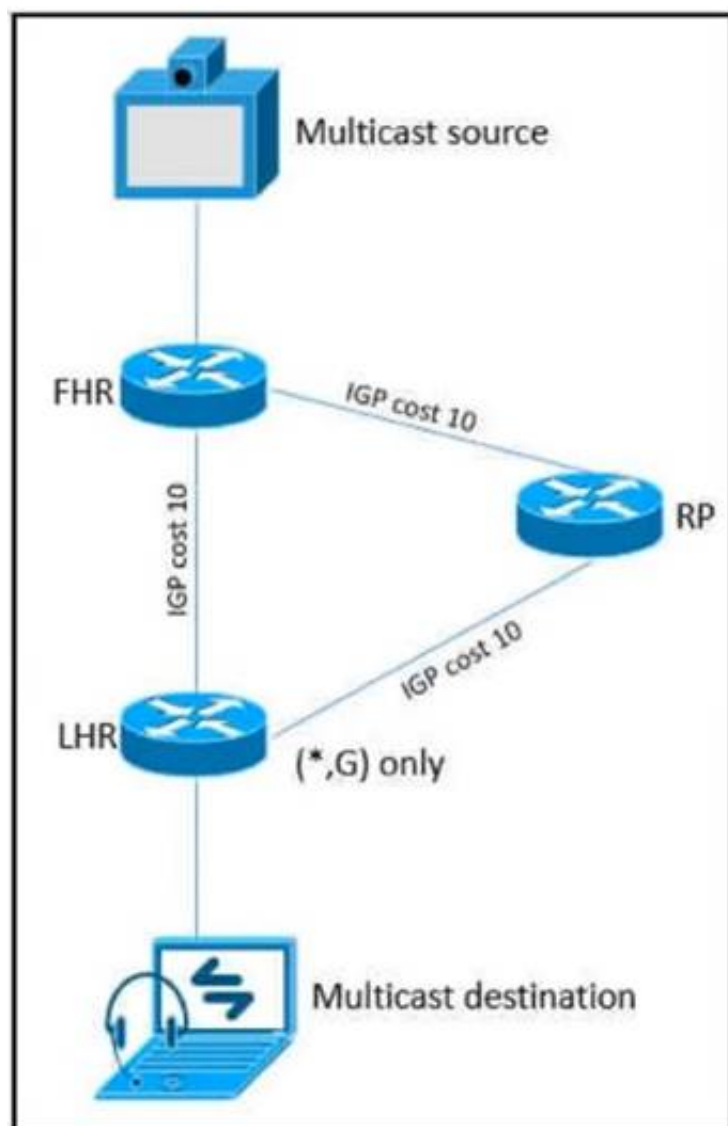
Company XYZ has designed their network to run GRE over IPsec on their Internet-based VPN to connect two sites. Which IPsec tunneling feature can they enable to optimize the data flow while ensuring that the headers contain no duplicate IP addresses?

- A. Transport Mode in IPsec Phase I
- B. Transport Mode in IPsec Phase II
- C. Tunnel Mode in IPsec Phase II
- D. Tunnel Mode in IPsec Phase I

**Answer:** B

#### NEW QUESTION 158

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 163**

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

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

**Answer:** A

**NEW QUESTION 165**

Which main IoT migration aspect should be reviewed for a manufacturing plant?

- A. Sensors
- B. Security
- C. Applications
- D. Wi-Fi Infrastructure
- E. Ethernet Switches

**Answer:** A

**NEW QUESTION 166**

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

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

**Answer:** ABC

**NEW QUESTION 171**

Drag and drop the design use cases from the left onto the correct uRPF techniques used to prevent spoofing attacks Not all options are used.

to check whether a route to a given IP address exists without regard to its incoming interface	strict mode
to filter Bogon IP addresses	feasible mode
to ensure the incoming interface is the best reverse path to a given IP address	loose mode
when there are alternate routes to a given IP address	

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

to check whether a route to a given IP address exists without regard to its incoming interface	to ensure the incoming interface is the best reverse path to a given IP address
to filter Bogon IP addresses	when there are alternate routes to a given IP address
to ensure the incoming interface is the best reverse path to a given IP address	to filter Bogon IP addresses
when there are alternate routes to a given IP address	

#### NEW QUESTION 174

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 175

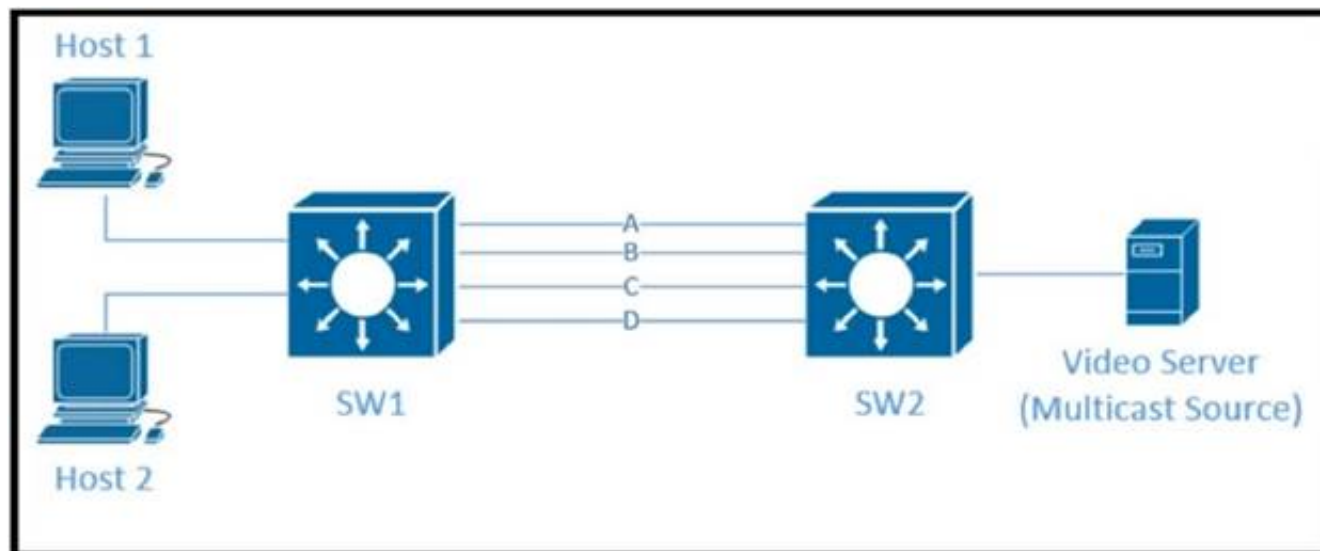
Company XYZ wants to use the FCAPS ISO standard for network management design. The focus of the design should be to monitor and keep track of any performance issues by continuously collecting and analyzing statistical information to monitor, correct, and optimize any reduced responsiveness across the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

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

**Answer: C**

#### NEW QUESTION 179

Refer to the exhibit.



Traffic was equally balanced between Layer 3 links on core switches SW1 and SW2 before an introduction of the new video server in the network. This video server uses multicast to send video streams to hosts and now one of the links between core switches is over utilized Which design solution solves this issue?

- A. Add more links between core switches.
- B. Aggregate links Layer 2 link aggregation.
- C. Apply a more granular load- balancing method on SW1.
- D. Apply a more granular load-balancing method on SW2.
- E. Filter IGMP joins on an over -utilized link.

**Answer: B**

#### NEW QUESTION 180

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 182

Which relationship between IBGP and the underlying physical topology is true?

- A. iBGP full mesh requirement does not dictate any specific network topology.
- B. iBGP can work only on a ring network topology with a link-state protocol like OSPF or IS-IS
- C. iBGP full mesh requires an underlying fully meshed network topology.
- D. iBGP does not work on a ring network topology even with an underlying IGP.

**Answer:** A

#### Explanation:

iBGP peers can be multiple hops away. not like eBGP that needs direct connection (or ebgp-multihop defined). thus, only IP connectivity between two peers is required for an adjacency to form.

#### NEW QUESTION 183

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%20into%20OSPF,which%20allows%20for%20metric%20type%201%20redistribution%20into%20OSPF)

#### NEW QUESTION 186

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

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

**Answer:** A

#### NEW QUESTION 191

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 193

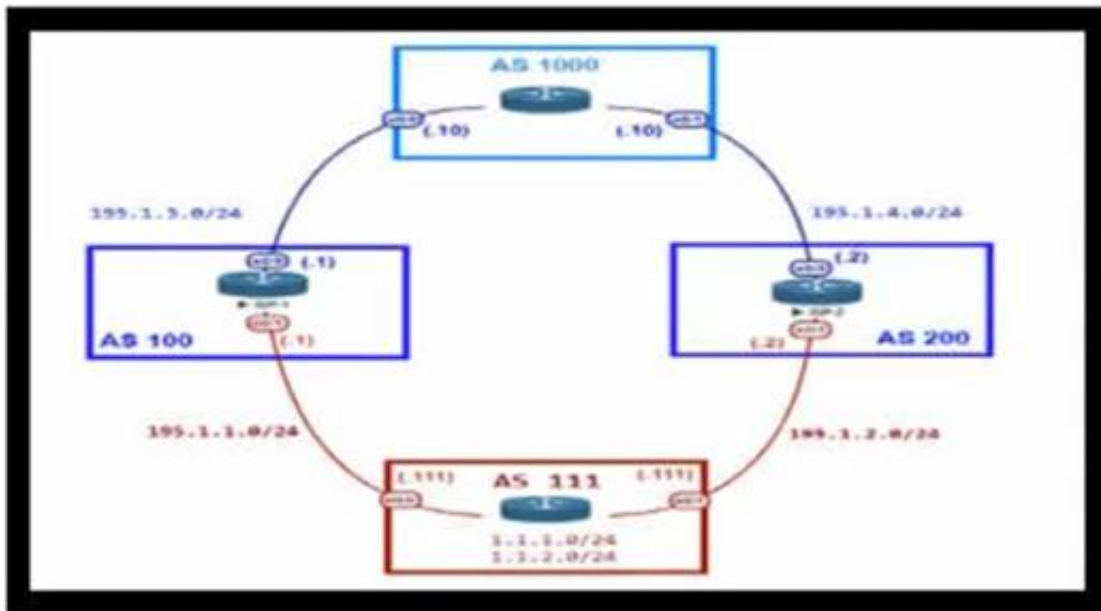
What are two primary design constraints when a robust infrastructure solution is created? (Choose two.)

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

**Answer:** BE

#### NEW QUESTION 196

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 197

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 202

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

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

**Answer:** A

#### NEW QUESTION 205

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 207

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 211

Which optimal use of interface dampening on a fast convergence network design is true?

- A. When occasional flaps of long duration occur
- B. when numerous adjacent flaps of very short duration occur
- C. when the router hardware is slower than the carrier delay down detection

D. when the switch hardware is faster than the debounce timer down detection

**Answer:** B

#### NEW QUESTION 212

A business wants to refresh its legacy Frame Relay WAN. It currently has product specialists in each of its 200 branches but plans to reduce and consolidate resources. The goal is to have product specialists available via video link when customers visit the nationwide branch offices. Which technology should be used to meet this objective?

- A. DMVPN phase 1 network over the Internet
- B. Layer 3 MPLS VPN hub and spoke
- C. Layer2VPLS
- D. Layer 3 MPLS VPN full mesh

**Answer:** D

#### NEW QUESTION 217

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

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

**Answer:** B

#### NEW QUESTION 222

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

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

**Answer:** D

#### NEW QUESTION 227

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 231

A banking customer determines that it is operating POS and POI terminals that are noncompliant with PCI DSS requirements, as it is running TLSv1.0. The customer plans to migrate the terminals to TLSv1.2. What are two requirements to complete the migration? (Choose two.)

- A. Ensure that strong cryptography is applied for users who have administrative access through networks
- B. Apply strong cryptography and security protocols to safeguard sensitive cardholder data.
- C. Apply strong encryption for transmission of cardholder data across public networks.
- D. Protect all user systems against malware and frequently update antivirus software
- E. Maintain a policy that addresses information security for employees and third parties.

**Answer:** CE

#### NEW QUESTION 232

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

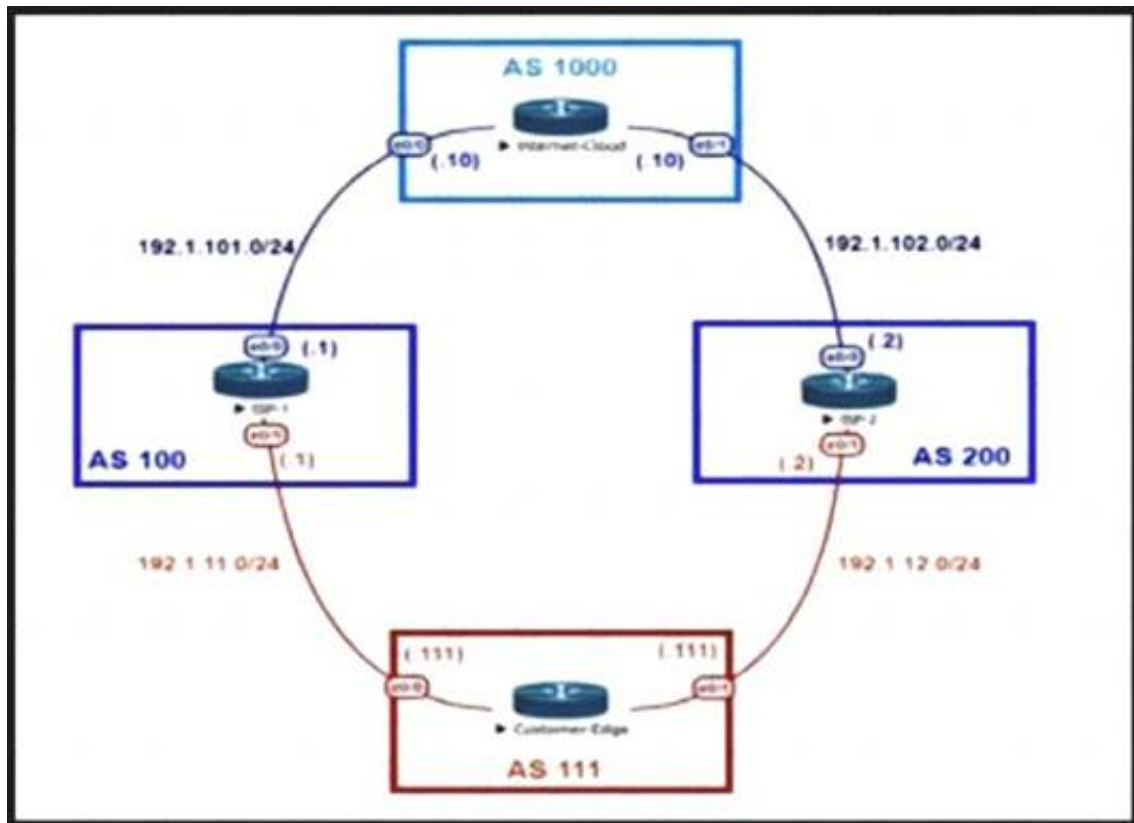
- A. conduct risk analyses
- B. install firewalls
- C. use antivirus software
- D. establish monitoring policies
- E. establish risk management policies

**Answer:** BC

#### NEW QUESTION 235



Refer to the exhibit.



An engineer is designing the traffic flow for AS 111. Traffic from AS 111 should be preferred via AS 100 for all external routes. A method must be used that only affects AS 111. Which BGP attributes are best suited to control outbound traffic?

- A. community
- B. MED
- C. local preference
- D. As path

**Answer: C**

#### NEW QUESTION 239

Identity and access management between multiple users and multiple applications has become a mandatory requirement for Company XYZ to fight against ever increasing cybersecurity threats. To achieve this, federated identity services have been deployed in the Company XYZ network to provide single sign-on and Multi-Factor Authentication for the applications and services. Which protocol can be used by Company XYZ to provide authentication and authorization services?

- A. OAuth2
- B. OpenID Connect
- C. OpenID
- D. SAML2.0

**Answer: D**

#### NEW QUESTION 243

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

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

**Answer: B**

#### Explanation:

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

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

#### NEW QUESTION 247

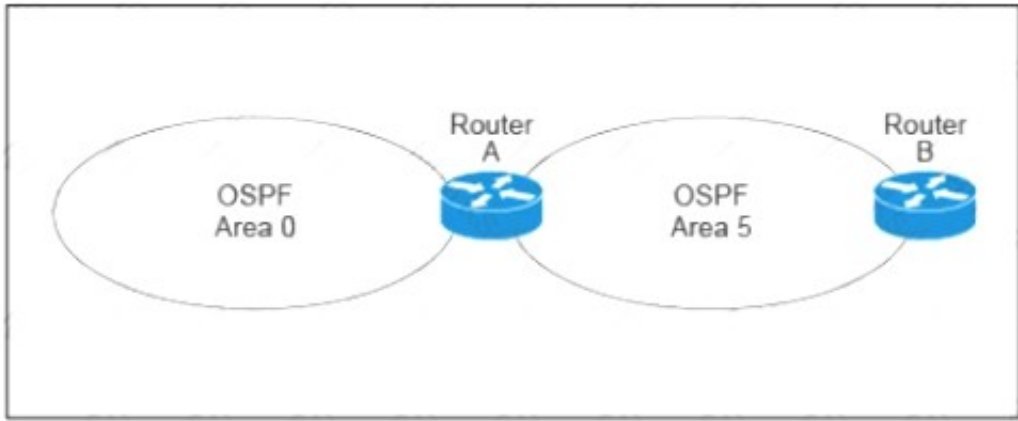
SD-WAN can be used to provide secure connectivity to remote offices, branch offices, campus networks, data centers, and the cloud over any type of IP-based underlay transport network. Which two statements describe SD WAN solutions? (Choose two.)

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

**Answer: BD**

#### NEW QUESTION 250

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 253

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 254

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 259

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

PIM-SM, SSM, BIDIR	IPv4 Group Management
PIM-DM, PIM-SM, SSM, BIDIR	IPv4 Forwarding
IGMP	IPv4 Interdomain Source Discovery
MSDP	IPv6 Group Management
MLD	IPv6 Forwarding

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

A picture containing table Description automatically generated

IPv4:  
Host Registration - IGMP  
Router Registration - PIM-DM, PIM-SM, SSM, BIDIR  
Inter-Domain Source Discovery - MSDP  
IPv6:  
Host Registration - MLD  
Router Registration - PIM-SM, SSM, BIDIR

#### NEW QUESTION 260

The controller has a global view of the network, and it can easily ensure that the network is in a consistent and optimal configuration. Which two statements describe a centralized SDN control path? (Choose two.)

- A. Scaling of the centralized controller cluster is challenging for services like DHCP and load-balancing.
- B. It is highly-available by design with no single-point-of-failure risks present.
- C. Integrating smart NIC capabilities on the local host level is made easier through rest APIs.
- D. It significantly improves the latency when performing reactive handling of PACKET\_IN events.
- E. It centralized controller can support all southbound APIs, which allows for easy integration with legacy equipment.

**Answer:** AE

#### NEW QUESTION 265

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<sup>123</sup>. 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 266

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

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

**Answer:** B

#### NEW QUESTION 267

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 272

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:** A

**Explanation:**

<https://firebrand.training/uk/blog/scrum-vs-six-sigma-which-one-is-right-for-you>

**NEW QUESTION 273**

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 275**

Drag and drop the optical technology design characteristics on the left to the correct optical technologies on the right. Not all options are used

suited for short-haul and long-haul distances	CWDM (Coarse Wavelength Division Multiplexing)	target 1
number of channels can be 40 or more		target 2
large channel spacing (2500 GHz)		target 3
small channel spacing (100 or 50 GHz)	DWDM (Dense Wavelength Division Multiplexing)	target 4
suited for short-haul, typically limited to Metropolitan networks		target 5
maximum of 16 channels		target 6
only suitable for ring or dual-ring topology		

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

- 1 - target 4
- 2 - target 5
- 3 - target 1
- 4 - target 6
- 5 - target 2
- 6 - target 3

**NEW QUESTION 280**

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 282**

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