



# Cisco

## Exam Questions 400-007

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

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#### NEW QUESTION 1

When consumers that leverage IaaS reach 100% resource capacity, what can be used to redirect the overflow of traffic to the public cloud so there is no disruption to service?

- A. cloud policing
- B. cloud spill
- C. cloud bursting
- D. cloud shaping

**Answer: C**

#### 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

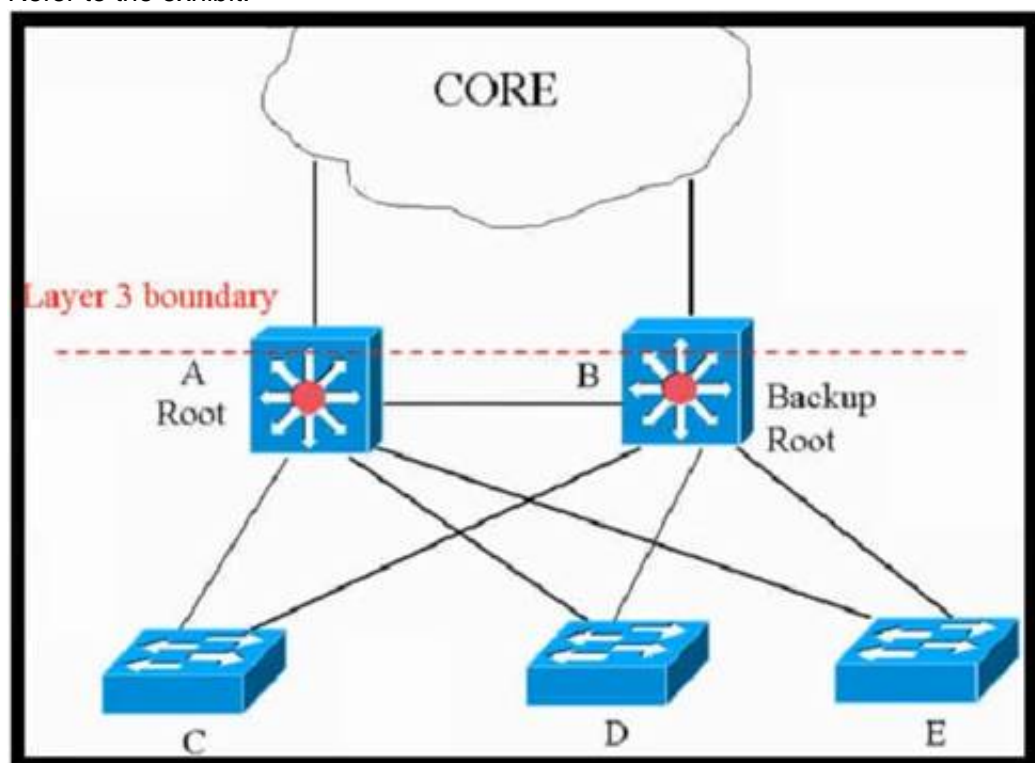
Which management category is not part of FCAPS framework?

- A. Configuration
- B. Security
- C. Performance
- D. Authentication
- E. Fault-management

**Answer: D**

#### NEW QUESTION 4

Refer to the exhibit.



This network is running legacy STP 802.1d. 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 5

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 6

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 7

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

**Answer: ADE**

#### NEW QUESTION 8

Which two characteristics are associated with 802.1s? (Choose two)

- A. 802.1s supports up to 1024 instances of 802.1
- B. 802.1s is a Cisco enhancement to 802.1w.
- C. 802.1s provides for faster convergence over 802.1D and PVST+.
- D. CPU and memory requirements are the highest of all spanning-tree STP implementations.
- E. 802.1s maps multiple VLANs to the same spanning-tree instance

**Answer: CE**

#### NEW QUESTION 9

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 10

Which design consideration is valid when you contrast fabricPath and trill?

- A. FabricPath uses IS-IS, but TRILL uses VxLAN
- B. FabricPath permits active-active FHRP and TRILL support anycast gateway.
- C. FabricPath Permits ECMP, but TRILL does not
- D. FabricPath permits active-active mode, but TRILL supports only active-standby mode.

**Answer: B**

#### NEW QUESTION 10

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 14

Which technology supports antispoofing and does not have any impact on encryption performance regardless of packet size?

- A. MACsec
- B. IP source guard
- C. DHCP snooping with DAI
- D. IPsec

**Answer:** A

#### NEW QUESTION 16

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

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

**Answer:** B

#### NEW QUESTION 18

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 20

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 22

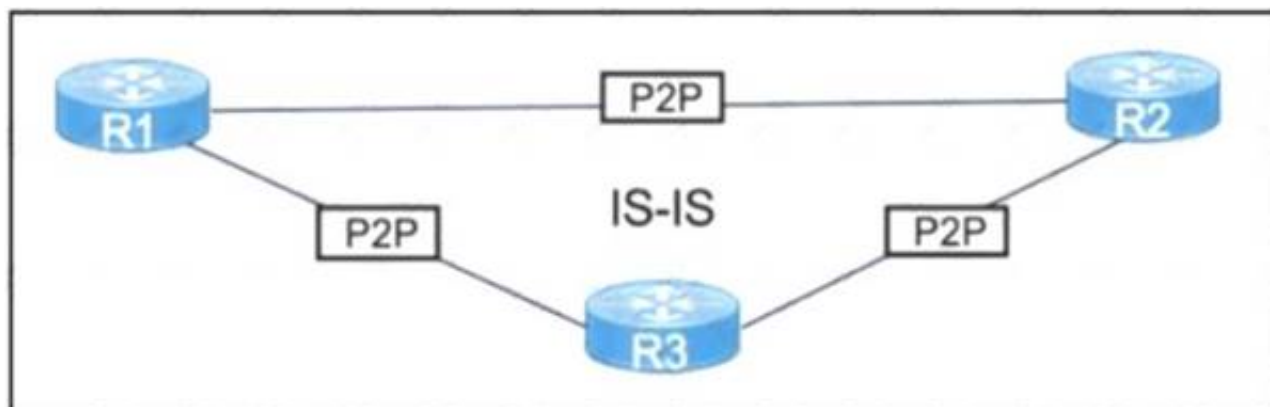
Which Interconnectivity method offers the fastest convergence in the event of a unidirectional issue between three Layer 3 switches connected together with routed links in the same rack in a data center?

- 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 24

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 25

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 26

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 27

You are designing the routing design for two merging companies that have overlapping IP address space. Which of these must you consider when developing the routing and NAT design?

- A. Local to global NAT translation is done after routing
- B. Global to local NAT translation is done before routing.
- C. Local to global NAT translation is done before policy-based routing
- D. Global to local NAT translation is done after policy-based routing.

**Answer:** B

#### NEW QUESTION 28

Company XYZ needs advice in redesigning their legacy Layer 2 infrastructure. Which technology should be included in the design to minimize or avoid convergence delays due to STP or FHRP and provide a loop-free topology?

- A. Use switch clustering in the access layer.
- B. Use switch clustering in the core/distribution layer.
- C. Use spanning-tree PortFast.
- D. Use BFD.

**Answer:** B

#### NEW QUESTION 31

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 34

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

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

**Answer:**



B

#### NEW QUESTION 35

A financial company requires that a custom TCP-based stock-trading application be prioritized over all other traffic for the business due to the associated revenue. The company also requires that VoIP be prioritized for manual trades. Which directive should be followed when a QoS strategy is developed for the business?

- A. Allow VoIP and the custom application to share the same priority queue,
- B. The custom application and VoIP must be assigned their own separate priority queue.
- C. Interleave the custom application with other TCP applications in the same CBWR
- D. Avoid placing the custom application in a CBWFQ queue that contains other

**Answer:** C

#### NEW QUESTION 39

Company XYZ wants to redesign the Layer 2 part of their network and wants to use all available uplinks for increased performance. They also want to have end host reachability supporting conversational learning. However, due to design constraints, they cannot implement port-channel on the uplinks. Which other technique can be used to make sure the uplinks are in active/active state?

- A. TRILL
- B. LISP
- C. MSTP
- D. switch stack

**Answer:** B

#### NEW QUESTION 42

Company XYZ is designing the IS-IS deployment strategy for their multiarea IS-IS domain. They want IS-IS neighbour relationships to be minimized on each network segment and want to optimize the size of the IS-IS LSDB on each router. Which can design can be used to meet these requirements?

- A. Design all routers as Level 2 router
- B. Set the links between the routers as Level 1 with the area
- C. Design the network so that the routers connecting to other areas are Level 2 routers and internal routers are Level 1
- D. Design the network so that all routers are Level 1 routers
- E. Design the network so that the routers connecting to other areas are Level 1/Level 2 routers and internal routers are Level 1

**Answer:** D

#### NEW QUESTION 43

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 50

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 54

An enterprise wants to migrate an on-premises network to a cloud network, and the design team is finalizing the overall migration process. Drag and drop the options from the left into the correct order on the right.

Identify the right applications and portfolio for cloud migration and cloud viability.	step 1
Maintain data integrity and operational continuity.	step 2
Adopt end-to-end approach and transition workloads to the cloud environment.	step 3
Develop cloud strategy and ensure alignment with business requirements.	step 4
Secure the cloud by setting up a secure cloud environment based on the workload requirements.	step 5
Monitor and manage cloud-based systems, including customer services.	step 6

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Table Description automatically generated

NEW QUESTION 57

You have been asked to design a high-density wireless network for a university campus. Which two principles would you apply in order to maximize the wireless network capacity? (Choose two.)

- A. Implement a four-channel design on 2.4 GHz to increase the number of available channels
- B. Choose a high minimum data rate to reduce the duty cycle.
- C. increases the number of SSIDs to load-balance the client traffic.
- D. Make use of the 5-GHz band to reduce the spectrum utilization on 2.4 GHz when dual-band clients are used.
- E. Enable 802.11n channel bonding on both 2.4 GHz and 5 GHz to increase the maximum aggregated cell throughput.

Answer: BD

NEW QUESTION 60

Which two actions ensure voice quality in a branch location with a low-speed, high-latency WAN connection? (Choose two.)

- A. Increase WAN bandwidth
- B. Increase memory branch switch.
- C. Fragment data packets.
- D. Replace any electrical links with optical links
- E. Prioritize voice packets

Answer: CE

NEW QUESTION 65

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?

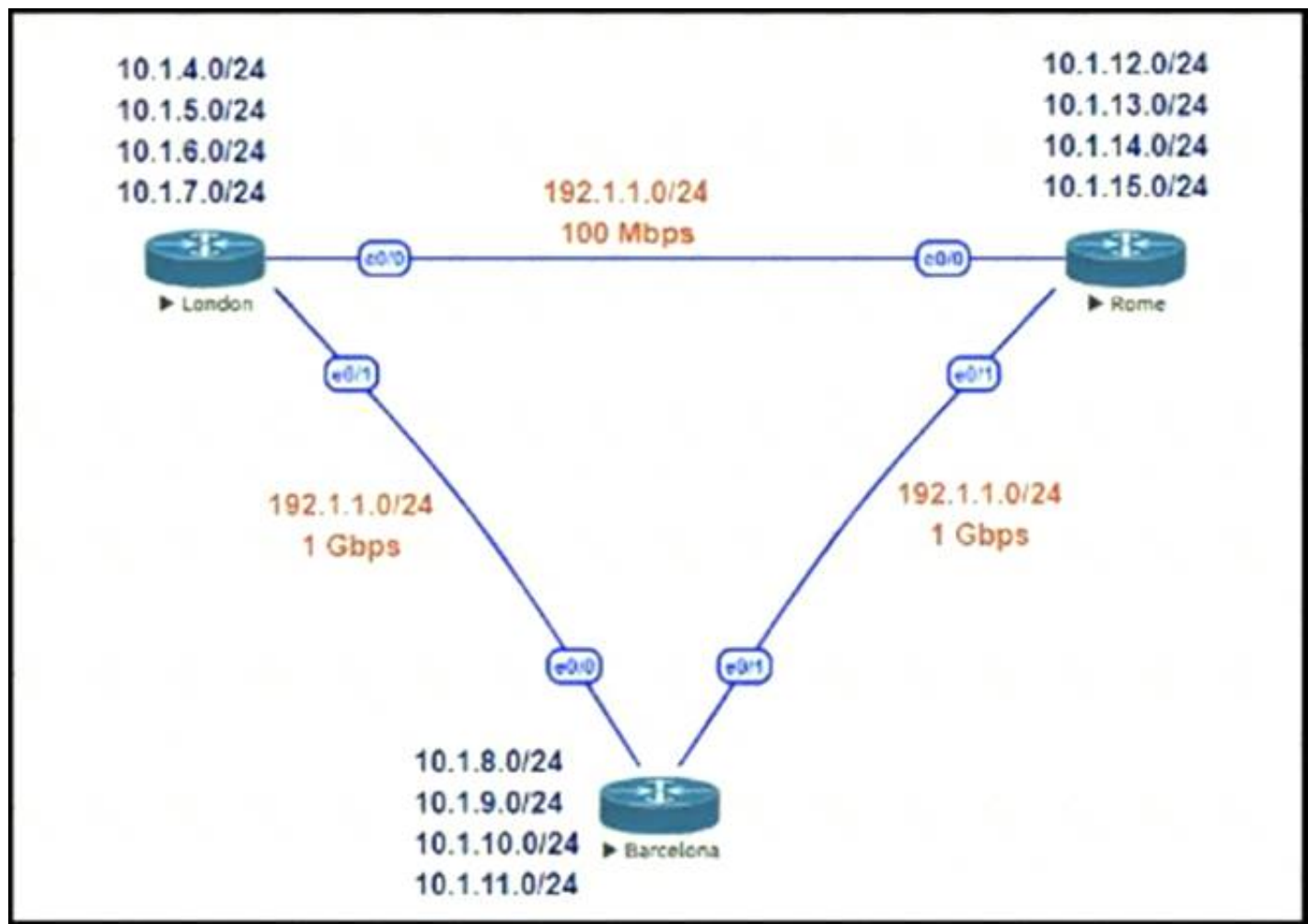
- A. DTP
- B. micro loops
- C. STP
- D. REP

Answer: B

NEW QUESTION 66

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 68

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 72

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 73

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 76

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 85

Which two features describe controller-based networking solutions compared to traditional networking solutions? (Choose two.)

- A. inflate licensing costs
- B. reduce network configuration complexity
- C. provide centralization of primary IT functions
- D. allow for fewer network failures
- E. increase network bandwidth usage

**Answer:** BC

#### NEW QUESTION 88

An engineer is designing a DMVPN network where OSPF has been chosen as the routing protocol. A spoke-to-spoke 'J<ita propagation model must be set up. Which two design considerations must be taken into account? (Choose two.)

- A. Configure all the sites as network type broadcast
- B. The network type on all sites should be point-to-multipoint
- C. The network type should be point-to-multipoint for the hub and point-to-point for the spokes.
- D. The hub should be set as the DR by specifying the priority to 255.
- E. The hub should be the DR by changing the priority of the spokes to 0.

**Answer:** AE

#### NEW QUESTION 91

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 96

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

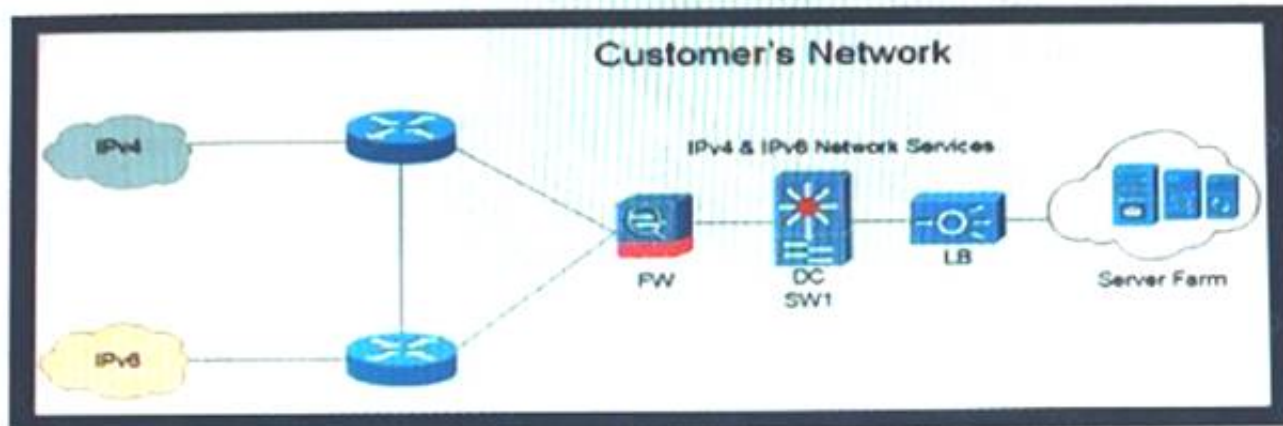
**Answer:** AF

**Explanation:**

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

**NEW QUESTION 99**

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 100**

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 104**

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 107**

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 108**

A business requirement is supplied to an architect from a car manufacturer stating their business model is changing to just-in-time manufacturing and a new network is required, the manufacturer does not produce all of the specific components in-house. Which area should the architect focus on initially?

- A. Automation
- B. Zero Trust Networking
- C. Low Latency Infrastructure
- D. Modularity

**Answer:** D

#### NEW QUESTION 113

You are designing a large-scale DMVPN network with more than 500 spokes using EIGRP as the IGP protocol. Which design option eliminates potential tunnel down events on the spoke routers due to the holding time expiration?

- A. Increase the hold queue on the physical interface of the hub router.
- B. Increase the hold queue on the tunnel interface of the spoke routers.
- C. Increase the hold queue on the tunnel interface of the hub router.
- D. Apply QoS for pak\_priority class.
- E. Increase the hold queue on the physical interface of the spoke routers.

**Answer:** C

#### NEW QUESTION 114

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 119

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 121

Your network operations team is deploying Access Control Lists (ACLs) across your Internet gateways. They wish to place an ACL inbound on the Internet gateway interface facing the core network (the "trusted" interface). Which IP address would the ACL need for traffic sourced from the inside interface, to match the source address of the traffic?

- A. inside global
- B. outside global
- C. inside local
- D. outside local

**Answer:** C

#### NEW QUESTION 123

What are two design constraints in a standard spine and leaf architecture? (Choose two.)

- A. Spine switches can connect to each other.
- B. Each spine switch must connect to every leaf switch.
- C. Leaf switches must connect to each other.
- D. Endpoints connect only to the spine switches.
- E. Each leaf switch must connect to every spine switch.

**Answer:** BE

#### NEW QUESTION 127

Which two possible drawbacks should you consider when introducing Network Functions Virtualization in a network design? (Choose two.)

- A. Bandwidth utilization increases.
- B. Traffic flows are suboptimal.
- C. High-end routers are required to support NFV.
- D. OpenFlow must be supported in the network.
- E. An SDN orchestration layer is required to support NFV.

**Answer:** CE

#### NEW QUESTION 130

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 134

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 137

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 138

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 143

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 147

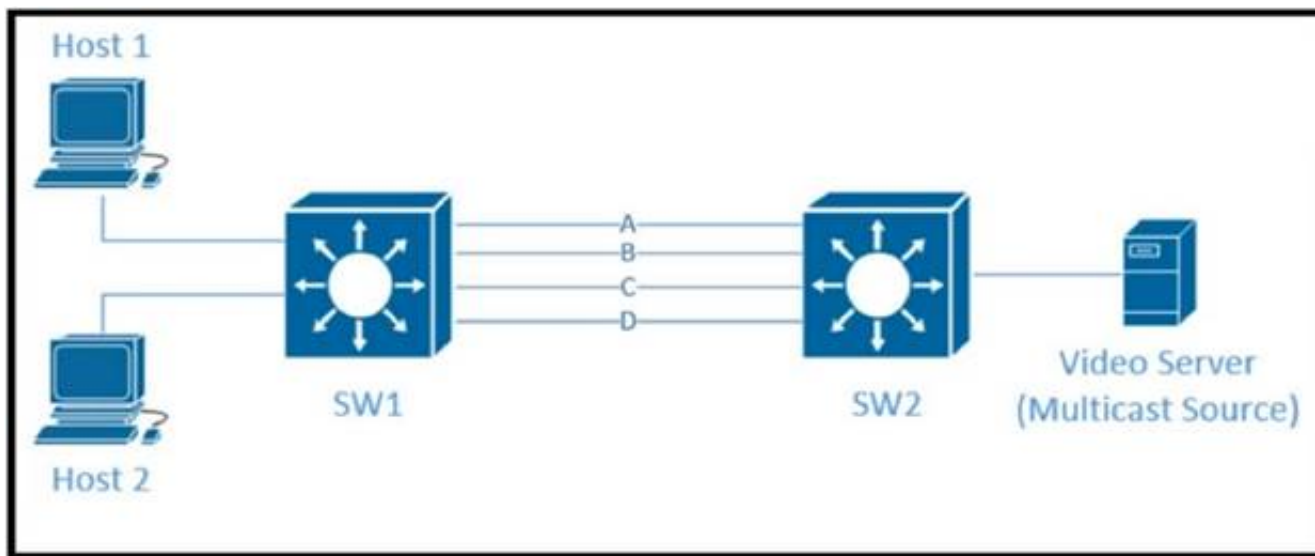
The Layer 3 control plane is the intelligence over the network that steers traffic toward its intended destination. Which two techniques can be used in service provider-style networks to offer a more dynamic, flexible, controlled, and secure control plane design? (Choose two.)

- A. access control lists
- B. firewalls
- C. QoS policy propagation with BGP
- D. remote black-holing trigger
- E. prefix lists

**Answer:** DE

#### NEW QUESTION 152

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 155

An architect prepares a network design for a startup company. The design must be able to meet business requirements while the business grows and divests due to rapidly changing markets. What is the highest priority in this design?

- A. The network should be hierarchical
- B. The network should be modular.
- C. The network should be scalable.
- D. The network should have a dedicated core.

**Answer: A**

#### NEW QUESTION 157

Which methodology is the leading lifecycle approach to network design and implementation?

- A. PPDIOO
- B. Waterfall model
- C. Spiral model
- D. V model

**Answer: A**

#### NEW QUESTION 159

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 164

Which two factors must be considered for high availability in campus LAN designs to mitigate concerns about unavailability of network resources? (Choose two.)

- A. device resiliency
- B. device type
- C. network type
- D. network resiliency
- E. network size

**Answer: AD**

#### NEW QUESTION 165

The major business applications of an enterprise are largely monolithic and hard-coded As part of a major modernization and overhaul of the applications the goal is to move to a modular and containerized application architecture mode At the same time decoupling from the hardware is desired to move to an on-demand provisioning However the CyberOps team mandated that the final architecture must provide the same security levels as an air-gapped data center. Which cloud



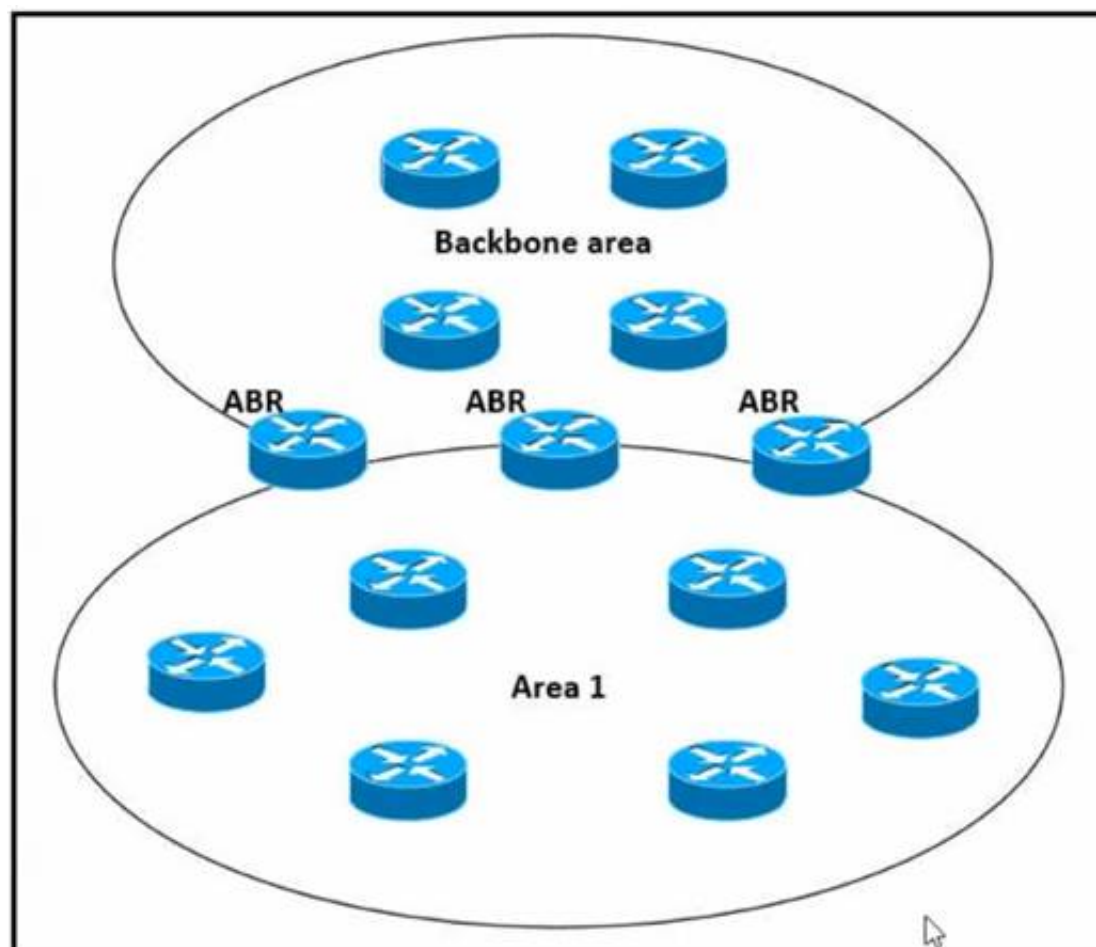
architecture meets these requirements?

- A. IaaS
- B. private cloud
- C. PaaS
- D. hybrid cloud
- E. public cloud

**Answer: B**

#### NEW QUESTION 166

Refer to the exhibit.



Which impact of using three or more ABRs between the backbone area and area 1 is true?

- A. In a large-scale network LSA replication by all ABRs can cause serious scalability issues
- B. Multiple ABRs reduce the CPU processing on each ABR due to splitting prefix advertisement
- C. In a large-scale network multiple ABRs can create microloops.
- D. Prefixes from the non-backbone area are advertised by one ABR to the backbone

**Answer: A**

#### NEW QUESTION 167

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 170

Which DCI technology utilizes a “flood and learn” technique to populate the Layer2 forwarding table?

- A. LISP
- B. OTV
- C. VPLS
- D. EVPN

**Answer: C**

#### NEW QUESTION 175

A network engineering team is in the process of designing a lab network for a customer demonstration. The design engineer wants to show that the resiliency of the MPLS traffic Engineering Fast Reroute solution has the same failover/failback times as a traditional SONET/SDH network (around 50MSEC). In order to address both link failure and node failure within the lab typology network, which type of the MPLS TE tunnels must be considered for this demonstration?

- A. TE backup tunnel
- B. Next-hop (NHop) tunnel
- C. FRR Backup tunnel

D. next-next-hop (NNHop) tunnel

**Answer:** D

#### NEW QUESTION 179

Which best practice ensures data security in the private cloud?

- A. Use IPsec for communication between unsecured network connection
- B. Encrypt data at rest and in transition.
- C. Use the same vendor for consistent encryption.
- D. Anonymize data ownership to comply with privacy rules.

**Answer:** B

#### NEW QUESTION 182

Which mechanism provides Layer 2 fault isolation between data centers?

- A. fabric path
- B. OTL
- C. advanced VPLS
- D. LISP
- E. TRILL

**Answer:** D

#### NEW QUESTION 186

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 189

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 194

Agile and Waterfall are two popular methods for organizing projects. What describes any Agile network design development process?

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

**Answer:** A

#### NEW QUESTION 199

A service provider hires you to design its new managed CE offering to meet these requirements

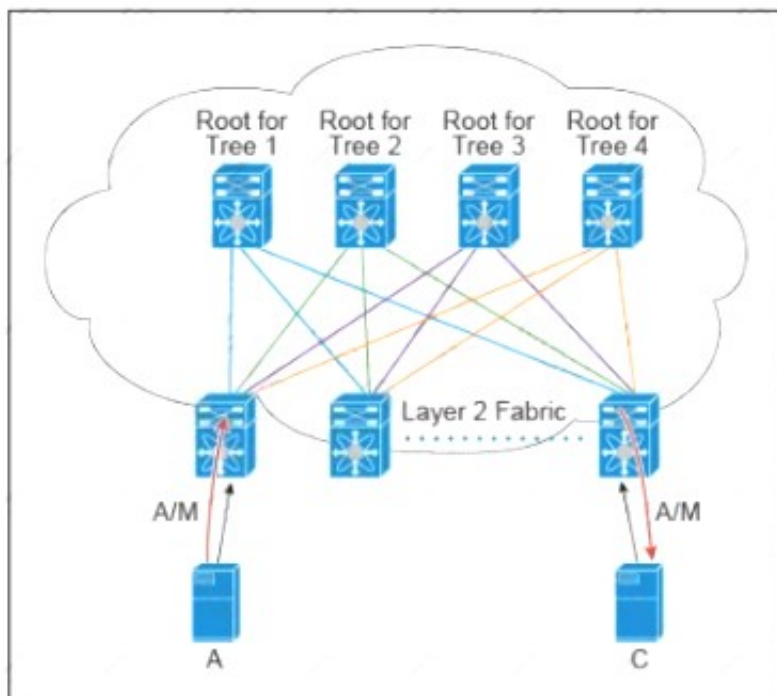
- The CEs cannot run a routing protocol with the PE
- Provide the ability for equal or unequal ingress load balancing in dual-homed CE scenarios.
- Provide support for IPv6 customer routes
- Scale up to 250,000 CE devices per customer.
- Provide low operational management to scale customer growth.
- Utilize low-end (inexpensive) routing platforms for CE functionality. Which tunneling technology do you recommend?

- A. FlexVPN
- B. point-to-point GRE
- C. DMVPN
- D. LISP

**Answer:** D

#### NEW QUESTION 201

Refer to the exhibit.



There are multiple trees in the Cisco FabricPath All switches in the Layer 2 fabric share the same view of each tree. Which two concepts describe how the multicast traffic is load-balanced across this topology? (Choose two )

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

**Answer:** BD

#### NEW QUESTION 203

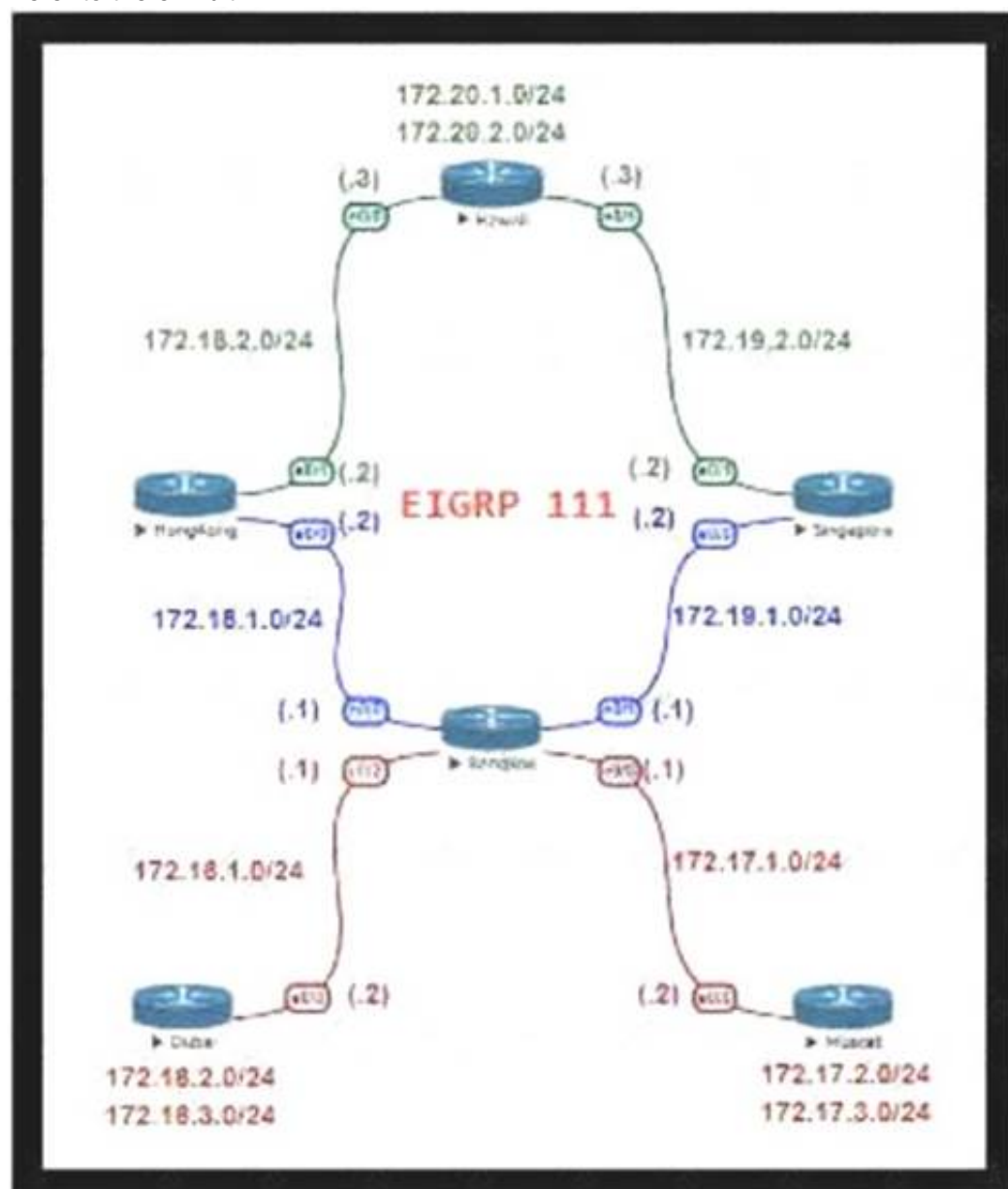
Which technology is an open-source infrastructure automation tool that automates repetitive tasks for users who work in networks such as cloud provisioning and intraservice orchestration?

- A. Ansible
- B. Contrail
- C. Java
- D. Jinja2

**Answer:** A

#### NEW QUESTION 207

Refer to the exhibit.



For Company XYZ Bangkok is using ECMP to reach the 172.20.2.0/24 network. The company wants a design that would allow them to forward traffic from 172.16.2.0/24 toward 172.20.2.0/24 via the Singapore router as the preferred route. The rest of the traffic should continue to use ECMP. Which technology fulfills this design requirement?

- A. policy-based routing
- B. route summarization
- C. unequal-cost load balancing using variance
- D. LFA

**Answer:** A

#### NEW QUESTION 208

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 212

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 215

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 216

Company XYZ is running BGP as their routing protocol. An external design consultant recommends that TCP path MTU discovery be enabled. Which effect will this have on the network?

- A. It will enhance the performance of TCP-based applications.
- B. It will increase the convergence time.
- C. It will improve the convergence time.
- D. It will create a loop free path.

**Answer:** A

#### NEW QUESTION 221

When an SDN-based model is used to transmit multimedia traffic, which aspect should an architect consider while designing the network?

- A. QoE estimation
- B. security
- C. traffic patterns
- D. flow forwarding

**Answer:** A

#### NEW QUESTION 223

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

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

**Answer:** C

#### NEW QUESTION 228

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 231

What is a description of a control plane action?

- A. de-encapsulating and re-encapsulating a packet in a data-link frame
- B. matching the destination MAC address of an Ethernet frame to the MAC address table
- C. matching the destination IP address of an IP packet to the IP routing table
- D. hosts locating routers that reside on attached links using the IPv6 Neighbor Discover Protocol

**Answer:** D

#### NEW QUESTION 232

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 234

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

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

**Answer:** C

#### NEW QUESTION 237

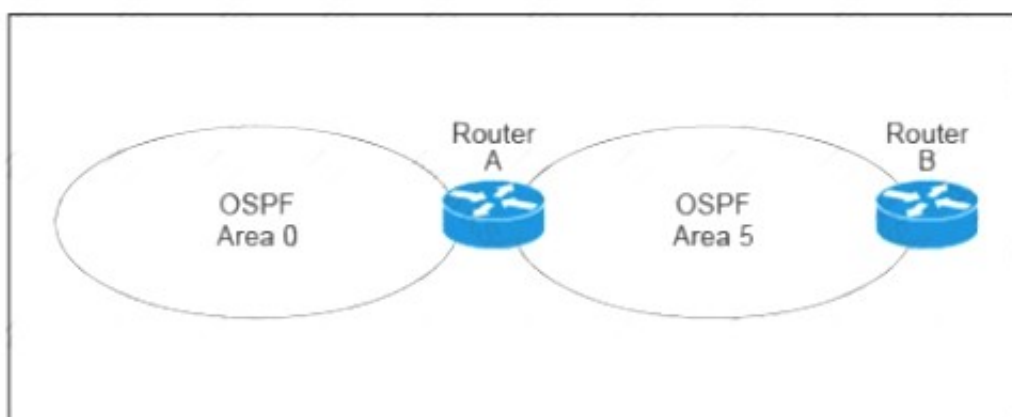
SD-WAN can be used to provide secure connectivity to remote offices, branch offices, campus networks, data centers, and the cloud over any type of IP-based underlay transport network. Which two statements describe SD WAN solutions? (Choose two.)

- 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 241

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 AB, allowing summary routes and preventing more specific routes into Area 5

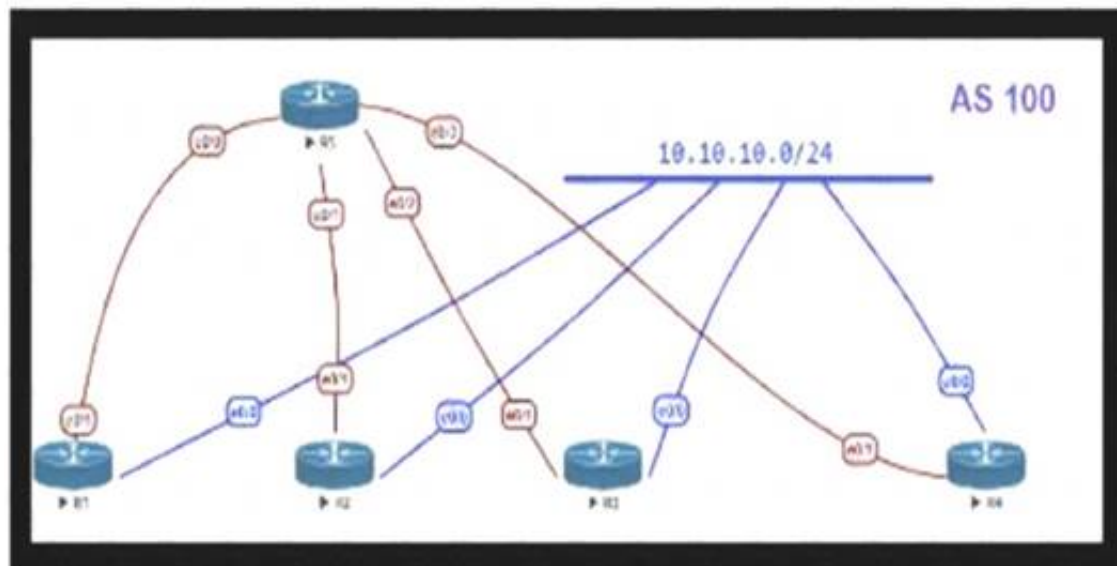


- C. Create a virtual link to Area 0 from Router B to the ABR
- D. Turn on LSA throttling on all devices in Area 5
- E. Set Area 5 to stubby at the ABR anyway

**Answer: B**

#### NEW QUESTION 242

Refer to the exhibit.



OSPF is running as the IGP to provide reachability to all AS100 networks R3 and R4 are the current ABRs at the boundary of OSPF Area0 and Area1 Now BGP must be deployed within AS 100 because it will be receiving Internet routes from its eBGP peers (the service provider) connected to R1 and R2 What is an optimal solution for this deployment to configure BGP relationships and redistribute BGP learned routes into OSPF?

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

**Answer: C**

#### NEW QUESTION 244

An enterprise plans to evolve from a traditional WAN network to a software-defined WAN network. The existing devices have limited capability when it comes to virtualization. As the migration is carried out, enterprise applications and services must not experience any traffic impact. Which implementation plan can be used to accommodate this during the migration phase?

- A. Deploy controllers, deploy SD-WAN edge router
- B. In the data center, and migrate branch sites.
- C. Migrate data center WAN routers, migrate branch sites, and deploy SD-WAN edge routers.
- D. Migrate branch sites, migrate data center WAN routers, and deploy controllers.
- E. Deploy SD-WAN edge routers in the data center, deploy controllers, and migrate branch sites

**Answer: A**

#### NEW QUESTION 245

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

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

**Answer: D**

#### NEW QUESTION 246

Which feature must be part of the network design to wait a predetermined amount of time before notifying the routing protocol of a change in the path in the network?

- A. Transmit delay
- B. Throttle timer
- C. SPF hold time
- D. Interface dampening

**Answer: B**

#### NEW QUESTION 250

What best describes the difference between Automation and Orchestration?

- A. Automation refers to an automatic process for completing a single task and Orchestration refers to assembling and coordinating a set of tasks and conditions.
- B. Automation describes a hands-off configuration process while Orchestration refers to sets of automation tasks that require the network administrator to coordinate



- C. Automation refers to an automatic process for completing multiple tasks with conditions and Orchestration refers to executing tasks in parallel.  
 D. Automation refers to scripting languages (Pytho  
 E. Ansible etc.) and Orchestration refers to commercial products that control configuration deployment

**Answer:** A

#### NEW QUESTION 253

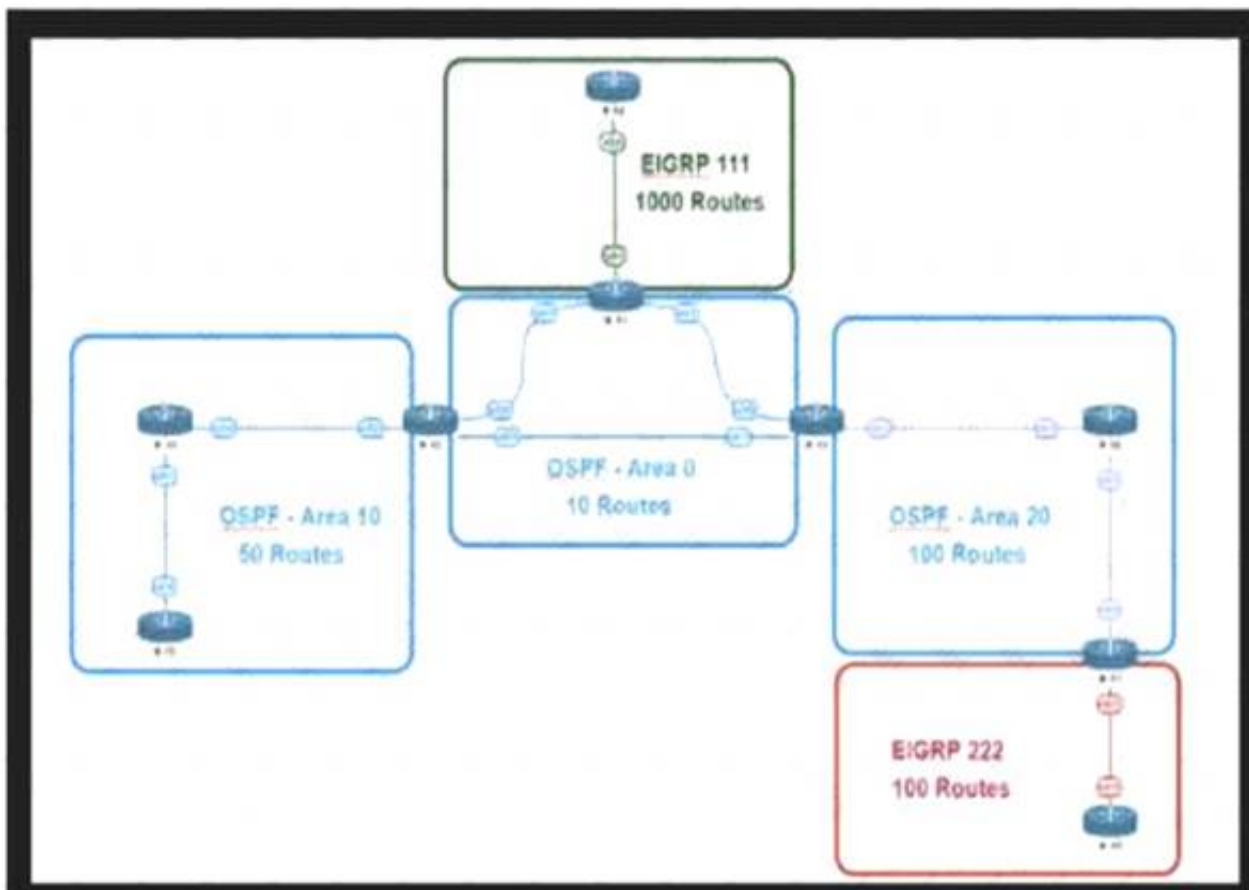
The controller has a global view of the network, and it can easily ensure that the network is in a consistent and optimal configuration. Which two statements describe a centralized SDN control path? (Choose two.)

- 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 256

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 258

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 260

Various teams in different organizations within an enterprise are preparing low-level design documents to capture network parameters using a Waterfall project model:

- hardware sizing and power consumption
- Layer 2 and layer 3 services parameters
- configuration of all control plane protocols

Input from relevant stakeholders was captured at the start of the project, and the project scope has been defined based on the parameters above. What impact will it have on documentation and project deliverables if the stakeholders ask to have changes carried out in the network before the information has been captured?

- A. This provides more opportunity to think outside the box.
- B. Rework is expected before the delivery.
- C. Significant effort and time are required.
- D. This provides a flexible approach to incorporate changes.

**Answer:** B

#### NEW QUESTION 262

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 267

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

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

**Answer:** BD

#### NEW QUESTION 272

You are tasked with the design of a high available network. Which two features provide fail closed environments? (Choose two.)

- A. EIGRP
- B. RIPv2
- C. MST
- D. L2MP

**Answer:** AB

#### NEW QUESTION 276

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

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

**Answer:** A

#### NEW QUESTION 277

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