

# 100% Money Back Guarantee

**Vendor:** Cisco

**Exam Code:** 300-320

**Exam Name:** Designing Cisco Network Service Architectures

**Version:** Demo

## Exam A

### QUESTION 1

How does ERS use the VLAN tag?

- A. to provide service internetworking
- B. to support transparency for Layer 2 frames
- C. as a connection identifier to indicate destination
- D. as a mapping to the DLCI in service internetworking
- E. to provide a trunk by which all VLANs can navigate from one site to one or multiple sites

**Correct Answer: C**

**Explanation**

### QUESTION 2

Which option is the Cisco recommendation for data oversubscription for access ports on the access-to-distribution uplink?

- A. 4 to 1
- B. 20 to 1
- C. 16 to 1
- D. 10 to 1

**Correct Answer: B**

**Explanation**

### QUESTION 3

Which QoS mechanism uses RSVP?

- A. IntServ
- B. DiffServ
- C. CoS
- D. ToS

**Correct Answer: A**

**Explanation**

**Explanation/Reference:**

### QUESTION 4

Engineer is designing QoS for application. Which QoS architecture should he choose if application needs to have reserved bandwidth prior to sending data?

- A. Differentiated services
- B. Integrated services
- C. LLQ
- D. ToS

**Correct Answer: B**

**Explanation**

### QUESTION 5

Which path selection protocol is used by Fibre Channel fabrics?

- A. IVR
- B. VoQ
- C. FSPF
- D. VSANs
- E. SANTap

**Correct Answer: C**  
**Explanation**

**QUESTION 6**

What network technology provides Layer 2 high availability between the access and distribution layers?

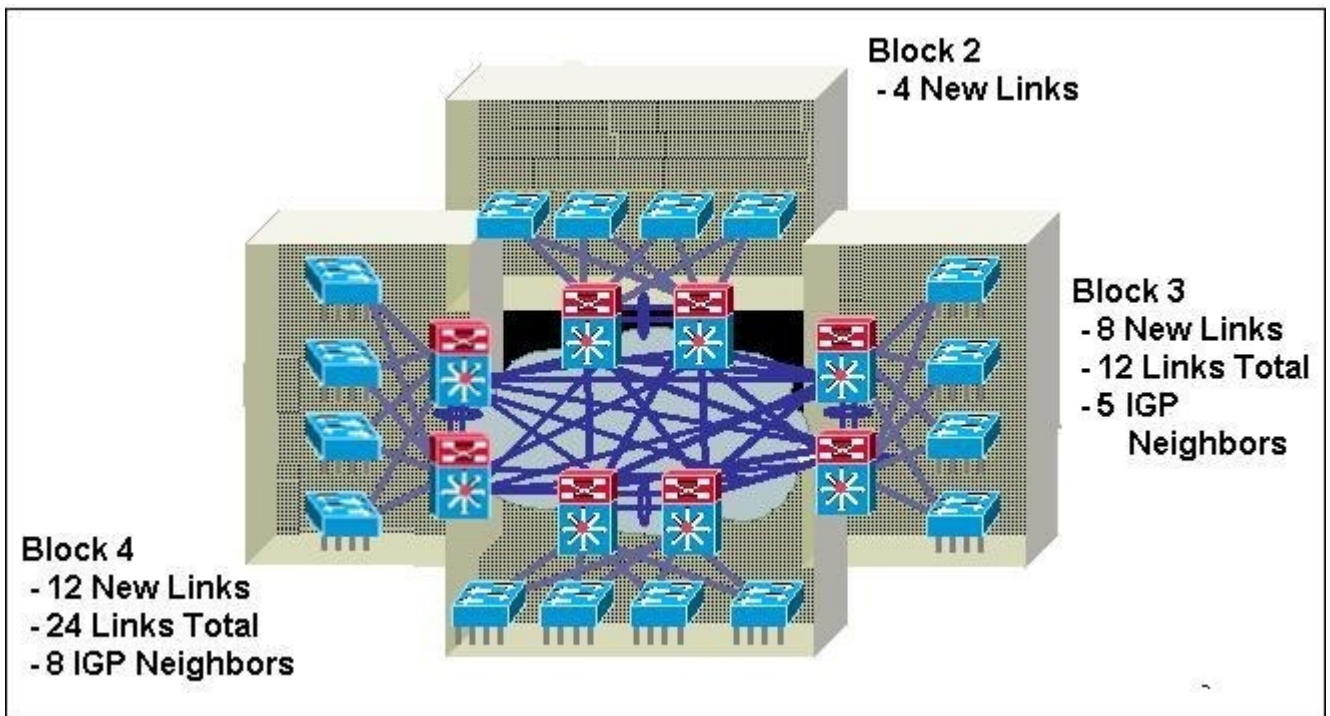
- A. HSRP
- B. MEC
- C. EIGRP
- D. GLBP

**Correct Answer: B**  
**Explanation**

**Explanation/Reference:**

**QUESTION 7**

Refer to the exhibit.



Which recommended practice is applicable?

- A. If no core layer is deployed, the design will be easier to scale.
- B. A dedicated campus core layer should be deployed for connecting three or more buildings.
- C. If no core layer is deployed, the distribution switches should not be fully meshed.
- D. A dedicated campus core layer is not needed for connecting fewer than five buildings.

**Correct Answer: B**

## Explanation

### QUESTION 8

Which STP feature can prevent other switches on the network from becoming the root switch, but still allow that interface to participate in STP otherwise?

- A. Root Guard
- B. Loop Guard
- C. BPDU Guard
- D. BPDU Filter

**Correct Answer: A**

## Explanation

### Explanation/Reference:

### QUESTION 9

The network engineering team is interested in deploying NAC within the enterprise network to enhance security. What deployment model should be used if the team requests that the NAC be logically inline with clients?

- A. Layer 2 in-band
- B. Layer 2 out-of-band
- C. Layer 3 in-band
- D. Layer 3 out-of-band

**Correct Answer: C**

## Explanation

### Explanation/Reference:

[https://www.cisco.com/c/en/us/products/collateral/security/nac-appliance-clean-access/product\\_data\\_sheet0900aecd802da1b5.html](https://www.cisco.com/c/en/us/products/collateral/security/nac-appliance-clean-access/product_data_sheet0900aecd802da1b5.html)

Passing traffic mode  
Virtual gateway (bridged mode)  
Real IP gateway (routed mode)

Client access mode  
Layer 2 (client is adjacent to the Cisco NAC Server)  
Layer 3 (client is multiple hops from the Cisco NAC Server)

Traffic flow model  
In-band (Cisco NAC Server is always in-line with user traffic)  
Out-of-band (Cisco NAC Server is in-line only during authentication, posture assessment, and remediation)

[https://www.cisco.com/c/en/us/products/collateral/security/nac-appliance-clean-access/prod\\_qas0900aecd802da200.html](https://www.cisco.com/c/en/us/products/collateral/security/nac-appliance-clean-access/prod_qas0900aecd802da200.html)

Q. Does an in-band deployment require the placement of multiple Cisco NAC Servers at the access layer?

A. No. The Server is logically in-line, not physically. This permits the placement of the

Server at the core.  
So, logically = layer 3 and inline = in-band

### QUESTION 10

A company has hired an entry-level network administrator for its new data center. The company CIO wants to give the administrator limited access on the newly configured Cisco Nexus 7000. Which feature should be used to allow limited access?

- A. NAC
- B. VDC
- C. RBAC
- D. vPC

**Correct Answer: C**  
**Explanation**

**QUESTION 11**

Which three of these are major scaling, sizing, and performance considerations for an IPsec design? (Choose three.)

- A. connection speed
- B. number of remote sites
- C. features to be supported
- D. types of devices at the remote site
- E. whether packets are encrypted using 3DES or AES
- F. number of routes in the routing table at the remote site

**Correct Answer: ABC**  
**Explanation**

**QUESTION 12**

When a Cisco ASA adaptive security appliance is configured for active/standby failover, which MAC address is used for the active unit?

- A. the MAC address of the primary unit
- B. the MAC address of the secondary unit
- C. the virtual MAC address
- D. the standby MAC address

**Correct Answer: A**  
**Explanation**

**Explanation/Reference:**

**QUESTION 13**

Which one of these could you implement to sustain a large DDoS attack?

- A. Stateful firewall
- B. uRPF
- C. Connections limits and timeouts
- D. Access-lists

**Correct Answer: C**  
**Explanation**

**QUESTION 14**

A company needs to configure a new firewall and have only one public IP address to use in this firewall.

The engineer need to configure the firewall with NAT to handle inbound traffic to the mail server in addition to internet outbound traffic. Which options could he use ? (Choose Two)

- A. Static NAT for inbound traffic on port 25

- B. Dynamic NAT for outbound traffic
- C. Static NAT for outbound traffic on port 25
- D. Dynamic NAT for inbound traffic
- E. NAT overload for outbound traffic
- F. NAT overload for inbound traffic on port 25

**Correct Answer:** AE

**Explanation**

**Explanation/Reference:**

**QUESTION 15**

Why is QoS important for in-band management?

- A. It supports remote management when traffic volume is high.
- B. It supports proper routing.
- C. It supports network security against DoS attacks and worm outbreaks.
- D. It supports network redundancy.

**Correct Answer:** A

**Explanation**

**QUESTION 16**

Refer to the exhibit.

```
R1(config)# router ospf 2

R1(config)# network 10.10.10.0 0.0.0.255 area 1

R1(config)# network 20.20.20.0 0.0.0.255 area 2

R1(config)# router-id 15.15.15.15

R2(config)# router ospf 10

R2(config)# network 10.10.10.0 0.0.0.255 area 1

R2(config)# network 20.20.20.0 0.0.0.255 area 2

R2(config)# router-id 16.16.16.16
```

Based on the configuration, why are routers R1 and R2 not exchanging OSPF routes?

- A. The OSPF process numbers are different.
- B. There is no backbone area configured.
- C. The router IDs are different.
- D. OSPF is not enabled on the interfaces.

**Correct Answer:** B

**Explanation**

**Explanation/Reference:**

**QUESTION 17**

A customer with a single Cisco Adaptive Security Appliance wants to separate multiple segments of the ecommerce network to allow for different security policies. What firewall technology accommodates these design requirements?

- A. virtual contexts
- B. private VLANs
- C. admission control
- D. virtual private network

**Correct Answer: A**

**Explanation**

**QUESTION 18**

Which security feature can help prevent spoofed packets on the network?

- A. uRPF
- B. ACLs
- C. DAI
- D. DHCP spoofing

**Correct Answer: A**

**Explanation**

**QUESTION 19**

Which technology allows centralized storage services to be shared across different VSANs?

- A. IVR
- B. FSPF
- C. FICON
- D. SANTap

**Correct Answer: A**

**Explanation**

**Explanation/Reference:**

IVR = InterVSAN Routing

**QUESTION 20**

Which of the following is a recommended practice of a data center core?

- A. Server-to-server traffic always remains in the core layer.
- B. The core infrastructure should be in Layer 3.
- C. Core layer should run BGP along with an IGP because iBGP has a lower administrative distance than any IGP
- D. The Cisco Express Forwarding hashing algorithm is the default, based on the IP address and Layer 4 port

**Correct Answer: B**

**Explanation**

**QUESTION 21**

Which two statements about both FCIP and iSCSI are correct? (Choose two.)

- A. They support file-level storage for remote devices.
- B. They require high throughput with low latency and low jitter.
- C. Their purpose is to provide connectivity between host and storage
- D. They support block-level storage for remote devices.
- E. Their purpose is to provide connectivity between separate wide-area SANs.

**Correct Answer:** DE

**Explanation**

#### **QUESTION 22**

An engineer have to design a multicast domain for some application. This multicast network should be secured. Which option should he take ?

- A. ASM with an addressing of 224.0.0.0/8
- B. ASM with an addressing of 232.0.0.0/8
- C. SSM with an addressing of 224.0.0.0/8
- D. SSM with an addressing of 232.0.0.0/8

**Correct Answer:** D

**Explanation**

**Explanation/Reference:**

#### **QUESTION 23**

A network administrator wants to provide high availability in a data center environment by making sure that there is no reconvergence of Layer 2 and Layer 3 protocols when there is a Layer 3 switch failure. Which Cisco Nexus feature fulfills this purpose?

- A. ISSU
- B. VSS
- C. vPC
- D. MEC

**Correct Answer:** C

**Explanation**

#### **QUESTION 24**

Which STP enhancement can be configured on Layer 2 ports between distribution layer switches?

- A. LoopGuard
- B. PortFast
- C. UplinkFast
- D. RootGuard

**Correct Answer:** A

**Explanation**

#### **QUESTION 25**

Which three statements about 802.1X are true? (Choose three)

- A. It is IEEE standard
- B. It can allow and deny port access based on device identity



- C. It works only with wired devices
- D. It can allow and deny port access based on user identity

**Correct Answer:** ABD

**Explanation**

**Explanation/Reference:**

**QUESTION 26**

Which type of application traffic typically requires prioritization across networks and may use a DSCP value of 34 (AF41)?

- A. voice
- B. interactive video
- C. call signaling
- D. routing
- E. streaming video
- F. network management

**Correct Answer:** B

**Explanation**

**QUESTION 27**

Which two physical components can enable high availability on a Cisco 6500 device? (Choose two.)

- A. dual supervisor modules
- B. bundled Ethernet Interconnects
- C. line modules with DFCs
- D. redundant power supplies
- E. VSS interlink cables

**Correct Answer:** AD

**Explanation**

**QUESTION 28**

A company's virtualization team wants to transfer control of network switching and policy management for VMware virtual servers to the networking team. What Cisco network virtualization solution should be implemented?

- A. Unified Computing System
- B. Nexus distributed virtual switch
- C. virtual network agent
- D. Nexus unified fabric switch

**Correct Answer:** B

**Explanation**

**Explanation/Reference:**

Explanation: Nexus 1000v

**QUESTION 29**

An engineer is attempting to improve OSPF network performance and discovers that the entire SPT recomputes whenever a type 1 or type 2 LSA is received within an area. Which action can optimize SPT operations?

- A. Tune LSA throttling thresholds.

- B. Enable incremental SPF.
- C. Configure totally stubby areas throughout the domain.
- D. Summarize networks on all ABRs.

**Correct Answer:** B

**Explanation**

**Explanation/Reference:**

[https://www.cisco.com/c/en/us/td/docs/ios/12\\_0s/feature/guide/ospfispf.html#wp1027184](https://www.cisco.com/c/en/us/td/docs/ios/12_0s/feature/guide/ospfispf.html#wp1027184)

"Benefits of OSPF Incremental SPF OSPF uses Dijkstra's SPF algorithm to compute the shortest path tree (SPT). During the computation of the SPT, the shortest path to each node is discovered. The topology tree is used to populate the routing table with routes to IP networks. When changes to a Type-1 or Type-2 link-state advertisement (LSA) occur in an area, the entire SPT is recomputed. In many cases, the entire SPT need not be recomputed because most of the tree remains unchanged. Incremental SPF allows the system to recompute only the affected part of the tree. Recomputing only a portion of the tree rather than the entire tree results in faster OSPF convergence and saves CPU resources. Note that if the change to a Type-1 or Type-2 LSA occurs in the calculating router itself, then the full SPT is performed. Incremental SPF is scheduled in the same way as the full SPF. Routers enabled with incremental SPF and routers not enabled with incremental SPF can function in the same internetwork."

### QUESTION 30

Which of these statements best describes VPLS?

- A. Neither broadcast nor multicast traffic is ever flooded in VPLS.
- B. Multicast traffic is flooded but broadcast traffic is not flooded in VPLS.
- C. VPLS emulates an Ethernet switch, with each EMS being analogous to a VLAN.
- D. Because U-PE devices act as IEEE 802.1 devices, the VPLS core must use STP
- E. When the provider experiences an outage, IP re-routing restores PW connectivity and MAC re-learning is needed.

**Correct Answer:** C

**Explanation**

### QUESTION 31

A company requires redundancy for its multihomed BGP external connections. What two features can be configured on the WAN routers to automate failover for both outbound and inbound traffic? (Choose two.)

- A. AS path prepending
- B. local preference
- C. floating static route
- D. HSRP
- E. MED
- F. weight

**Correct Answer:** AB

**Explanation**

**Explanation/Reference:**

### QUESTION 32

Which two VPN solutions extend the routing capabilities of basic IPsec VPNs? (Choose two.)

- A. GRE
- B. NVI
- C. DES
- D. VTI

E. AES

**Correct Answer:** AD

**Explanation**

**QUESTION 33**

What is one reason to implement Control Plane Policing?

- A. allow OSPF routing protocol to advertise routes
- B. protect the network device route processor from getting overloaded by rate limiting the incoming control plane packets
- C. allow network devices to generate and receive packets
- D. protect the data plane packets

**Correct Answer:** B

**Explanation**

**QUESTION 34**

NBAR is deployed on the network as part of network optimization. Which technology is critical to recognize new applications on the network?

- A. PDLM
- B. ACLs
- C. code upgrade
- D. additional licenses

**Correct Answer:** A

**Explanation**

**Explanation/Reference:**

also known as" Packet Description Language Modules"

[https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/qos\\_nbar/configuration/15-mt/qos-nbar-15-mt-book/nbarapp-recog-mods.html](https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/qos_nbar/configuration/15-mt/qos-nbar-15-mt-book/nbarapp-recog-mods.html)

**QUESTION 35**

Which unique EIGRP feature allows for faster Layer 3 convergence?

- A. fast EIGRP timers
- B. feasible successors
- C. hybrid routing protocol
- D. Cisco proprietary protocol

**Correct Answer:** B

**Explanation**

**QUESTION 36**

Which two ways to manage scalability issues inside an IBGP domain with 20 or more routers are recommended? (Choose two.)

- A. Configure route reflectors.
- B. Use OSPF instead of EIGRP as an underlying routing protocol.
- C. Create a full mesh at Layer 1.
- D. Configure confederations.
- E. Configure static routes between all routers.

**Correct Answer:** AD

**Explanation**

**Explanation/Reference:**

**QUESTION 37**

You need to design a network with a summary segment that supports up to 15 IP segments and all segments must be /24?

- A. /20
- B. /21
- C. /18
- D. /19

**Correct Answer:** A

**Explanation**

**QUESTION 38**

What is the correct state between two BGP peers that are neighbors?

- A. active
- B. operational
- C. established
- D. up

**Correct Answer:** C

**Explanation**

**QUESTION 39**

Which two options are advantages of having a modular design instead of an EOR design in a data center? (Choose two.)

- A. cooling constraints
- B. cable bulk
- C. decreased STP processing
- D. redundancy options
- E. cost minimization
- F. low-skilled manager

**Correct Answer:** AB

**Explanation**

**Explanation/Reference:**

"There are some disadvantages with EOR designs:

Cable bulk: More cabling needs to be routed and managed.

Cooling constraints: The cable bulk at the cabinet floor entry can be difficult to manage and can block cool airflow."

-> So these are advantages of modular design.

(Less cooling constraints and no cable bulk)

NOTE for your learnings:

"There are several advantages with EOR designs:

Decreased management complexity: There are fewer devices to manage, which makes this task less complex.

Decreased STP processing: With fewer devices in the Layer 2 infrastructure and significantly fewer uplinks, there is less impact on STP processing. ?Redundancy options: Redundant switch power and

CPUs can be supported on modular switches."

**QUESTION 40**

When designing the routing for an Enterprise Campus network it is important to keep which of the following route filtering aspects in mind?

- A. Filtering is only useful when combined with route summarization.
- B. It is best to filter (allow) the default and summary prefixes only in the Enterprise Edge to remote sites or site100% Valid Cisco Exams to-site IPsec VPN networks
- C. IGP's (for example EIGRP or OSPF) are superior to route filtering in avoiding inappropriate transit traffic through remote nodes or inaccurate or inappropriate routing updates
- D. The primary limitation of router filtering is that it can only be applied on outbound updates

**Correct Answer: B**

**Explanation**

**Explanation/Reference:**

**QUESTION 41**

What is the primary benefit of implementing Virtual Device Contexts on Nexus hardware In a multi- tenant environment?

- A. resource isolation
- B. software partitioning
- C. resource allocation
- D. granular monitoring

**Correct Answer: A**

**Explanation**

**QUESTION 42**

Which QoS architecture provides scalability of implementation?

- A. IntServ
- B. DiffServ
- C. LLQ
- D. RSVP

**Correct Answer: B**

**Explanation**

**QUESTION 43**

Which option is correct when using VSS to combine two physical switches into one logical switch? (Choose two)

- A. Both data planes forward traffic simultaneously.
- B. Only one data plane forwards traffic, while the other data plane is on standby.
- C. Both control planes forward traffic simultaneously.
- D. Control planes are combined into one virtual control plane.

**Correct Answer: AD**

**Explanation**

**Explanation/Reference:**

**QUESTION 44**

Uplink floating state ( up and down ) .what you can do to solve this problem ?

- A. route summary
- B. Cisco Express Forwarding
- C. BFD
- D. UDLD

**Correct Answer: A**

**Explanation**

**QUESTION 45**

Which of these is a recommended practice with trunks?

- A. use ISL encapsulation
- B. use 802.1q encapsulation
- C. set ISL to desirable and auto with encapsulation negotiate to support ISL protocol negotiation
- D. use VTP server mode to support dynamic propagation of VLAN information across the network

**Correct Answer: B**

**Explanation**

**QUESTION 46**

Which option is used as a top-of-rack device that is managed by its parent device, providing ease of management?

- A. Cisco Nexus 2000
- B. Cisco Nexus 5000
- C. Cisco Nexus 7000
- D. Cisco Nexus 9000

**Correct Answer: A**

**Explanation**

**Explanation/Reference:**

**QUESTION 47**

Which two statements about Layer 3 access designs are correct? (Choose two.)

- A. IP address space is difficult to manage.
- B. Broadcast and fault domains are increased.
- C. Convergence time is fractionally slower than STP.
- D. Limits on clustering and NIC teaming are removed.
- E. Fast uplink convergence is supported for failover and fallback.

**Correct Answer: AE**

**Explanation**

**QUESTION 48**

Which option is a common cause of congestion found in a campus network?

- A. input serialization delay
- B. output serialization delay
- C. Rx-queue starvation

D. Tx-queue starvation

**Correct Answer:** D

**Explanation**

**QUESTION 49**

Which four Cisco proprietary Spanning Tree Protocol enhancements are supported with rapid per-VLAN Spanning-Tree plus? (Choose four.)

- A. PortFast
- B. UplinkFast
- C. loop guard
- D. root guard
- E. BPDU guard
- F. BackboneFast

**Correct Answer:** ACDE

**Explanation**

**Explanation/Reference:**

**QUESTION 50**

Which technology is an example of the need for a designer to clearly define features and desired performance when designing advanced WAN services with a service provider?

- A. FHRP to remote branches
- B. Layer 3 MPLS VPNs secure routing
- C. Control protocols (for example Spanning Tree Protocol) for a Layer 3 MPLS service
- D. Intrusion prevention, QoS, and stateful firewall support network wide

**Correct Answer:** C

**Explanation**

**Explanation/Reference:**

**QUESTION 51**

Which two options are storage topologies? (Choose two.)

- A. WAS
- B. DAS
- C. CAS
- D. NAS

**Correct Answer:** BD

**Explanation**

**QUESTION 52**

Which practice is recommended when designing scalable OSPF networks?

- A. Maximize the number of routers in an area.
- B. Minimize the number of ABRs.
- C. Minimize the number of areas supported by an ABR.
- D. Maximize the number of router adjacencies.

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