



Exam : 642-651

Title : Wide Area Application Services for System Engineers

Ver : 11.14.07

QUESTION 1

Which LAN traffic management feature is fully supported by Cisco WAAS?

- A. intrusion detection system
- B. QoS
- C. NBAR
- D. MPLS

Answer: B

QUESTION 2

Your customer's Cisco WAAS design calls for the Central Manager to be deployed on the Core WAE, which is a WAE-612 with 2GB of RAM. The customer initially configured the WAE as an application accelerator, and then issued the device mode central-manager command to enable Central Manager service. Now the customer reports that the WAE is no longer accelerating traffic. What is the problem?

- A. The Central Manager and application accelerator cannot be deployed on the same WAE.
- B. At least 4GB of RAM must be installed for the WAE to serve as both Central Manager and application accelerator.
- C. The device mode central-manager command must be issued before the device mode application-accelerator command.
- D. Central Manager is consuming too much CPU time on the WAE. The Central Manager service should be implemented on a less-utilized edge WAE.

Answer: A

QUESTION 3

In a Cisco WAAS environment, which TCP connection establishment messages should you examine if your customer has sent you a TCP protocol trace and asked for your help in understanding why the WAE appliances are failing to negotiate the correct, optimized policy?

- A. SYN and FIN
- B. SYN and ACK
- C. SYN and SYN ACK
- D. ACK and SYN ACK

Answer: C

QUESTION 4

Which two options correctly identify the WAE tile services integration modes available in Cisco WAAS? (Choose two.)

- A. transparent, in which the WAE appears as a node on the remote office LAN
- B. transparent, in which the WAE does not appear as a node on the remote office LAN

- C. non-transparent, in which the WAE appears as a node on the remote office LAN
- D. non-transparent, in which the WAE does not appear as a node on the remote office LAN

Answer: B, C

QUESTION 5

You have configured a Central Manager WAE cluster for your customer. After a technician accidentally unplugs the power cord from the primary Central Manager WAE, the network administrator calls you to complain that the standby Central Manager WAE did not automatically assume the primary role. What should you tell this administrator?

- A. You should verify that the datafeed.pollrate setting is configured properly.
- B. You should make sure the two Central Manager WAE appliances are on the same subnet
- C. You must manually copy the Central Manager database to the standby Central Manager WAE.
- D. You must manually initiate failover and fallback processes on the WAE.

Answer: D

QUESTION 6

Your customer has purchased multiple Cisco WAE appliances, but does not want to dedicate one WAE for management purposes only. How would you advise this customer?

- A. There must be at least one Central Manager available for configuration and management tasks.
- B. The data center WAE can be used for both the Central Manager and Application Accelerator roles.
- C. There is no need for a dedicated Central Manager; all configuration tasks can be performed on the application accelerators using the WAE device CLI and GUI.
- D. If one of the WAE appliances is configured as the Central Manager, then later, after all application accelerators are registered and on line, the Central Manager WAE can be reconfigured as an application accelerator.

Answer: A

QUESTION 7

When you size a Cisco WAAS solution, you should assume that how many of the total number of concurrent TCP connections per user will be optimized?

- A. 1-2
- B. 4-7
- C. 14-20
- D. 25-40

Answer: B

QUESTION 8

When using PBR, what do you need to configure to enable failover?

- A. QoS
- B. MPLS
- C. IP SLAs
- D. NetFlow

Answer: C

QUESTION 9

What are three benefits of using the Cisco WAE file blocking feature? (Choose three.)

- A. eliminates data redundancy
- B. reduces the use of network resources
- C. minimizes the transfer of unsanctioned data
- D. prevents multiple users from attempting to edit the same file
- E. controls which file types are stored on the data center file server
- F. ensures that files cannot be edited until they are synchronized between the branch and the data center

Answer: B, C, E

QUESTION 10

Your customer is using firewalls. What must be permitted to pass through the firewalls in order to allow WAE auto-discovery?

- A. TCP options
- B. TCP port 139
- C. TCP port 445
- D. TCP SYN-ACK with data

Answer: A

QUESTION 11

Which two functions does the Central Manager provide in a Cisco WAAS environment? (Choose two.)

- A. application acceleration
- B. management of CIFS servers
- C. application statistics monitoring
- D. configuration backup and restore
- E. policy configuration and distribution

Answer: C, E

QUESTION 12

How does Cisco WAAS advanced compression DRE improve on traditional LZ compression?

- A. by removing the transmission of previously-seen data
- B. by pre-positioning often-used file segments on the edge WAE appliances
- C. by comparing hashes of each tile version to avoid unnecessary file synchronization
- D. by implementing a more aggressive, hardware-intensive version of the LZ compression algorithm

Answer: A

QUESTION 13

How can you monitor optimization statistics for a given application across multiple Cisco WAE devices?

- A. Create a device group for all WAE devices on which that application is optimized.
- B. Create a location group for all WAE devices on which that application is optimized.
- C. Create a separate application traffic policy for each application.
- D. Ensure that each application resides on a different subnet.

Answer: A

QUESTION 14

In a WAAS Application Traffic Policy, what are three valid match conditions for traffic classifiers? (Choose three.)

- A. IP address
- B. routed protocol
- C. routing
- D. subnet
- E. TCP port
- F. UDP port

Answer: A, D, E

QUESTION 15

Your customer is using PBR as the interception method on its routers. Which mechanism would you recommend to ensure WAE availability and failover if a WAE fails?

- A. enable NetFlow to track WAE appliances
- B. enable IP SLAs to track WAE appliances
- C. nothing, PBR automatically tracks WAE appliances
- D. nothing, PBR does not support the tracking of WAE appliances

Answer: B

QUESTION 16

Your customer wants to configure Port Channels on its Core WAE appliances to enable load balancing across WAE interfaces. Which WAE deployment model must this customer use?

- A. on-router one-arm
- B. on-router two-arm
- C. off-router one-arm
- D. off-router two-arm

Answer: C

QUESTION 17

How often does a Cisco WAE negotiate the policy to be used for a given connection?

- A. every time a new client-server pair initiates communication
- B. every time a TCP connection is established through the WAE
- C. once, after which the WAE uses the policy for all connections
- D. twice, once for outgoing and once for incoming traffic

Answer: B

QUESTION 18

Which three features does Cisco WAAS provide to enable the consolidation of infrastructure from remote offices into the data center? (Choose three.)

- A. policy-based configuration
- B. auto-discovery of CIFS servers
- C. support for multiple virtual contexts
- D. encryption of traffic between WAE appliances
- E. transparent integration into existing networks
- F. encapsulation of traffic between WAE appliances in GRE tunnels

Answer: A, B, E

QUESTION 19

Which two policies are used by the CIFS acceleration component of Cisco WAAS? (Choose two.)

- A. CIFS Policy
- B. WAFS Policy
- C. Directory Mapping Policy
- D. Connectivity Policy
- E. Reconnection Policy
- F. Connectivity Directive

Answer: A, B

QUESTION 20

In a Cisco WAAS solution, what is the role of the Catalyst 6500 ACE module?

- A. to provide WAN optimization capabilities in the data center
- B. to provide interception and load-balancing of WAE appliances in the data center
- C. to perform application acceleration functions for CIFS applications
- D. to support load balancing of large numbers of WAE appliances when deployed with WCCPv2

Answer: B

QUESTION 21

Your customer is planning to deploy a pair of clustered Cisco WAE-7326 appliances in its data center. How many RUs will it need?

- A. 1
- B. 2
- C. 4
- D. 8

Answer: C

QUESTION 22

Which feature of Central Manager helps to simplify the configuration of large numbers of Cisco WAE devices?

- A. device groups
- B. location groups
- C. WAFS core clusters
- D. Windows integration

Answer: A

QUESTION 23

Which two statements describe what is required for read-only disconnected mode to be automatically activated during a prolonged WAAS disconnect? (Choose two.)

- A. The WAE must be able to access a Windows Domain Controller.
- B. The WAE must be configured for Windows authentication.
- C. The WAL must be joined to the same workgroup as the Windows server.
- D. The Windows server must be configured for operating in disconnected mode.
- E. NTP services must be configured on the WAE appliances.

Answer: A, B

QUESTION 24

Which statement best describes the purpose of Cisco WAAS Transport Flow Optimization?

- A. compress data
- B. reduce packet loss
- C. mask problematic WAN conditions
- D. reduce congestion on low-bandwidth networks

Answer: C

QUESTION 25

Which of these provide a logical grouping of traffic types to support the monitoring and collection of statistics?

- A. policy maps
- B. baseline policies
- C. traffic classifiers
- D. application definitions

Answer: D

QUESTION 26

Which statement best describes Cisco WAAS Transport Flow Optimization?

- A. TFO is a data compression method.
- B. TFO streamlines the locking semantics.
- C. TFO optimizes TCP connections for client-server traffic.
- D. TFO optimizes CIFS connections for client-server traffic.

Answer: C

QUESTION 27

Which two tools could you use to determine what percentage of WAN traffic will be optimized when you use a Cisco WAAS deployment? (Choose two.)

- A. SPAN
- B. NBAR
- C. Ethereal
- D. IP SLAs
- E. NetFlow
- F. Tcpreplay

Answer: B, E

QUESTION 28

You should recommend PBR to a customer that requires which type of support?

- A. symmetric routing

- B. asymmetric routing
- C. failover and load balancing
- D. failover but not load balancing

Answer: D

QUESTION 29

With Cisco WA4S advanced compression DIRE, which three are functions of the DIRE process? (Choose three.)

- A. TCP proxy
- B. LZ compression
- C. synchronization
- D. pattern matching
- E. data segment pre-positioning
- F. fingerprint and chunk identification

Answer: C, D, F

QUESTION 30

BACK improves performance for which type of traffic?

- A. traffic on lossy networks
- B. short-lived TCP connections
- C. traffic on low-BDP networks
- D. traffic on high-SDP networks

Answer: A

QUESTION 31

When must WCCPv2 redirect exclusion be configured on the routers?

- A. when the redirect in command is used on any interface
- B. only when the redirect in command is used on the LAN interface
- C. only when the redirect in command is used on the WAN interface
- D. when the redirect out command is used on any interface
- E. only when the redirect out command is used on the LAN interface
- F. only when the redirect out command is used on the WAN interface

Answer: D

QUESTION 32

What two symptoms would you expect to observe in a TCP trace if a WAE that was optimizing connections fails? (Choose two.)

- A. All optimized TCP connections handled by that WAE are reset.

- B. All TCP connections are taken over by the receiving node.
- C. The secondary WAE takes over the connection and the receiving node sees nothing.
- D. The receiving node sees segments with SEQ ACK numbers that it was not expecting.
- E. The receiving node continues normally because it has a session to the originating node.

Answer: A, D

QUESTION 33

How often is the Cisco WAE running the edge tile service able to cache previously-seen files to ensure the files are not stale?

- A. every hour
- B. every time the file is opened
- C. every time the file is modified
- D. according to a user-specified schedule

Answer: B

QUESTION 34

Your customer's service provider manages its WAN infrastructure. The customer wants to deploy Cisco WAAS to accelerate file services for a small number of branch offices, but the service provider manages the routers at each site and your customer's terms of service prohibit the customer from customizing router configurations. Which interception method should you recommend?

- A. PBR
- B. ACE
- C. WCCPv2
- D. inline card

Answer: D

QUESTION 35

Cisco WAAS Traffic Flow Optimization provides benefits for which type of application data?

- A. any TCP traffic
- B. TCP traffic with repeated small data segments
- C. TCP traffic with repeated compressed data segments
- D. TCP traffic with repeated uncompressed data segments

Answer: A

QUESTION 36

What happens if there are three Cisco WAE appliances in the data path of a connection?

- A. The connection will not be optimized.

- B. The last WAE in the path goes into pass-through mode for the connection.
- C. The first WAE in the path goes into pass-through mode for the connection.
- D. The middle WAE in the path goes into pass-through mode for the connection.

Answer: D

QUESTION 37

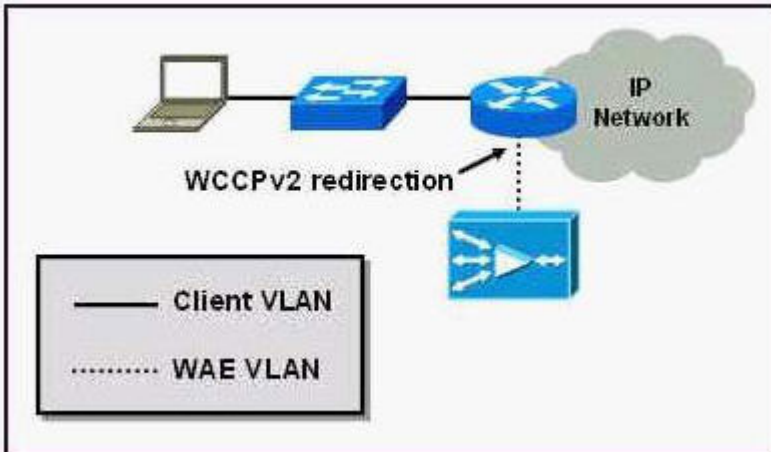
Which of these parameters should you consider when selecting a WAE model for a Cisco WAAS deployment?

- A. the number of users at each site
- B. the total storage capacity of each application that will be optimized
- C. the number of TCP connections that are being optimized by each WAE
- D. the WAN bandwidth and number of TCP connections that are being optimized by each WAE

Answer: D

QUESTION 38

Refer to the exhibit.



Your customer has installed its data center WAE as shown. Which configuration change would improve the performance of the WAE?

- A. change to a two-arm configuration
- B. change to an off-router configuration
- C. use PBR redirection instead of WCCPv2
- D. create a PortChannel between the WAE and the router

Answer: A

QUESTION 39

For optimization to occur, there must be a minimum of how many Cisco WAE appliances in the path between the client and server?

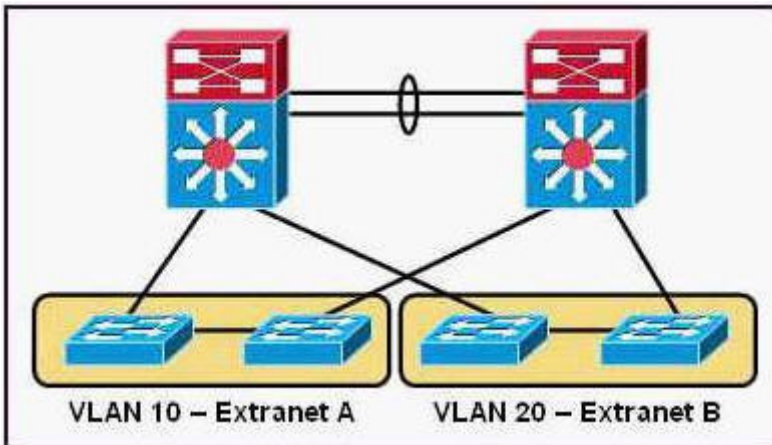
- A. 1

- B. 2
- C. 3
- D. 4

Answer: B

QUESTION 40

Refer to the exhibit.



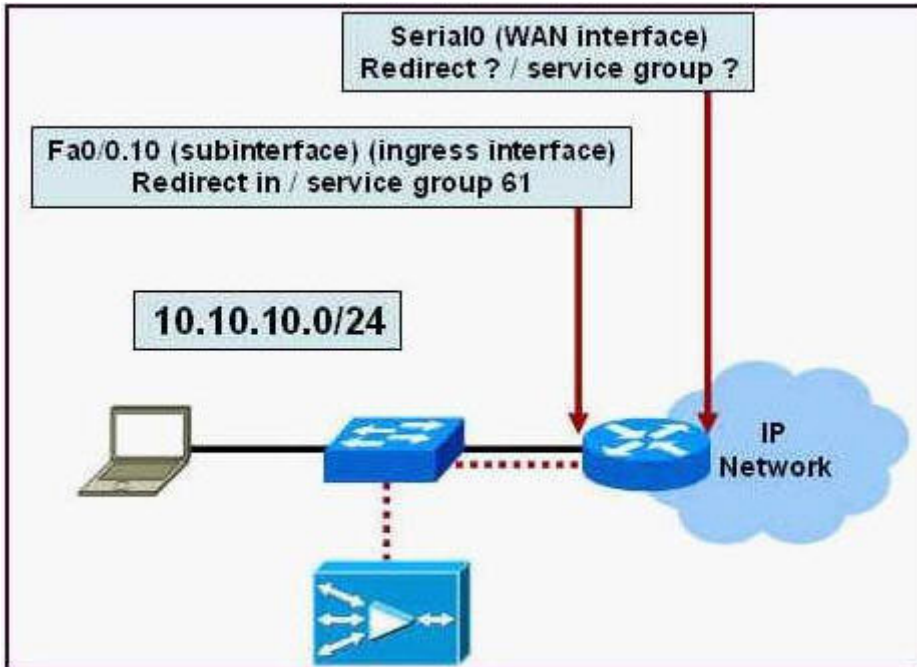
Which security feature would you use to prevent a worm outbreak in Extranet A from crossing into Extranet B?

- A. VACLs
- B. router ACLs
- C. control plane policing
- D. drop and shutdown thresholds

Answer: A

QUESTION 41

Refer to the exhibit.



This diagram illustrates your customer's edge WAE configuration. Which WCCPv2 interception configuration should you apply to the Serial0 interface?

- A. Redirect in / service group 61
- B. Redirect in / service group 62
- C. Redirect out / service group 61
- D. Redirect out / service group 62

Answer: B

QUESTION 42

According to the Cisco Network Foundation Protection architecture, which security feature should be applied at the access layer?

- A. traffic rate limitation
- B. control plane protection
- C. anti-spoofing mechanisms
- D. CPU and memory thresholds

Answer: A

QUESTION 43

Your customer wants to use Active Directory to manage authentication for WAE administrative users. How should you configure authentication in the Cisco WAAS Central Manager?

- A. Configure Active Directory as the primary login method.
- B. Configure LDAP services on the Active Directory server and set LDAP as the primary login method.

- C. Configure RADIUS services on the Active Directory server and set RADIUS as the primary login method.
- D. Configure TACACS+ services on the Active Directory server and set TACACS+ as the primary login method.

Answer: A

QUESTION 44

Which two service groups are used when configuring a Cisco WAE as a "promiscuous" TCP device? (Choose two.)

- A. 60
- B. 61
- C. 62
- D. 89
- E. 90

Answer: B, C

QUESTION 45

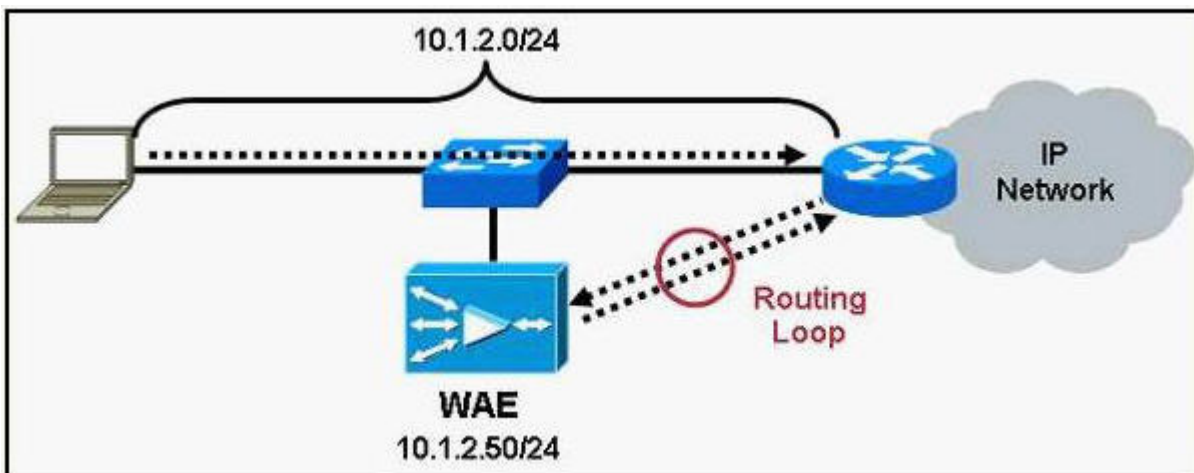
How does Cisco WAAS support NBAR?

- A. NBAR is not supported in Cisco WAAS environments.
- B. No support is needed; NBAR is unaffected by Cisco WMS integration.
- C. The WAE appliances do not compress the first few packets of each connection.
- D. The WAE appliances do not compress connections that are marked for NBAR processing.

Answer: C

QUESTION 46

Refer to the exhibit.



Your customer has deployed a Cisco WAE in its data center. The servers that are being optimized are on subnet 10.1.2.0/24, and the WAE has been configured with the IP address

10.1.2.50. However, routing loops have resulted from this configuration. How can the customer fix the problem?

- A. configure a WCCPv2 redirect exclude directive
- B. correct the configuration of the WCCPv2 service groups
- C. configure a PBR access list to exclude the WAE IP address
- D. redeploy the WAE on a different subnet or VLAN sub interface

Answer: D

QUESTION 47

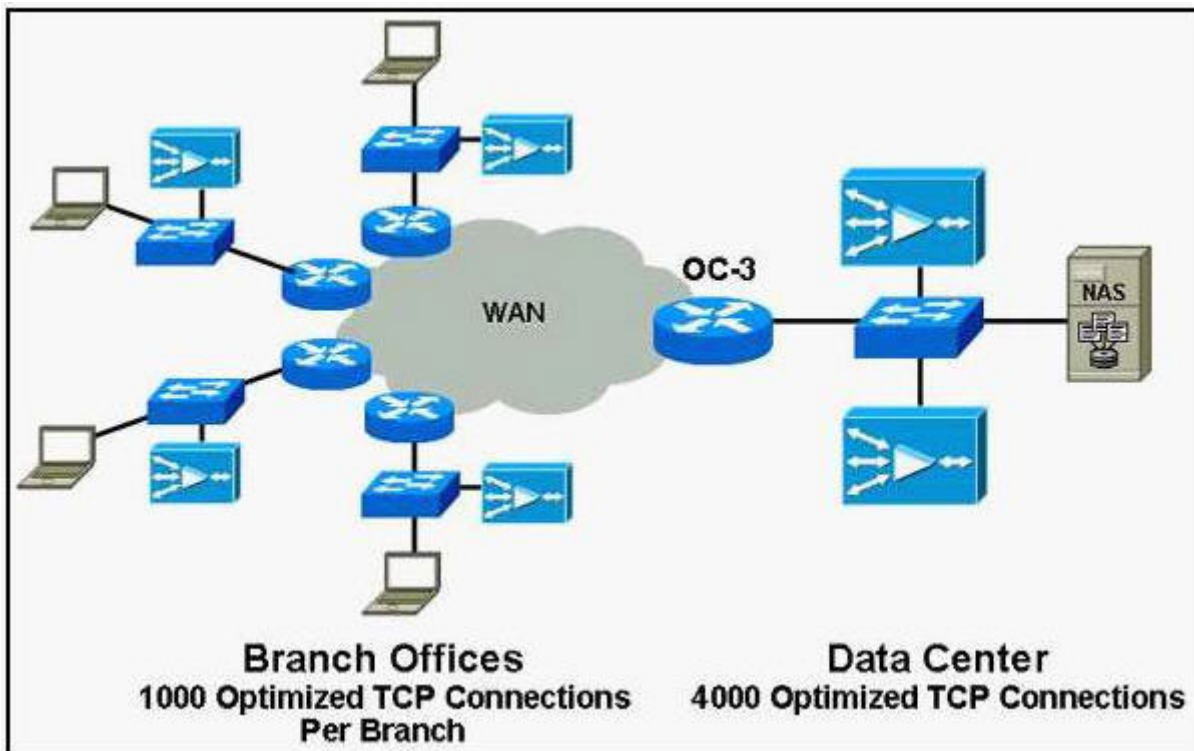
When configuring adapter policies in a Cisco WAAS environment, what is the purpose of the EPM adapter?

- A. to differentiate priority levels on a congested link
- B. to aggregate application traffic statistics
- C. to specify the traffic associated with an optimization
- D. to identify an application's dynamically assigned port number

Answer: D

QUESTION 48

Refer to the exhibit.



Your customer needs to be able to support 1000 optimized TCP connections at the edge and 4000 optimized TCP connections at the data center, with a 155-Mbps OC-3 link into the data center. Which hardware platforms would you recommend?

- A. WAE-512 with 1GB of RAM and WAE-612 with 2GB of RAM
- B. WAE-512 with 2GB of RAM and WAE-612 with 2GB of RAM
- C. WAE-512 with 1GB of RAM and WAE-612 with 4GB of RAM
- D. WAE-512 with 2GB of RAM and WAE-612 with 4GB of RAM

Answer: D

QUESTION 49

Which of these assign an action to be taken against traffic that matches a criterion?

- A. policy maps
- B. baseline policies
- C. traffic classifiers
- D. application definitions

Answer: A

QUESTION 50

In a Cisco WAAS implementation, how is the DIRE database partitioned into contexts?

- A. One context is provisioned for each file server.
- B. One context is provisioned for each application.
- C. One context is provisioned for each client-server pair.
- D. One context is provisioned for each connected pair of WAE appliances.

Answer: D

QUESTION 51

When WCCPv2 is running on a switch or router, what does it use to redirect traffic to a Cisco WAE?

- A. NBAR
- B. GRE tunnels or Layer 2 direction
- C. MPLS tunnels or Layer 2 direction
- D. Layer 4-7 inspection

Answer: B

QUESTION 52

A device has recently registered with the Central Manager. What must be done before the device can be used?

- A. It must be activated.
- B. It must be assigned an IP address.
- C. A device group must be specified for it.

D. A primary interface must be specified for it.

Answer: A

QUESTION 53

What is one advantage of a two-arm WAE deployment?

- A. consumes fewer switch ports
- B. requires that the interface be adjacent to a node
- C. allows the use of non-routable VLANs
- D. lowers router utilization

Answer: D

QUESTION 54

Which high-availability method is used with inline interception?

- A. WCCPv2
- B. fail-to-wire
- C. load balancing
- D. load balancing with the ACE module

Answer: B

QUESTION 55

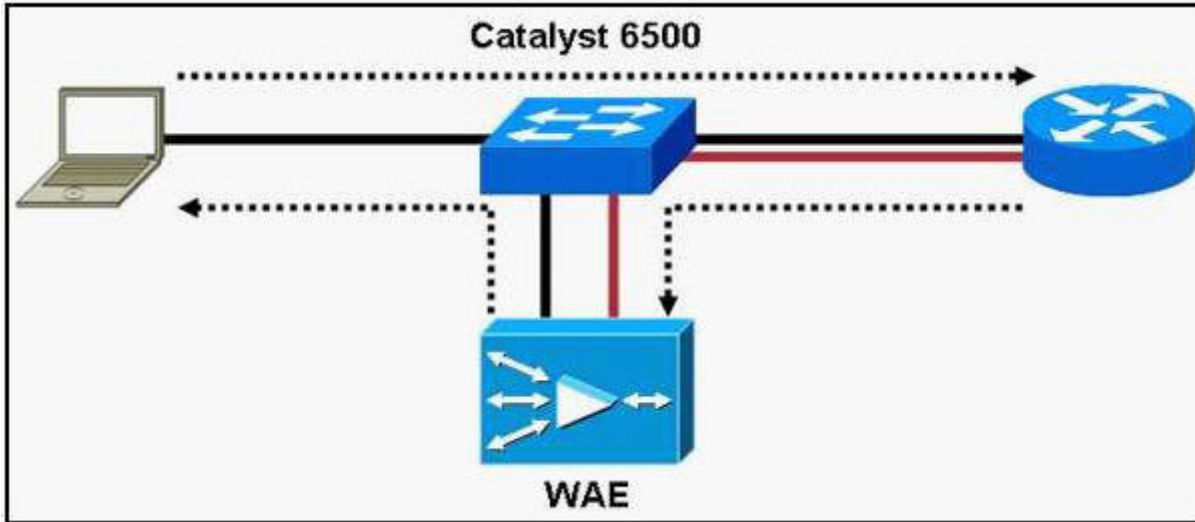
Which statement about using the WAE inline card for interception is true?

- A. WAE appliances must be serially clustered when using the inline card.
- B. WCCPv2 must be explicitly disabled on the WAE.
- C. Inline interception is compatible only with ACE interception at peer sites.
- D. Inline interception is not compatible with any other interception mechanism at peer sites.

Answer: B

QUESTION 56

Refer to the exhibit.



Your customer plans to deploy its edge WAE appliances in an off-path, two-arm configuration. The WAE appliances are connected to Catalyst 6500 switches and use WCCPv2 for traffic interception. The customer wants to use Layer 2 redirection, rather than GRE tunnels, to minimize the latency added by interception.

What should you say when you are asked if this is possible?

- A. Layer 2 redirection can be used only in in-path configurations.
- B. Layer 2 redirection can be used only in one-arm configurations.
- C. Layer 2 redirection can be used in the customer's configuration.
- D. GRE tunnels provide better performance than Layer 2 redirection.

Answer: C

QUESTION 57

Which two are valid Cisco WAE device modes? (Choose two.)

- A. Central WAE
- B. WAN Optimizer
- C. Central Manager
- D. Application Optimizer
- E. Application Accelerator

Answer: C, E

QUESTION 58

Assume that there are multiple application accelerator WAE appliances at a given site. If a WAE fails, how will the client-server communication be affected for connections that were optimized by the failed WAE?

- A. The WAE appliances synchronize their connection databases, so client-server communication will not be affected.
- B. The nodes communicate to the WAE appliances through a virtual IP address, so client-server

communication will not be affected.

C. All optimized TCP connections that were optimized by that WAE will be reset and re-established through another WAE.

D. The receiving node will see segments with SEQ ACK numbers it was not expecting, but will continue communicating with the target node.

Answer: C

QUESTION 59

When does window scaling improve performance?

A. when $MWS > BDP$

B. when $MWS = BDP$

C. when $MWS < SuP$

D. when $MWS \leq SDP$

Answer: C

QUESTION 60

Which of these parameters should you consider when selecting a WAE model for a Cisco WAAS deployment?

A. total WAN throughput

B. optimized WAN throughput

C. bandwidth of the largest WAN link

D. bandwidth of the smallest WAN link

Answer: B