Exam : 642-342

Title : Content Networking

Ver : 11.16.06

QUESTION 1:

Why should the interface command bridge vlan vlan# be executed upon creation of interfaces on a Cisco Content Services Switch (CCS) switch?

A. Bridging is turned OFF.
B. Bridging is turned ON, but is undefined.
C. All VLANs are initially bridged to VLAN 1.
D. Interfaces are shut off by default until bridged to a VLAN.
E. The CSS acts as a router, therefore routing must be turned ON.

Answer: C

Explanation:
Bridging an Interface to a VLANTo specify a VLAN and associate it with the specified Ethernet interface, use the bridge vlan command. Enter an integer from 1 to 4094 as the VLAN identifier. The default is 1. All interfaces are assigned to VLAN1 by default.
The following list defines the maximum number of VLANs supported by the specific CSS models:
CSS 11501 and CSS 11503 - A maximum of 256VLANs per CSS and 64VLANs per port (FE or GE)
CSS 11506 - A maximum of 512VLANs per CSS and 64VLANs per port (FE or GE)
When you specify the bridge vlan command, enter the word vlan in lowercase letters and include a space before the VLAN number (for example, vlan 2).
For example, to configure e1 to VLAN2 on the CSS 11501, enter:
(config-if[e1])# bridge vlan 2

QUESTION 2:

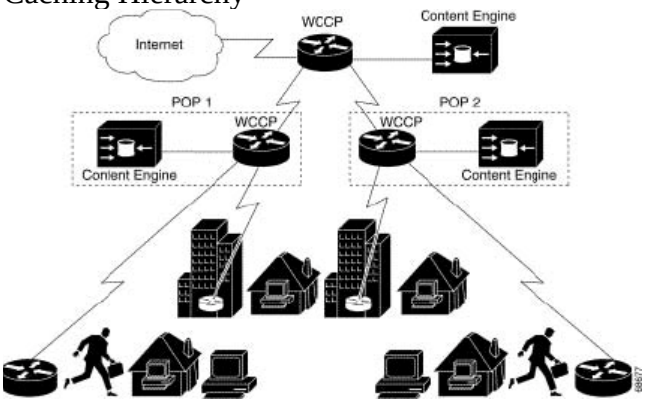
Which statement is true about caching solutions currently on the Internet?

A. Caching solutions are used predominantly for video streaming.
B. Caching solutions are housed predominantly in Internet Service Provider data centers.
C. Caching solutions are housed both within enterprise environments and at Internet Service Provider data centers.
D. Caching solutions only deliver static content and in no way deliver dynamic content to users on the Internet today.

Answer: C

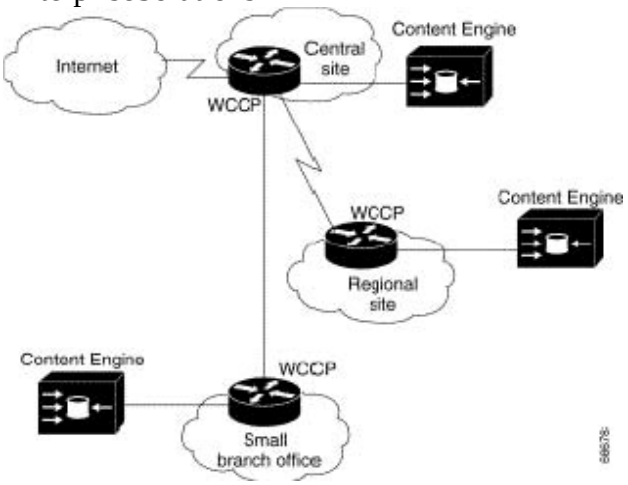
Explanation:
Cacheable Content
Cacheable content is typically static application data and can be associated with a file type and file extension.
Ensuring Fresh Content
A requirement for any caching system is the ability to ensure that users see the same content from a network

cache
as they would from the Web. Every Web page comprises several Web objects and each Web object has its own caching parameters, determined by content authors and HTTP standards (see the "HTTP Caching Standards" section). Thus, even a Web page with real-time objects typically has many other objects that are cacheable. Rotating
ad banners and Common Gateway Interface (CGI)-generated responses are examples of objects that are typically
noncacheable. Toolbars, navigation bars, GIFs, and JPEGs are examples of objects that are typically cacheable. Thus, for a given Web page, only a few dynamic objects need to be retrieved from the end server, while static objects
can be fulfilled locally.
Caching HierarchyBecause a Cisco Content Engine can be transparent to the client and to network operation, customers can easily place Content Engines in several network locations in a hierarchical fashion. For example, if an
Internet service provider (ISP) deploys a Content Engine at its main point of access to the Internet, all of its points of
presence (POPs) benefit, because requested content can be available at this main point ofaccess without going through the Internet
The figure depicts a typical caching hierarchy using ContentEngines.
Caching Hierarchy



Client requests reach the Content Engine and are fulfilled from its storage. To further improve service to favored
clients, ISPs can deploy Content Engines at each POP. Then, when a client accesses the Internet, the request is first
redirected to the POP Content Engine. If the POP Content Engine is unable to fulfill the request from local storage, it
makes a normal web request to the end server.
Upstream, this request is redirected to the Content Engine at the main Internet access point. If the request is fulfilled
by the Content Engine, traffic on the main Internet access link is avoided, the origin web servers experience lower
demand, and the client experiences better network response times.
Enterprise networks can apply this hierarchical transparent architecture in the same way.Caching Hierarchy in

EnterpriseSolutions



QUESTION 3:

Which two statements are true about cookies? (Choose two)

A. Cookies are accessible only by the client's browser.
B. Cookies are kept by the client's browser on the server.
C. Cookies are assigned by the server or load balancer.
D. Cookies are kept by the client's browser on the client machine.
E. Session state is maintained by a cookie provided by the client.

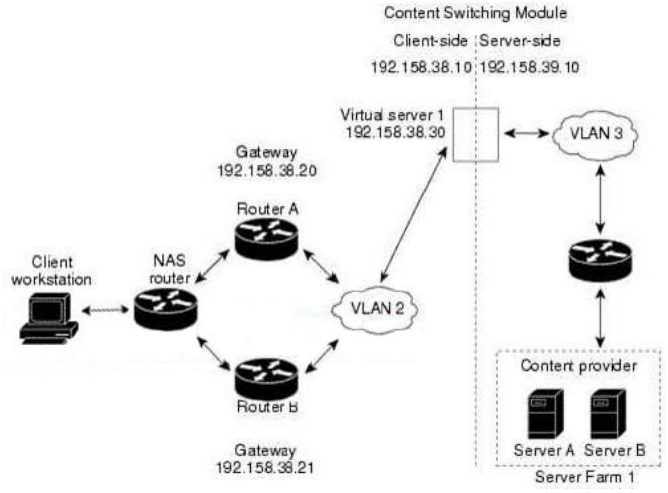
Answer: C, D

QUESTION 4:

Which of the following statements are true with regards to the CSM supported network topologies? (Choose two)

A. In the bridge mode, directly attached servers point to the CSM as the default gateway.
B. In router mode, directly attached servers point to the CSM as the default gateway.
C. The bridge mode between 2 VLANs implies that they are on different IP subnets.
D. The router mode between 2 VLANs implies that they are on different IP subnets.
E. Router and bridge modes cannot be configured simultaneously on the same module.

Answer: B, D
Figure, Single Subnet (Bridge) Mode Configuration



You configure single subnet (bridge) mode by assigning the same IP address to the CSM client and server VLANs. In bridge mode the client does not point it's Default Gateway to the CSM.

To configure content switching for the single subnet (bridge) mode, perform this task:

	Command	Purpose
Step1	Router(config-module-csm)# vlandatabase	Enters the VLAN mode1 .
Step2	Router(vlan)#**vlan2**	Configures a client-side VLAN2 .
Step3	Router(vlan)#**vlan3**	Configures a server-side VLAN.
Step4	Router(vlan)# exit	Exits the mode for the configuration to take effect.
Step5	Router(config-module-csm)# vlan2client	Creates the client-side VLAN 2 and enters the SLB VLAN mode 1.
Step6	Router(config-slb-vlan-client)# **ipaddr**192.158.38.10	Assigns the CSM IP address on VLAN2.
Step7	255.255.255.0Router(config-slb-vlan-client)# **gateway**192.158.38.20	Defines the client-side VLAN gateway to Router A.
Step8	Router(config-slb-vlan-client)# **gateway**192.158.38.21	Defines the client-side VLAN gateway to Router B.
Step9	Router(config-slb-vserver)#vlan **3server**	Creates the server-side VLAN 3 and enters the SLB VLAN mode.
Step10	Router(config-slb-vlan-client)# ipaddr192.158.38.10 255.255.255.0	Assigns the CSM IP address on VLAN3.
Step11	Router(config-slb-vlan-client)#exit	Exits the submode.

Step12	Router(config-module-csm)# vserverVIP1	Creates a virtual server and enters the SLB virtual server mode.
Step13	Router(config-slb-vserver)#	Creates a virtual IP address.
Step14	virtual192.158.38.30 tcp wwwRouter(config-slb-vserver)# serverfarmfarm1	Associates the virtual server with the server farm3 .
Step15	Router(config-module-csm)#	Enables the server.

Note
Set the servers default routes to the Router As gateway (192.158.38.20) or the Router Bs gateway (192.158.38.21).
Reference: Catalyst 6500 Series Content Switching Module Configuration Note Software Release 4.1(1), Chapter Networking with the Content Switching Module

---

QUESTION 5:

Which response does the Content Router offer to the requesting client?

A. Hop count to the mirrored site.
B. The network load at the mirrored site.
C. An HTTP 202 redirect to the closest serving content engine.
D. The amount of time the request took to get to the CRA.
E. The name of the Authoritative Server (AS) for the domain.

Answer: C
On page 1-8 of the Cisco Content Services Switch Content Load-Balancing Configuration Guide, Software Version 7.40 it states when it becomes necessary to move a client to a new service"The CSS sends a 302 redirect to the client's browser to tell the browser to reconnect using the same DNS name"

QUESTION 6:

Which command is required to enable a service on a Content Service Module (CSM)?

A. start
B. enable
C. active
D. in service
E. No command is required.

Answer: D

Explanation:

`Router(config-module-csm)#`**`inservice`**	Enables the server.

QUESTION 7:

Why is the three-way handshake mechanism required for TCP session establishment?

A. It keeps both sides of a connection from timing out.
B. It ensures that both ends of a connection are synchronously established.
C. There is less chance of interference and the session getting dropped.
D. It ensures the connection is established between the correct stations.

Answer: B

Explanation:
TCP Connection Establishment
To use reliable transport services, TCP hosts must establish a connection-oriented session with one another. Connection
establishment is performed by using a "three-way handshake" mechanism.
A three-way handshake synchronizes both ends of a connection by allowing both sides to agree upon initial sequence numbers.
This mechanism also guarantees that both sides are ready to transmit data and know that the other side is ready to transmit as
well. This is necessary so that packets are not transmitted or retransmitted during session establishment or after session
termination.
Each host randomly chooses a sequence number used to track bytes within the stream it is sending and receiving. Then, the
three-way handshake proceeds in the following manner:
The first host (Host A) initiates a connection by sending a packet with the initial sequence number (X) and SYN bit set to
indicate a connection request. The second host (HostB) receives the SYN, records the sequence number X, and replies by
acknowledging the SYN (with an ACK = X + 1). HostB includes its own initial sequence number (SEQ = Y). An ACK = 20
means the host has received bytes 0 through 19 and expects byte 20 next. This technique is called forward acknowledgment.
Host A then acknowledges all bytes Host B sent with a forward acknowledgment indicating the next byte Host A expects to
receive (ACK = Y + 1). Data transfer then can begin.

QUESTION 8:

What are the parameters required for configuring a service for SLL termination? (Choose
three)

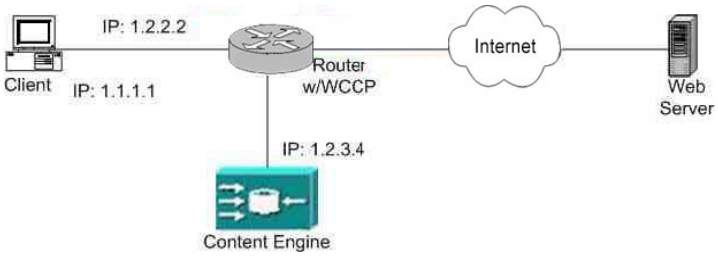
A. Keepalive type ssl
B. Type

C. Ip address
D. Slot
E. Max-connections

Answer: A, B, D
Configuring a Service for SSL TerminationAn SSL proxy list may belong to multiple SSL services (one SSL proxy list per service), and an SSL service may belong to multiple content rules. You can apply the services to content rules that allow the CSS to direct SSL requests for content.
Note
The CSS supports one active SSL service for each SSL module in the CSS (one SSL service per slot). You can configure more than one SSL service for a slot but only a single SSL service can be active at a time.

QUESTION 9:

Exhibit:



Refer to the exhibit. The exhibit shows a Content Engine with WCCP enabled between the Content Engine and the router. The Client browser is configured with an HTTP proxy address of 1.2.3.4.
What does this illustrate?

A. Proxy caching
B. Transparent caching
C. Reverse proxy caching
D. Transparent redirection

Answer: A

QUESTION 10:

Which formats are stored and natively delivered from Cisco Content Engines?

A. Real
B. Real and Quick Time
C. Real, WMT, and Quick Time
D. Real, WMT, MP3, and Quick Time

Answer: C
Cisco ACNS software supports several types of streaming media services, including RealNetworks RealMedia, Microsoft Windows Media Technologies (WMT), and Apple

QuickTime.
Reference: Cisco ACNS Software Caching and Streaming Configuration Guide, Release 5.1, Chapter 12: Configuring Streaming Media Services

---

QUESTION 11:

In which intervals and increments can you limit or control bandwidth during both replicating and playback?

A. Bandwidth can be limited by MBps for playback but not replication.
B. Bandwidth can be limited by Kbps for both replication and playback.
C. Bandwidth can be limited by MBps for both replication and playback.
D. Bandwidth can be limited by MBps for only replication and not playback.

Answer: C

QUESTION 12:

An NTLM-authenticated user is prompted for login name and password when attempting to access the public Internet.
What happens to the user's request if he cannot provide valid user credentials?

A. Access to the Internet will be allowed and the user's Internet activities will be logged by IP address.
B. The user will be denied all access to the Internet.
C. User access to the Internet will have less priority, resulting in slower Internet access than authenticated users.
D. The user's manager will receive an automatic notification that the user failed to provide valid credentials.

Answer: B
NTLM is NT LAN Manager
HTTP Request Authentication
The ACNS 4.1 software Cache application supports Microsoft NT LAN Manager (NTLM), Lightweight Directory Access Protocol (LDAP), and RADIUS server HTTP request authentication. HTTP request authentication authenticates a user's domain, username, and password with a preconfigured primary domain controller (PDC) before allowing requests from the user to be served by the Content Engine.
NTLM Authentication
The NTLM protocol can be used to authenticate and block user access to the Internet. When a user logs in to a Windows NT or a Windows 2000 domain, the information is stored by the browser and later used as NTLM credentials to access the Internet. The browser sends the NTLM credentials with the domain name to the ACNS cache, which in turns sends a request to the Windows NT domain controller to check the validity of the user in the domain. If the user is not a valid user in the domain, then the request to access the Internet is denied. If authentication succeeds, the source IP address is entered in the authentication cache. Future requests from this

IP address are not challenged until the authentication cache entry expires, or is cleared.
Use the ntlm server command to enable NTLM authentication and configure the NTLM server domain name, NT primary domain controller (PDC) name or IP address, and optionally set the host name or address as primary or secondary.
Before invoking an NTLM authentication request, make sure that the following conditions exist.
The NTLM primary domain controller has an entry in the Domain Name System (DNS) that matches its NetBIOS-named computer account.
The primary domain controller is both forward and reverse DNS-resolvable.
The domain name configured on the Content Engine matches the domain of which the primary domain controller is a part.
Reference: Cisco ACNS Software Caching Configuration Guide, Release 4.1, Chapter 10: Configuring Authentication

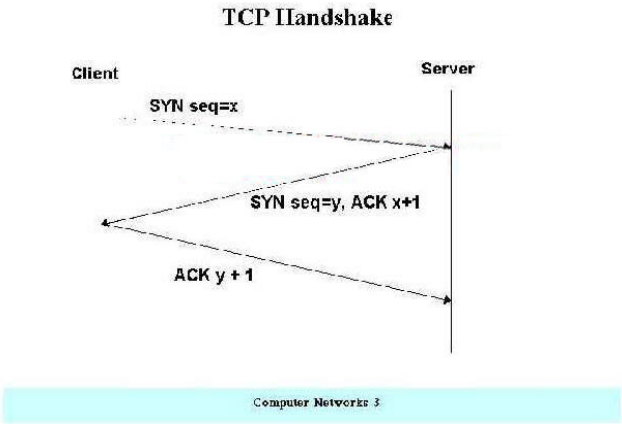
---

QUESTION 13:

What is the correct TCP three-way handshake connection setup?

A. SYN - FIN - ACK
B. SYN - DATA - FIN
C. SYN - DATA - ACK
D. SYN - SYN/ACK - ACK
E. SYN -SYN/ACK - FIN/ACK

Answer: D



QUESTION 14:

How do you pre-position files to a Content Engine without a CDM?

A. Use the pre-load CLI command-
B. Use the rule CLI command.
C. Use the acquisition-distribution CLI command.
D. It is not possible.

Answer: A
Cisco ACNS Caching and Streaming Configuration Guide (pdf) Page 3-32

QUESTION 15:

Content routing uses which three metrics to determine the best site on a global network? (Choose three)

A. Client source address
B. Distance
C. Content engine channel subscription
D. Content engine availability
E. Server speed

Answer: A, C D

QUESTION 16:

In a Content Delivery Network consisting of a CDM and a number of CRs and CEs, which one of the following statements is true with respect to upgrading from one ACNs version to the next?

A. Always upgrade the CDM first.
B. Upgrade each of the CEs and CRs and then upgrade the CDM.
C. Upgrade of the CRs and CEs can be done only using the CDM GUI.
D. Upgrade of the CRs and CE can be done only using the CLIs.

Answer: B
It is imperative that you upgrade the software on your ContentEngines and Content Routers before upgrading the softwareon your ContentDistributionManager. Once your ContentDistribution Manager software has been upgraded, anyremaining Content Engines and Content Routers that have notalso been upgraded will be unable to connect to it. Contact CiscoTechnical Support if you have any questions regarding the proper procedure for upgrading your Enterprise CDN devices.
The question should read "In a Content Delivery Network consisting of a CDM and a number of CRs and CEs, which one of the following statements is true with respect to upgrading from one ACNS version to the next?" The "s" on the end of the acronym ACNS is part of the acronym for Application and Content Networking System (ACNS).

QUESTION 17:

Assume 100 cacheable HTTP transactions per second and an average HTTP object size of 10 KB. Approximately what would be the minimum cache storage required to provide a cache byte hit rate of approximately 50% over a 24 hour period with every object being requested twice?

A. 1 GB
B. 40 GB
C. 200 GB
D. 100 MB

Answer: B
(100 x 10,000 x 86400 x (1 - 0.5)) / 1,000,000,000 = 43.2GB
Reference: CISCO 4600 SERIES CONTENT DISTRIBUTION MANAGER, Cisco ACNS Software-Performance Considerations of ACNS 4.11

QUESTION 18:

What is the default port setting when creating a Multicast Cloud for multicast replication?

A. 1024
B. 554
C. 1008
D. 7777

Answer: D
Port used for both the advertisement IP address and file addresses. The default port is 7777.
Reference: Cisco ACNS Software Deployment and Configuration Guide, Release 5.0, Chapter 5: Configuring the CDN

QUESTION 19:

How is new media detected and replicated to other Content Engines in an Application and Content Networking System?

A. Periodically, the Content Distribution Manager polls the Import directory.
Media files placed in channels on the server since the last polling are marked for import to the appropriate Content Engine channel.
Once they are marked for import, the status of these media files can be viewed using the Import Progress feature accessible form the Channels menu.
B. Periodically, the root Content Engine polls the origin server.
New media files are acquired into their appropriate channel since the root Content Engine's polling intervals are defined in the Content Distribution Manager channel.
Once new content is located by the root Content Engine, the status of these media files can be viewed using the replication status feature accessible form the Content Distribution Manager.
C. Periodically, the Content Distribution Manager copies the entire Import directory to a Content Engine.
Media files placed manually on Content Engines are copied to the Content Distribution Manager, and are marked for import to the appropriate Content Router.
Once they are marked for import, the status of these media files can be viewed using the import Progress feature accessible from the Channels menu.
D. Periodically, the web server polls the Content Engine.

Media files placed in multicast servers since the last polling are marked for export to the appropriate Content Distribution Manager channel.
Once they are marked for export, the status of these media files can be viewed using the Import Progress feature accessible from the Channels menu.

Answer: B

QUESTION 20:

Which are three benefits of terminating SSL traffic in a Content Switch? (Choose three)

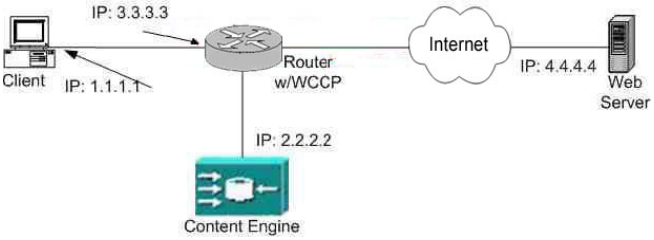
A. Eliminates the need for SSL.
B. Maintains security by allowing data to be decrypted, processed, and re-encrypted within a single device.
C. Enable the Content Switch to make load balancing decisions on HTTP-layer information.
D. Reduces the number of digital certificates required in most web hosting environments.
E. Reduces or eliminates server button of negotiating SSL handshakes.

Answer: B, C, E
Major SSL Service Module BenefitsIn the old client/server SSL model, SSL processing is embedded within servers via SSL NIC cards. Drawbacks to this older model include:
Persistent connections cannot be established and sessions are lost when clients request new SSL IDs, resulting in lost revenue
Certificate copies must be purchased for each server in the server farm, increasing costs unnecessarily
Web servers must be added to scale SSL transaction capacity, increasing costs and spreading disruption throughout the server farms
Web servers waste processing capacity in establishing SSL sessions, driving up costs
Cisco responded to these drawbacks by introducing the integrated SSL Service Module, providing the following benefits:
Cost-Effective SolutionThe SSL Service Module provides the best price/performance of any SSL accelerator on the market. Cost of maintenance is included in the maintenance contract of the Cisco Catalyst chassis, providing cost savings on annual service contracts. By offloading the processing-intensive SSL termination burden from the Web servers, the SSL Service Module eliminates the need to purchase additional servers. Multiple modules can be installed in a chassis, conserving rack space, which is especially important where rack space is at a premium.
Server SSL OffloadThe SSL Service Module offloads the SSL termination function from the Web server, allowing the Web server to increase its performance accordingly. Further performance increases occur when a content switch, such as the Cisco CSM, load balances SSL traffic among SSL modules, using standard load balancing algorithms, and maintains SSL session ID stickiness with SSL modules.
Scalability PerformanceIntegrated Content Switching Modules or external load balancing appliances can load balance secure HTTPS content requests to multiple Cisco SSL service modules-maximizing SSL termination performance and providing SSL scalability. SSL modules offload SSL processing from Web servers allowing them to handle peak traffic demands without degrading the user experience. Because SSL processing is centralized in the switch, it can be

scaled easily by adding additional modules, without interrupting processing.
Persistent ConnectionsIn Integrated Mode, the SSL Service Module and CSM maintain persistent client-to-SSL device sessions when clientbrowsers renegotiate SSL IDs or when the source IP addresses are modified-events that often occur in wirelesstraffic flows and when traffic moves through gateways. The SSL Service Module and CSM also maintain persistence by using cookie sticky to stick clients to Web servers-optimizing overall user experience. Additionally, when SSL modules are installed in redundant configurations, user session state is maintained even when hardware failures occur.
Ease of Management and ConfigurationAdditionally, the SSL Service Module integrates SSL processing within the infrastructure and allows any port on the Cisco Catalyst 6500 Switch to operate as an SSL port. The SSL Service Module simplifies security management while encrypting user data to the Web servers, providing privacy, confidentiality, and authentication using a wide range of certificates, including Netscape and VeriSign.
High AvailabilityWhen SSL modules and a CSM are installed in a Cisco Catalyst 6500 configuration, SSL traffic is maintained if failures occur. The failover capabilities of the SSL Module, and the Content Switching Module provide an extremely fault-tolerant solution.
Certificate Cost ReductionSSL certificates reside on the Cisco SSL module that `front ends' multiple Web servers, centralizing certificate management, eliminating the need to purchase/manage certificates for individual servers, and reducing licensingcosts.
Reference: CISCO SERVICES MODULES, SSL Services Module for the Catalyst 6500 & Cisco 7600 Series

---

QUESTION 21:



Refer to the exhibit.
What is the source IP address of an HTTP request received at the web server using transparent caching?

A. web server (4.4.4.4)
B. router intercepting the requests (3.3.3.3)
C. client requesting the web page (1.1.1.1)
D. proxy requesting the web page on behalf of the client (2.2.2.2)

Answer: D

QUESTION 22:

Which statement is true about using FTP to acquire files and directions?

A. You can use FTP to acquire files and directories to the designated channel directory within

your root Content Engine.
B. You cannot use FTP to copy or move files and directories to the designated channel directory within your Content Distribution Manager import directory.
C. You can use FTP to copy or move files but not directories to the designated channel directory within your Content Distribution Manager Import directory.
D. You can use FTP to copy or move directories but not files to the designated channel directory within your Content Distribution Manager Import directory.

Answer: A

QUESTION 23:

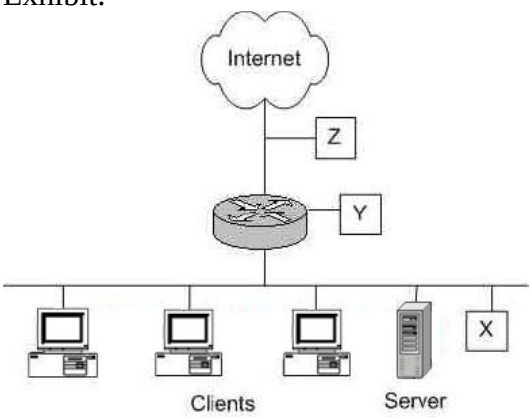
Which type of content is most effectively hosted using a Cisco Content Distribution Manager-based solution?

A. email
B. Video On Demand
C. An Oracle database
D. An online shopping cart

Answer: B

QUESTION 24:

Exhibit:



Refer to the exhibit. In the network diagram the server containing information is accessible from the Internet.
Where should the Content Engine be placed to minimize the load on the router for caching the Internet traffic?

A. X, on the same network as the server.
B. Y, on a dedicated router interface.
C. Z, on the same interface as the web browsing client.
D. Placement of the Content Engine in any location does not affect the load on the router.

Answer: D
Which Routers Should be Home Routers for a Cache Engine?A good place to start a cache farm is the router that contains your Internet connection. This ensures that all user requests get handled by a Cache Engine before going outside of your business. If you have more than one router that connects to the Internet, create a cache farm for each.
Other likely places for a cache farm are routers that connect remote offices to the main office. This allows your intranet web servers to be cached at the remote office, reducing the traffic on the lines connecting the remote office to your main network.
For Internet Service Providers (ISPs), placing a cache farm at the router in your Points of Presence (POPs) can help reduce the traffic between your main site and each POP.
In general, any router that connects users to another location through a slower line can benefit from caching.
Reference: Cisco Cache Engine, Version 1.7; Chapter 1. planning a Web Caching System

---

QUESTION 25:

How do you determine which CE in a location can be selected as a backup for the RootCE?

A. Size of the CE.
B. Disk capacity of a CE.
C. Speed of the CE.
D. Any CE assigned to the same channel and location as the root CE.

Answer: D
Reference: Cisco ACNS Software Configuration Guide for Centrally Managed Deployments, Release 5.2, Chapter 6: Configuring the ACNS Network for Content Acquisition

---

QUESTION 26:

ASR is configured on top of what type of redundancy? (Choose two)

A. HSRP
B. Box-to-Box Redundancy
C. Active-Active Vip and Interface Redundancy
D. VRRP
E. Active-Backup Vip and Interface Redundancy

Answer: C, E

QUESTION 27:

What method can the CSM use to interact with the MSFC routing table?

A. OSPF between MSFC and CSM
B. CSM scripting
C. Route Health Injection

D. RIP between MSFC and CSM
E. CSM cannot interact with the MSFC routing table

Answer: C

QUESTION 28:

To target, acquire and pre-position content via the Content Distribution Manager in ACNS 5.1, what file is required to identify the targeted content?

A. Compressed Content Header List
B. .DOC
C. Manifest
D. .PDF
E. .XLS

Answer: C

QUESTION 29:

Customer Certkiller .com has come to you with the need to deploy a Content Engine architecture that supports 490 branch locations. Certkiller .com has the requirement for both pre-position content and central management of all 490 edge devices.
Which Content Engine do you specify to meet both customer requirements?

A. CE-510A
B. CE-565A
C. CE-7305A
D. CE-7325A

Answer: B

QUESTION 30:

Which three methods can be used to acquire media into a Cisco Content Engine? (Choose three)

A. FTP
B. TFTP
C. HTTP
D. NMS

Answer: A, B, C
Network Protocols and Caching
The interaction between a web browser and a web server uses the existing standard application-layer Internet protocols such as HTTP, Microsoft Media Server (MMS), and

Real-Time Streaming Protocol (RTSP). The ContentEngine has to be able to serve web objects to the web client using all of these web access protocols.
The table lists the network protocols that a ContentEngine, which is running the ACNS 5.1 software, can use to serve content to the web client.

TableNetwork Protocols and Caching

Network Protocol	More Information
HTTP	HTTP and Caching
HTTPS	HTTPS and Caching
FTP	FTP and Caching
TFTP	TFTP and Caching
MMS	Windows Media Technologies (WMT) uses an application-level protocol called Microsoft Media Server (MMS) to send active streaming format (ASF) files across the Internet. For more information about WMT, see the "Understanding WMT Streaming" section.
RTSP	Real-Time Streaming Protocol (RTSP) is a streaming media protocol used to deliver two-way streaming media over IP networks. For more information about RTSP, see the "Understanding RTSP" section.

QUESTION 31:

How do you set the maximum bandwidth to be used by each device for replicating media to the Content Engines and for streaming media to user desktops?

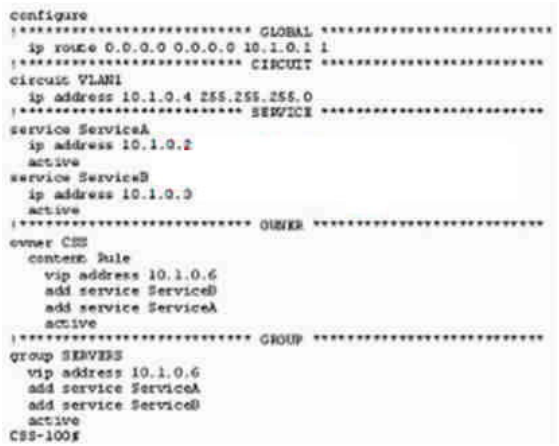
A. You use the Content Router Bandwidth feature to set the maximum bandwidth to be used by each device for replicating media to the Content Engines and for streaming media to user desktops.
B. You use the Multicast Manager Bandwidth feature to set the maximum bandwidth to be used by each device for replicating media to the Content Engines and for streaming media to user desktops.

C. You use the Content Engine Management Bandwidth feature to set the maximum bandwidth to be used by each device for replicating media to the Content Engines and for streaming media to user desktops.
D. You use the Content Distribution Manager's Bandwidth feature to set the maximum bandwidth to be used by each device for replicating media to the Content Engines and for streaming media to user desktops.

Answer: D

QUESTION 32:

Exhibit



```
configure
!************************** GLOBAL **************************
  ip route 0.0.0.0 0.0.0.0 10.1.0.1 1
!************************** CIRCUIT *************************
circuit VLAN1
  ip address 10.1.0.4 255.255.255.0
!************************** SERVICE *************************
service ServiceA
  ip address 10.1.0.2
  active
service ServiceB
  ip address 10.1.0.3
  active
!************************** OWNER ***************************
owner CSS
  content Rule
    vip address 10.1.0.6
    add service ServiceB
    add service ServiceA
    active
!************************** GROUP ***************************
group SERVERS
  vip address 10.1.0.6
  add service ServiceA
  add service ServiceB
  active
CSS-100#
```

Refer to the exhibit.
Based on this configuration, what is the destination IP address for incoming requests to the real servers?

A. 10.1.0.1
B. 10.1.0.2
C. 10.1.0.3
D. 10.1.0.4
E. 10.1.0.6

Answer: E

QUESTION 33:

What are two primary reasons for implementing content routing? (Choose two)

A. To provide distributed access to distributed content.
B. To pre-position content where it will be most effective.
C. To load balance between servers within a data center.
D. To provide fundamental technology to distribute web applications.
E. To provide placement of content closer to the edge of the network.

Answer: A, D

QUESTION 34:

Which statement is true about caching on the Internet today?

A. Caching is expensive and does not provide any benefit.
It is an unfounded movement.
B. Caching provides the mechanism for users on the Internet to cache things in their local browsers so that they can recall later without connecting to the Internet.
C. Caching on the Internet servers content to cache servers that are controlled only by the Internet Service Providers, allowing them to provide more services to their end users.
D. Caching on the Internet provides the benefit of serving the most recent content to the edge of the network without having to go to the original server to retrieve it.
It lowers the bandwidth needed to deliver that content.

Answer: D

QUESTION 35:

Identify two supported methods of acquisition for pre-positioned content by the root Content Engine under ACNS 5.1 (Choose two)

A. HTTP Crawl
B. FTP
C. FTP
D. Drag and drop of content onto the root Content Engine.

Answer: A, B

QUESTION 36:

Which three techniques are used by WCCP version 2 to adjust the load offered to individual Content Engines? (Choose three)

A. Load biasing
B. Load shedding
C. Load balancing
D. Load partitioning
E. Hot spot handling

Answer: B, C, E

Explanation:
Load DistributionWCCPv2 has the capability to adjust the load being offered to individual cache

engines to provide more effective use of the resources available and at the same time help to ensure high quality of service to the clients. WCCPv2 allows the designated cache to adjust the load on a particular cache, and balance the load across the caches in a cluster. WCCPv2 uses three techniques to perform load distribution:
1. Hot Spot Handling-Allows an individual hash bucket to be distributed across all the cache engines. Prior to WCCPv2, information from one hash bucket could only go to one cache engine.
2. Load Balancing-Allows the set of hash buckets assigned to a cache engine to be adjusted so that the load can be shifted from an overwhelmed cache engine to other members that have available capacity.
3. Load Shedding-Enables the router to selectively redirect the load to avoid exceeding the capacity of a cache engine.
The use of these hashing parameters prevents one cache from being overloaded and reduces the potential for bottlenecking.

QUESTION 37:

You are using the active/standby method to implement a high availability Content Switching design.
What are three benefits? (Choose three)

A. Less expensive.
B. Easier to troubleshoot.
C. Predictable traffic path.
D. Increases the overall performance.
E. Predictable failover behavior.

Answer: B, C, E

QUESTION 38:

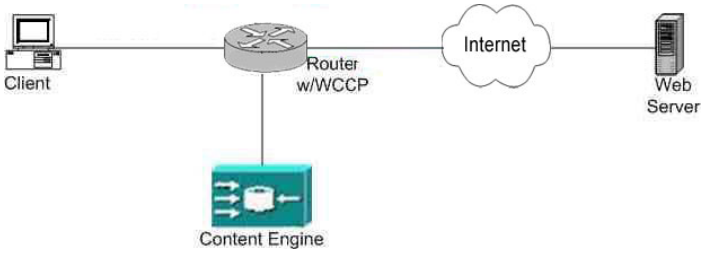
Which statements hold true with regard to the CSM Command Line Interface? (Choose two)

A. When the Catalyst runs CatOS on the Supervisor and IOS on the MSFC, the CSM is configured from the Supervisor CU.
B. The CSM is configured through a dedicated console cable.
C. The CSM is configured using the IOS CU.
D. The CSM CLI can be accessed only by sessioning into the module.
E. The CSM leverages SNMP and TACACS+ support available on IOS.

Answer: C, E

QUESTION 39:

Exhibit:



Refer to the exhibit. The exhibit shows a Content Engine with WCCP enabled between the Content Engine and the router. The Client browser is configured for direct connection to the Internet.
Which type of caching is illustrated in the exhibit?

A. proxy caching
B. transparent caching
C. reverse proxy caching
D. remote reverse proxy caching

Answer: C

QUESTION 40:

Customer ABC has 300 global offices. The Cisco ACNS solution was chosen to enable state-of-art corporate communication and to accelerate key applications such as Siebel and the intranet website.
Based on the scale of this network, which model of Cisco Content Engine should function as Content Distribution Manager?

A. CE-510A
B. CE-565A
C. CE-7305A
D. CE-7325A

Answer: B

QUESTION 41:

What are three HTTP headers? (Choose three)

A. Location header
B. General header
C. Request header
D. Master header
E. Response header

Answer: B, C, E

Explanation:

HeadersHTTP headers contain general information such as the type of browser or the version of HTTP used. Each header provides one value, which is identified by the header name. You might use information from HTTP headers in advanced applications to customize the behavior of your application for different HTTP versions or browser types.
The Headers tab on the Get HTTP Session Info customizer displays the HTTP headers that you have mapped to local variables.
HTTP provides four types of headers:
1. General-Used by both servers and clients (browsers).
2. Server-Used only by servers.
3. Request-Used only by clients (browsers).
4. Entity-Used by servers and by clients using POST or PUT methods.
The table lists some common Request headers.
Table: Common HTTP Request Headers

Header	Contents
Accept	Preferred media type
Authorization	Client user name and password
From	E-mail address of the client
Host	Host name and port number of the server receiving the original request
Referrer	URL of the source document
User-Agent	Browser type

To get detailed information about these or other headers, refer to any reference for HTTP.
To map a local variable to a specific HTTP header, click the Add button to display the Add Header screen. In the Header field, enter the value of the HTTP header and choose a variable from the Variable drop-down selection list.
* Server is sometimes referred as response

QUESTION 42:

How do you import new media to an existing Application and Content Networking System?

A. New media files and folders are acquired into a predetermined channel via a manifest file.
B. New media files and folders are copied from a predetermined channel into the Content Distribution Manager.
C. New media files and folders are manually copied to a brand-new channel.
D. New channel are created and new media files and folders are copied from them to subscribing Content Engines.

Answer: A

QUESTION 43:

What is a major shortcoming in the way DNS round robin provides a host/application availability solution?

A. DNS round robin is unable to support more than two hosts.
B. DNS round robin does not support redundant DNS server configurations.
C. DNS round robin is unable to support hosts in geographically dispersed locations.
D. DNS round robin has no knowledge of the status of the TCP connection, host, or application.

Answer: D

QUESTION 44:

What is the purpose of an HTTP version 1.1 persistent session?

A. To cache TCP connection information for future similar requests.
B. To continue issuing HTTP Get requests automatically to freshen data.
C. To open a single TCP connection and issue multiple HTTP Get requests.
D. To open multiple TCP connections and issue multiple HTTP Get requests.
E. To open a single TCP connection multiple times and issue and HTTP Get request.

Answer: C

QUESTION 45:

What is the primary function of DNS?

A. To replace DHCP.
B. To host file manager.
C. To serve as a source location on the Internet.
D. To resolve a client IP address to a MAC address.
E. To serve as a host name to IP address resolution.

Answer: E

QUESTION 46:

Which two devices can a CDM monitor and control? (Choose two)

A. Cisco Content Router
B. Cisco Content Switch
C. Cisco Content Engine
D. Cisco IP/TV Program Manager

Answer: A, C

QUESTION 47:

Which of the following features require TCP connection termination? (Choose three)

A. Source IP based load balancing decisions.
B. Cookie sticky.
C. Load balancing decisions based on TCP port number.
D. URL hash load balancing algorithm.
E. SSL ID sticky.

Answer: B, D, E
A is L3 rule, C is L4 rule.

QUESTION 48:

Which two benefits are provided by the basic high availability architecture? (Choose two)

A. A quick, deterministic failover.
B. A reduction in overall solution cost.
C. The elimination of single points of failure.
D. A more efficient routing information table.
E. More efficient network management capabilities.

Answer: A, C

QUESTION 49:

The transaction-logs enable command enables transaction logging.
Which file will contain the WMT server logs?

A. local1/logs/working.log
B. local1/logs/wmt.log
C. local1/logs/export/working.log
D. local1/service_logs/wmt_start_log_latest

Answer: C

QUESTION 50:

You are using Content Switching for Server Load Balancing.
What is the purpose of sticky connections?

A. They ensure that a TCP session remains active.
B. They ensure an even load balanced server farm.
C. They provide the ability to have connections from a client directed to the same server.
D. They provide a means to collect statistics for an electronic commerce application within a

content network.
E. They provide the ability to have connections from a client directed to multiple servers without losing session information.

Answer: C

QUESTION 51:

You should configure content playback and replication bandwidth through the _____ GUI.

A. Content Engine
B. Content Router
C. Content Services Switch
D. Content Distribution Manager

Answer: D

QUESTION 52:

What must be configured on a WCCP version 2 enabled router to exclude certain clients from being redirected to a service group?

A. redirect access list
B. service group address
C. service group password
D. service group access list

Answer: A
Not D: "service group access list" doesn't exist.

QUESTION 53:

After channels have been created, which device subscribes to them and receives, stores, and distributes the media imported to the channels?

A. Web Servers
B. Content Engines
C. Content Routers
D. Content Switched

Answer: B

QUESTION 54:

Given the steps:

1. Configure the Content Distribution Manager and Content Engines.
2. Install Content Engines in the 1000 branch offices.
3. Acquire content to the root Content Engine.
4. Distribute content to the Content Engines.
5. Configure coverage zones.
6. Direct users to the Content Distribution Manager web page.
7. Embed any routed URLs published by Cisco Content Router in the corporate e-learning site.
8. Distribute content to the branch offices.
9. Choose which Content Engines to subscribe to the content.

A multi-national corporation wants to set up ACNS for e-learning in the 1000 branch offices.
Which order accomplishes this?

A. 2, 1, 4, 5, 8, 9, 6
B. 2, 1, 3, 5, 9, 8, 6
C. 2, 1, 5, 3, 9, 8, 7
D. 2, 1, 4, 5, 8, 9

Answer: C

QUESTION 55:

In order for the GSS to extract load information from a CSS or CSM, what type of Keepalive is configured on the GSS to talk to the CSS or CSM?

A. ICMP
B. HTTP-HEAD
C. KAL-AP
D. TCP

Answer: C

Explanation:

KAL-AP	Keepalive type used when the GSS answer you are testing is a VIP associated with a SLB device such as a CSS or CSM. The KAL-AP keepalive type sends a detailed query to both a primary (master) and secondary (backup) VIP address you specify, returning the online status of each interface as well as information on load for whichever address is

	acting as the master VIP. Depending on your GSS network configuration, the KAL-AP keepalive can be used to either query a VIP address directly, or to query an address by way of an alphanumeric tag (KAL-AP By Tag), which can be particularly useful when you are attempting to determine the online status of a device that is located behind a firewall that is performing Network Address Translation (NAT).

QUESTION 56:

Which HTTP return code indicates a successful client response?

A. 1xx
B. 2xx
C. 3xx
D. 4xx
E. 5xx

Answer: B

QUESTION 57:

Which command is required to enable a service on a Content Services Switch (CSS)?

A. start
B. enable
C. active
D. in service
E. No command is required.

Answer: C

QUESTION 58:

What does the Cisco Content Services Switch (CSS) use to determine if a real server is functioning?

A. keep-alives
B. polling
C. heartbeat
D. SNMP trap
E. Port scans

Answer: A

QUESTION 59:

You want to determine how many Content Engines are required in a particular installation. You need to compute the total number of concurrent connections. An average HTTP transaction takes two seconds to complete and a 10 Mbps link is offering a peak load of 100 transactions per second.
What is the maximum number of concurrent connections required in this network design?

A. 200 concurrent connections.
B. 1,000 concurrent connections.
C. 2,000 concurrent connections.
D. 10,000 concurrent connections.

Answer: C
Maximum Concurrent Connections = Transactions Per Second x HTTP flow Hold Time (time it takes to pull up a page)

QUESTION 60:

Which steps are required to distribute content within a Cisco Content Distribution Manager solution?

A. 1. create a schedule on the CDM
2. subscribe a Content Engine to the channel
3. acquire content
4. schedule the replication of the content
B. 1. create a channel on the CDM.
2. subscribe a Content Engine to the channel
3. acquire content
4. schedule the replication of the content
C. 1 create a channel on the Content Router
2. subscribe a Content Engine to the channel
3. acquire content
4. schedule the replication of the content
D. 1. create an important task on the CDM
2. subscribe a Content Engine to a Content Router
3. acquire content
4. schedule the replication of the content

Answer: B
Cisco ACNS Software Deployment and Configuration Guide, Release 5.1 (pdf) Chapter 5

QUESTION 61:

Which statement is true about acquiring files from a web server?

A. It is possible to import content to the root Content Engine directly from the web.
B. From the Media Importer dialog box, you can import media files from a web server on the Internet.
You must be able to browse and get a directory listing of the media files through the web server.
C. From the Media Importer dialog box, you cannot copy media files from a web server on the Internet.
You must be bale to browse and get a directory listing of the media files through the web server.
D. From the Media Importer dialog box, you can replicate media files from a web server on the Internet.
You must be able to browse and get a directory listing of the media files through the web browser.

Answer: A

QUESTION 62:

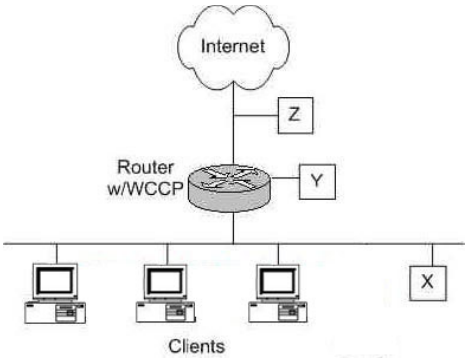
What are the supported health monitoring mechanisms on the CSM? (Choose three)

A. Inband health monitoring
B. Physical interface checking
C. SSL error code checking
D. Scripted health checks
E. HTTP return error code checking

Answer: A, D, E

QUESTION 63:

Exhibit:



Refer to the exhibit. The network diagram has a WCCP enabled router.
Where should the Content Engine be placed to minimize the load on the router for caching Internet traffic?

A. X, on the same interface as the web browsing clients.
B. Y, on a dedicated router interface.
C. Z, upstream from the WCCP router.
D. Placement of the Content Engine in any location does not affect the load on the router.

Answer: A

QUESTION 64:

Which two video standards can be output by Cisco Content Engines? (Choose two)

A. PAL
B. APAC
C. EMSC
D. NTSC

Answer: A, D

QUESTION 65:

When are flows replicated?

A. When the Master CSS receives a syn from the client.
B. When the backup CSS receives a syn-ack from the client.
C. When all flows are immediately replicated.
D. When the master CSS receives a syn-ack from the server.
E. When the master CSS receives a syn-ack from the client.

Answer: D
In an ASR configuration, CSSs replicate flows that are:
Fully-resolved (the master CSS has received a SYN/ACK from a server)
Set up using content rules, services, and source groups that you specify as redundant

---

QUESTION 66:

What is true about channels in Content Distribution Manager?

A. Channels allow content to be organized into logical content groups.
Once created channels are subscribed to by Content Engines, which receive, store, and distribute the media imported to the channels.
Channels are created and reside on the Content Distribution Manager.
It is not possible to create channels directly on Content Engines or Content Routers.
B. Channels allow content to be organized into logical content groups.
Once created, channels are replicated to by Content Engines, which forward, store, and rename the media imported to the channels.
Channels are created and reside on the Content Engine.
It is not possible to create channels on Content Distribution Manager or Content Routers.
C. Channels allow content to be organized into non logical content groups.
Once created, channels are subscribed to by web servers, which receive, store, and distribute the media imported to the channels.

Channels are created and reside on the Content Routers.
It is not possible to create channels on Content Engines or Content Distribution Managers.
D. Channels do not allow content to be organized into logical content groups.
Once created, Content Engines are rerouted by Content Routers, which receive, store, and distribute the media imported to the channels.
Channels are created and reside on the Content Engine.
It is not possible to create channels on Content Distribution Manager or Content Routers.

Answer: A

QUESTION 67:

Customer ABC wants to deploy Cisco Content Engines to perform URL filtering and VOD streaming. The customer has many *.mov VOD training files that are frequently requested in the branch offices and played through the Apple QuickTime player. The files need to be pre-positioned to branch office Content Engines and served by Content Engines to client desktops. Currently standalone Smartfilter servers are being used to do content filtering, but the customer would like to take advantage of the SmartFilter on-box feature in the Cisco Content Engine.
Which license should customer ABC require?

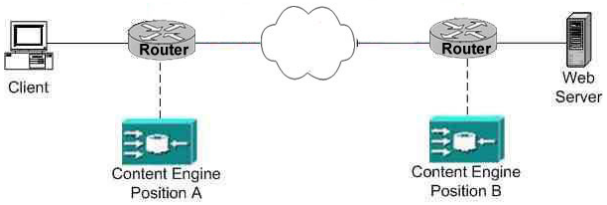
A. Microsoft Windows Media License
B. Real Helix Universal Gateway License
C. Multicast Replication License
D. Websense Content Filtering License
E. Smartfilter Content Filtering License

Answer: E
1. Cisco Streaming Engine: (no additional license fee)
2. 1. VOD server for standards-based hinted MPEG-4, MPEG-2, MPEG-1, and QuickTime video over RTP/RTSP to
Apple QuickTime-compatible players
2. Live-stream pull splitting (unicast in) and push splitting (multicast or unicast in) with multicast and unicast out of CE
to connected clients
1. Web (URL, file type) filtering
2. 1. Websense Enterprise Version 5.0 Server and client content-filtering support on content engine (additional per
100-user license fee) - Embedded in the Content Engine and does not require separate Websense server. Websense
v5.0 includes Dynamic Protocol Management for Instant Messaging, Peer-to-peer and malicious applications, Bandwidth Optimizer, Real Time Analyzer, File Type Management and Central Policy Distribution.
2. Secure Computing SmartFilter Version 3.2 server and client content-filtering support (additional per-user license
fee)-On-box content-engine solution that does not require separate SmartFilter server. Admin Console v3.2 is enhanced for central device policies and LDAP group-authentication support.

3. N2H2 Internet Filtering Protocol Version 1.0 client content-filtering support on content engine-Requires separate
N2H2 Sentian server from N2H2

QUESTION 68:

Exhibit



Refer to the exhibit.
Where should a Content Engine be placed to speed up web access to a client across a slow link?

A. Position A provides maximum benefit.
B. Position B provides maximum benefit.
C. Either position A or position B will speed up access.
D. Neither position A nor position B will speed up access.

Answer: A
This website mentions the downfall being the WAN link. If it were too much load on the servers reducing performance B would be correct, but to increase slow WAN link performance issues preloading content during off times will increase performance for the client by bringing the content closer to the client.

QUESTION 69:

What are thee benefits of Content Switching? (Choose three)

A. Replaces web servers and firewalls.
B. Reduces infrastructure costs through optimized use of data center resources.
C. Scales web-based applications.
D. Automates the distribution of rich media.
E. Improves response times experienced by clients using web applications.

Answer: B, C, E

QUESTION 70:

With two GSSs (Primary-GSSM and Standby-GSSM), you make a change to a domain list on the Primary GSSM. How do you synchronize the configuration change you just made on the Primary-GSSM to the Standby-GSSM)?

A. Issue the command gss start.

B. Do nothing.
The configuration is synchronized automatically when a change is made to the dns database.
C. Issue the command gssm primary-to-standby.
D. Issue the command gss enable.

Answer: B
The standby GSSM performs GSLB functions for the GSS network even while operating in standby mode. In addition, the standby GSSM can be configured to act as the GSSM should the primary GSSM need to go offline for repair or maintenance, or becomes unavailable to communicate with other GSS devices. As with the primary GSSM, the standby GSSM is configured to run the GSSM GUI and contains a duplicate copy of the embedded GSS database that is currently installed on the primary GSSM. Any configuration or network changes affecting the GSS network are synchronized between the primary and the standby GSSM.

QUESTION 71:

What are three applications of edge-based content networking devices? (Choose three)

A. E-learning
B. Video kiosks
C. Voice Over IP
D. Corporate communication
E. Live IP multicast distribution

Answer: A, B, D

QUESTION 72:

Which two mechanisms are used when designing a network to make it more fault tolerant? (Choose two)

A. Fiber Optic Cabling
B. Fault Tolerant Ethernet
C. Virtual Router Redundancy Protocol
D. Hot Standby Router Protocol

Answer: C, D

QUESTION 73:

Which statement is true about live-splitting video streams in an Application and Content Networking System?

A. It reduces the load on the end-clients listening to the broadcast.
B. It reduces inbound bandwidth usage to a single stream during a live event.
C. It increases inbound bandwidth usage to multiple streams during a live event.

D. It increases outbound bandwidth to multiple streams during a live event.

Answer: B

QUESTION 74:

Your customer has 600 remote locations that already have Content Engines installed. Each Content Engine is running as its own independent proxy cache. The customer would like to add the ability to pre-position content to each of the remote Content Engines.
Which Content Engine should be purchased to function in the mode of Content Distribution Manager?

A. CE-7325A
B. CE-7305A
C. CE-565A
D. CE-510A

Answer: B

QUESTION 75:

Which of the following network design topologies are not supported by the CSM?

A. Multiple pairs of bridged VLANs.
B. One client VLAN between MSFC and CSM, plus one server VLAN connection to servers and one server VLAN connecting to caches.
C. Three VLANs on the same IP subnet.
D. Router mode and bridged mode mixed together.
E. One client VLAN and 10 server VLANs, all on different IP subnets.

Answer: C

QUESTION 76:

Which two statements are true about Content Routers in Application and Content Networking System (Choose two)

A. Content Routers store on-demand and pre-positioned content.
B. Content Routers route content to the edged of a content network.
C. Content Routers contain the IGP routing tables for the routed domain.
D. Content Routers act as authoritative DNS servers for the routed domain.
E. Content Routers choose the most suitable Content Engines to handle a particular client's request.

Answer: D, E

QUESTION 77:

Which two content access authentication methods are currently not supported on the Content Engine for ACNS 5.1? (Choose two)

A. NTLM
B. LDAP
C. Content Engine based Certificates
D. TACACS+
E. Local user database

Answer: C, E

QUESTION 78:

What are the minimum devices required to create a Cisco Application and Content Networking System?

A. 1 CDM, 1 root Content Engine, and 1 edge Content Engine
B. 1 CDM, 1 Content Engine
C. 1 CDM, 1 Content Engine, 1 Content Router
D. 1 CDM, 2 Content Engines, and 1 Content Switch
E. 1 CDMs, 2 Content Engines, and 2 Content Routers

Answer: A