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Question: 1.

You support a three-member Web cluster and a single-node COM+ Application Cluster. The Web cluster consists of Member1 (controller), Member2, and Member3. You are monitoring the Processor Utilization, Web GET Requests, and ASP requests on all three members. Member3 demonstrates noticeably lower processor utilization than the other two cluster members. Which of the following should you do to lower the processor utilization on the other two servers?

- A. Increase the server weight on Srv3.
- B. Specify the COM+ application as a library package.
- C. Enable thread gating on the Web server.
- D. Decrease the server weight on the Srv1 server.

Answer: A

Explanation:

If one of the cluster members indicates lower processor utilization, the load balancing weight can be increased on this member. This is done by increasing the server weight on the cluster member. The default server weight is Average Load, and this would be increased somewhere between the Average and More Load indicators. Server weight determines how much of the workload a member will handle in relation to the other members in the cluster.

The cluster controller is expected to have higher processor utilization due to the role that it plays. However, increasing the workload on one of the other members will help to decrease the utilization on the controller.

If the COM+ application were processing on the Web server, (which in this case it isn't because a COM+ Application cluster is in place) the COM+ application can be specified as being a library package as opposed to being a Server package. This improves the performance of the component because it runs in the process of the ASP page. However, this does not provide a solution to what's presented in the question.

Thread gating, when enabled, allows IIS to process more concurrent requests than it is normally configured to do. When disabled, the number of concurrent ASP requests each processor handles is 25 on a Web server. This would not be used to equal the workload between cluster members.

Question: 2.

You are monitoring the % Processor Time on a testing cluster. You have created a threshold that e-mails an administrator when the % Processor Time exceeds 90%. You want to ensure that e-mail is not sent during a transient processor peak. Which of the following should you configure?

- A. Increase the collection interval of the data collector.
- B. Create two thresholds for the data collector, one with a high threshold, one with a low threshold.
- C. Increase the total samples of the data collector.
- D. Specify the duration over which the threshold is to be checked.

Answer: D

Explanation:

Thresholds are used to evaluate the state of a data collector or data group, and trigger subsequent actions if the threshold level is met. The duration over which the threshold level is checked can be configured on the threshold. For example, the % Processor Time exceeding 90% can be configured to have to meet this level so many times in a row, before it triggers the subsequent action. In doing this, it would rule out whether or not the % Processor Time increase is transient or a more permanent problem.

Two thresholds can be set for a given data collector, but this would be used to monitor two different states that the collector may be in.

Data collectors offer scheduling parameters that control how often the instance is monitored and how many samples are taken. The Data collector itself measures the processor. These settings dictate how often the processor is measured and how many samples are measured. It is the threshold that is used to specify the duration.

Question: 3.

You are planning to monitor the COM+ Applications on a four-member Web cluster. Each member of the Web cluster processes the COM+ Applications. You are monitoring three of the COM+ Applications. You want an e-mail to be sent to the administrator when any one of the applications reaches a given threshold. Which of the following should you configure?

- A. Add the COM+ Application monitors to the Default Synchronized group. Set the e-mail action on the group.
- B. Create a non-synchronized data group named APP. Add the COM+ Application monitors and set the e-mail action on the individual data collectors.
- C. Add the COM+ Application monitors to the Default Non-Synchronized group. Set the e-mail action on the individual data collectors.
- D. Create a synchronized data group named APP. Add the COM+ Application monitors and set the e-mail action on the group.

Answer: D

Explanation:

Two things are required. First, all members of the cluster need to be using the COM+ Application monitor to check for aborted transactions. Second, an e-mail action needs to be triggered when any one of the cluster members reaches the associated threshold. To accomplish this, a synchronized data group is created and the COM+ Application monitors are added to the group. The e-mail action is then associated with the group. In this way, if any of the thresholds reach their associated state, this changes the status of the group and causes the e-mail action to be triggered. You want to create synchronized monitor, because this type of monitor is replicated to all members of the cluster. A Non-Synchronized monitor group would only be used locally on the controller and not replicated to the cluster members.

If the monitors were added to the Default Synchronized group, they would be replicated out to the other cluster members. However, if the action was associated with the Default group, then any other thresholds of any other monitors that may be in this group would change the group's status and trigger the e-mail notification. For this reason, it is advisable to create a separate group for the monitors to be added to.

Question: 4.

You need to configure Health Monitor to notify you on the status of a cluster member's processor. If the processor utilization reaches 75%, you want to be notified by e-mail. If the processor utilization reaches a level above 90%, you want the server taken offline. Identify the steps you should take.

- A. Create a non-synchronized data group. Add two data collectors to the group.
- B. Create two data collectors. Associate a threshold and corresponding action with each.
- C. Create one data collector. Associate two thresholds and corresponding actions with the data collector.
- D. Create a synchronized data group. Add two data collectors to the group.

Answer: C

Explanation:

You can associate more than one threshold and corresponding action with a data collector. In this example, in order to have two different actions occur when the processor utilization reaches two different levels, you create one data collector and associate two thresholds, 75% and 90%. You then associate two actions with the data collector, e-mail notification and server offline.

You do not need to create two data collectors. One instance of the processor utilization data collector is used with multiple thresholds and actions.

If a data group was created, synchronized or non-synchronized, and data collectors were added to the group, this would not provide a solution for this scenario. These solutions do not include setting thresholds and associating actions, which are required to perform the desired tasks. Synchronized data groups are global. Global data groups that are replicated across the cluster. Non-Synchronized data groups are associated with a particular cluster member and are not replicated across the cluster.

Question: 5.

Users have complained that they sometimes cannot connect to your company's home page. You configure the http://127.0.0.1 monitor to watch for problems. Where should you look to determine if there have been any problems?

- A. \websitefailures.log
- B. Event View
- C. ACLOG
- D. \offline.log

Answer: A

Explanation:

The http://127.0.0.1 monitor is used to monitor the availability of the default Web site. It has two actions that it performs by default: one that sends out e-mail to the administrator and one that logs a text entry to the "\websitefailures.log" log file. If there is a failure with the default web site, an entry is logged in this file and an e-mail will be sent out to the administrator.

The Server Offline monitor uses a default action "Log to offline.log" to record each time the server goes offline. The Web site Monitor does not use this.

Performance Monitoring in Application Center uses ACLOG to write performance statistics. Each cluster member uses this file to record all of its performance counter's data. Performance Monitor is not to be confused with Health Monitor.

Event View brings together the Windows Event Log and Application Center and Health Monitor events. It allows you to see the events generated by a single member or the cluster as a whole. If there were a problem with the Web service, this would be recorded. However, to see detailed information on the availability of the default Web sites, the \websitefailures.log, is consulted.

Question: 6.

You are monitoring a Web cluster. One of the servers is operating with a slightly smaller hard disk than the other cluster members are. You want to be notified if the amount of free space reaches below 20%, and you want the server to be taken offline if the free space falls below 10%. How can you configure this?

- A. Configure a local monitor to monitor the disk resource on the Cluster member. Set two thresholds on the monitor. The first threshold changes the status to Warning when the free disk space is less than 20% and sends out an e-mail message to the administrator. The second threshold changes the status to Critical when the free disk space is less than 10% and takes the server offline.
- B. Configure a global monitor to monitor the disk resource on the Cluster controller. Set two thresholds on the monitor. The first threshold changes the status to Warning when the free disk space is less than 20% and sends out an e-mail message to the administrator. The second threshold changes the status to Critical when the free disk space is less than 10% and takes the server offline.
- C. Configure a local monitor to monitor the disk resource on the cluster member. Set one threshold that changes the status of the monitor to Critical when free disk space is greater than 90%. Set the duration of the threshold to three times in a row.
- D. Configure a local monitor to monitor the disk resource on the Cluster controller. Set two thresholds on the monitor. The first threshold changes the status to Warning when the free disk space is less than 20% and sends out an e-mail message to the administrator. The second threshold changes the status to Critical when the free disk space is less than 10% and takes the server offline.

Answer: A

Explanation:

If you want to monitor the disk usage on a cluster member, you enable a local monitor for that cluster member. The local monitor will have two thresholds configured for it. One will change the status of the monitor to change to a Warning status when the free disk space falls below 20%. This change in status will cause an e-mail message to go out to the administrator. The second threshold will change the status of the monitor to Critical when the free disk space falls below 10% and will cause the cluster member to be taken offline. The local monitor is created on the cluster member because it applies only to that member. If a local monitor were created on the cluster controller, it would be monitoring the disk space on the cluster controller and not the cluster member.

Global monitors are replicated to all cluster members. If a Global monitor is created on the cluster controller, as soon as the automatic synchronization process occurs, all cluster members will have this monitor and will begin monitoring free disk space. Because only one cluster member is in question, this is not a desirable solution.

Question: 7.

You have added a data collector to the default Online/Offline Monitor's data group. When the group's status changes to Critical, the server is taken offline. You set a threshold for the data collector you added to the group that changes its status to Critical and sends an e-mail message to the Administrator. Which of the following best describe what will occur when the data collector's threshold is reached?

- A. The data group's status is changed to Critical and the group's action is triggered. The data group's status remains Critical until all of the data collector's status is changed to OK or Warning.
- B. The data collector's status is changed to Critical and an e-mail message is sent. The data group status remains unchanged.
- C. The data group's status is changed to Critical until all of the data collector's status is changed to OK or Warning.
- D. The data group's status is changed to Warning until all of the data collector's status is changed to OK.

Answer: A

Explanation:

The data group's status is reflective of the data collector's status. If a data collector's status changes, then the status of the group that it covers changes as well. Therefore, if the data collector's status in this example changes to Critical, the data group's status is also changed to Critical, causing the group's action to be triggered.

If a data collector's status changed to Critical, it causes the group's status to change to Critical as well, not to Warning.

Question: 8.

One of the Web pages on a Web site continues to give users an "access denied" message. You want to isolate the problem by examining the traffic that is generated when accessing the Web page. You have determined that the problem occurs when users access one of the cluster members and not the others. Which of the following will help you to determine the problem users are experiencing?

- A. Add an HTTP monitor to the local monitor group on the cluster member. Set a threshold value that changes the status to Critical.
- B. Create a Capture filter for HTTP packets using Network Monitor on the cluster member.
- C. Add an HTTP counter to the Performance View on the Cluster member. Watch for peaks in the activity.
- D. Use the Event View on the cluster member. Monitor the Warning and Information Events.

Answer: B

Explanation:

Network Monitor is a Windows 2000 tool that allows you to closely examine all of the data packets generated when activity is occurring on a particular server. Using the filtering feature, you can control the type of traffic that is captured. In this case, it would be

appropriate to capture the HTTP traffic for the cluster member and examine the HTTP packets that are captured for information leading to the problem users have been experiencing. The filtering feature allows you to capture as much or as little of the generated traffic you require, making this the correct answer.

Performance View can be used to monitor the activity level of a monitor, for example the number of requests and responses per second. Performance View, however, does not let you inside the actual data packet to examine the details of the network traffic, revealing such things as source address, header information, protocols used, etc.

Health Monitor uses monitors to watch for specified levels of activity for particular values or thresholds. This can be used to trigger actions if certain thresholds are met; for example so many requests per second may cause a secondary server to come online. However, this will not display the content of the data packets, as Network Monitor can do.

Event View will display Warning, Critical, and Information Events that are generated by the operating system, Application Center, services, etc. It will provide some detail on the source of the event, but does not take the viewer inside the data packet, as does Network Monitor.

Question: 9.

You support an eight-member Web cluster and want to build a baseline of activity for the cluster. You have configured the performance counters and would not like to centralize the logged data for reporting purposes. Which of the following will provide you with a solution?

- A. Compile the .MOF file and copy it to each cluster member.
- B. Export the data on the cluster controller to an Excel spreadsheet.
- C. Use a SQL statement to query the data from each cluster member.
- D. Replicate events and performance counter data using DTS to a centralized server.

Answer: D

Explanation:

The data that is collected through the Events and Performance Monitoring in Application Center is logged to a Microsoft SQL Server 2000 database named ACLog. Each cluster member generates its own database, so when dealing with the logged data, it is not representative of the whole cluster, but rather one member. To centralize the data so that it can be used to form a baseline or used for analyzing historical trends, each of the databases must be copied to a central server. One way to accomplish this is to use SQL Server Data Transformation Services (DTS) to replicate the events and performance counter data tables of each cluster member to a centralized server. From here the centralized database can be used for reporting purposes.

SQL statements can be used to query the data from each cluster member, which would serve as a reporting mechanism. However, the ACLog databases will only contain so much data (2 GB is the maximum size), at which time they will cease to log data. Querying the database does not provide a solution for centralizing the logged information across the cluster for long-term trend analysis.

The database that the Performance Monitoring and Events log data to supports several file formats for exporting purposes. The data can be exported to an Excel spreadsheet for further analysis. However, exporting the cluster controller's data does not provide a centralized repository for all cluster members.

MOF files are generated when defining a Performance Counter. .MOF files have nothing to do with the logged performance and event data.

Question: 10.

You suspect that an intruder to the Web site is attacking a cluster member. You want to monitor each of the cluster members to determine if your suspicions are warranted. Which of the following should you do?

- A. Capture incoming traffic using Network Monitor on each of the cluster members.
- B. Replicate events and performance counter data using DTS to a centralized server.

- C. Set ACLs on the Web site's virtual directories.
- D. Enable W3C extended logging on the cluster controller.

Answer: D

Explanation:

W3C Logging is configured for individual Web sites, and provides detailed information about the incoming visits to a Web site. W3C extended logging will record the IP address, username, server name, port number used, and much more detailed information. If there is suspicion about a Web site being under attack, it is essential to enable W3C extended logging for the Web site in question. This configuration is part of the IIS settings and will be replicated from the controller across the cluster when automatic synchronization occurs.

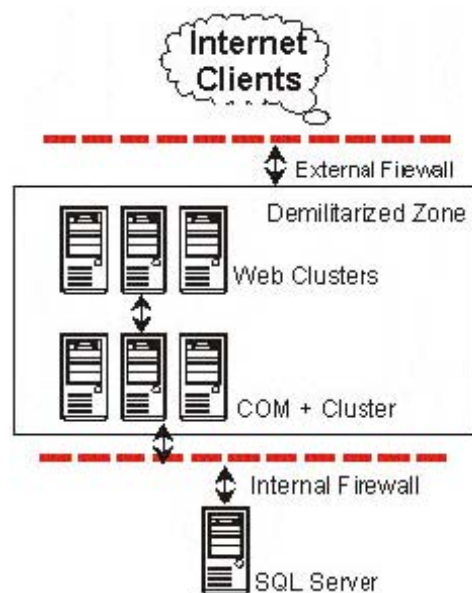
Access Control Lists (ACL) can be set for virtual directories as a means of authorizing user access to areas of the Web site. This in itself, however, does not provide detailed information on who is visiting the site.

The data that is collected through the Events and Performance Monitoring in Application Center is logged to a Microsoft SQL Server 2000 database named ACLog. Each cluster member generates its own database, so when dealing with the logged data, it is not representative of the whole cluster, but rather one member. To centralize the data so that it may be used to form a baseline or used for analyzing historical trends, each of the databases must be copied to a central server. One technique used to perform this is via the SQL Data Transformation Services (DTS). The Events and Performance Monitoring data does not provide information on who is visiting a particular Web site, and therefore does not provide a solution.

Network Monitor is used on a server to monitor traffic that comes and goes from that server. The amount of data that it captures can be controlled through the use of filters. Filters can define a particular protocol that may be the focus of concern. Network Monitor is not able to capture incoming traffic to a specific Web site. This is not the nature of its design. It is not designed to serve as a logging system, but rather to capture packets for analysis.

Question: 11.

You are planning a development area that will be used to test and deploy content to the Web and COM + application clusters. You must ensure that this development area functions in a secure area. (See exhibit.) Which of the following should you implement to create this development area?



- A. Add a member to both the Web and COM+ Cluster. Remove the new member from the synchronization loop on both clusters.

- B. Create a single-node General/Web Cluster. Enable Network Load Balancing and configure both a public and a private network adapter for the server. Place the new cluster in the demilitarized zone.
- C. Create a single-node General/Web Cluster. Ensure that Network Load Balancing is disabled. Open the necessary internal firewall ports to support content deployment.
- D. Install the Administrative Client on a remote server. Open the necessary external firewall ports to support content deployment.

Answer: C

Explanation:

To create a secure development area for your applications, you create and position a single-node cluster (stager cluster) inside the internal firewall. This single-node cluster is essentially like a Web cluster, except that it does not use Network Load Balancing, nor does it require multiple network cards, as it does not participate in cluster member communications. With this stager cluster configured inside the internal firewall, the development area is guarded from any potential risks the Web cluster may incur. To support this configuration, the internal firewall must have two ports open: one to support HTTP content deployment, and one to support DCOM/RPC content deployment. Placing the new cluster in the demilitarized zone offers some security; however, the highest level of security for the development area is achieved by placing it in the internal network.

Application Center administrative client installation allows for remote administration in a clustered environment. The client supports all administrative functionality; however, the server running the client software cannot become a member of a cluster. This is not the making of a testing environment. On the other hand, the staging cluster is a cluster, and can therefore truly be used as a testing ground for new content. The other problem with this choice is the suggestion of opening up external firewall ports to support content deployment. This would be a direct breach of security.

By adding a member to an existing cluster, the cluster is able to support more users - or is "scaled-out". If a member of a cluster is taken out of the synchronization loop, it will not receive updates from the cluster controller. This possibility does not provide a development and testing area for new applications, as does creating a separate cluster. Nor does it meet security requirements.

Question: 12.

You are planning the deployment of Application Center 2000 in a multi-tiered Web application. To maintain the client's session state, visitors will be identified through the use of unique IDs stored on the client machine. How will you configure the Web cluster to support this identification method?

- A. Enable single client affinity.
- B. Enable ClassC client affinity.
- C. Increase the drain time on the cluster controller.
- D. Enable Request Forwarding.
- E. Use HIDDEN-type HTML form controls on all Web pages.

Answer: D

Explanation:

Several options exist to maintain client session state on a Web site. Unique IDs can be generated and stored in a cookie on the client machine. When Request Forwarding is configured, Application Center generates a unique ID and stores it in a cookie on the client machine. This ID is then used for each subsequent request the user makes to the Web cluster, and ensures that the client is directed to the server where its session started. This feature will expire the cookie once the user's browser is closed, or by default 20 minutes after the last request.

Client affinity can also be used as a means of directing the client to one server for each of its requests throughout a session. This method uses the IP address of the client to assess where the requests should be directed. Single client affinity directs all requests from a specific IP address to the same server, while ClassC client affinity directs all requests from a specific ClassC subnet to the same server.

HIDDEN-type form controls can be used to identify users by embedding unique identifier values in the Web pages. This, however, does not make use of cookies.

The Drain time, set in the cluster properties, establishes the amount of time a cluster member takes to drain its existing connections before being taken offline. This parameter does not affect whether or not cookies are generated for client sessions.

Question: 13.

An administrator has completed an unattended installation of Application Center 2000 using the Server Only configuration. Which of the following tools should the administrator use to view logged server-specific events for the entire cluster?

- A. Performance Monitor on each member of the cluster
- B. Performance View in the Application Center snap-in
- C. Event Viewer on each member of the cluster
- D. Event View in the Application Center snap-in

Answer: C

Explanation:

Application Center 2000 can be installed programmatically using unattended installation. There are four configurations available for this type of installation. The Server Only configuration installs only the server software and not the Administrative client or the Application Center Event and Performance Logging components. The Application Center Event and Performance Logging component provides central logging capabilities. If this component were installed, the administrator would use the Event View on the Application Center snap-in to view server-specific event details for the entire cluster. However, without this component installed, the administrator must use the Event Viewer on each member of the cluster as a work-around solution.

Performance View in the Application Center snap-in would display all of the performance data for the members of the cluster. This feature is not available without the Event and Performance Logging component, and would cause the administrator to use Performance Monitor on each member of the cluster to gain this information.

Question: 14.

You are installing Application Center 2000 on a Windows 2000 Advanced Server. The machine will be used to remotely monitor the health and performance of the clusters used within the environment. Which of the following are the minimum requirements to perform the administrative client installation? (Select all that apply.)

- A. Windows 2000 SP1 + Pre Service Pack 2 (SP2) components
- B. IIS Administration service enabled
- C. 128 MB RAM
- D. Pentium 400 MHz
- E. 256 MB RAM
- F. IIS 5.0
- G. Windows 2000 SP1 only
- H. Pentium 266 MHz

Answer: C, G & H

Explanation:

The Administrative Client installation requires 128 MB RAM, a Pentium compatible processor with a minimum of 266 MHz, and requires only the Windows 2000 Service Pack 1 (SP1) to complete the installation successfully. The full server installation requires the SP1 and SP2 components, a minimum of 128 MB RAM (256 recommended), a Pentium compatible with a minimum of 400 MHz, and also requires IIS 5.0 Administration service be enabled.

Question: 15.

A Web application uses COM and COM+ components. After monitoring client requests, the traffic seems to be heavily loaded on some cluster members and yet light on others. You check the load balancing setting on the cluster members, and report that it is set

to "average load" on each server. What else can be done to remedy this situation?

- A. Enable ASP request forwarding on the Web cluster members.
- B. Separate out the COM and COM+ components and put them on a different server located in a separate cluster.
- C. Add more servers to the Web cluster and enable Client affinity.
- D. Increase the amount of memory on each of the Web cluster members.

Answer: B

Explanation:

What is occurring in this scenario is that some of the client requests coming in are requesting the COM components. These requests, unlike their HTML counterparts, require the Web server to instantiate and execute the COM components. This puts a heavier load on the particular server fulfilling the request, and gives the impression that load balancing is not as effective as it could be. The best solution is to separate the COM components and put them on a different server on a separate cluster. In this way, all client requests will be load balanced across the Web cluster, and the execution of the COM components will occur on a separate tier.

Adding more memory, or more servers to the cluster, will not get around the problem of imbalanced client requests. Client affinity and ASP request forwarding are mechanisms used to ensure that a client continues to communicate with the first Web server it connects with when establishing a session. All subsequent requests for the duration of the client session are with the one Web server. This is useful when it is necessary to maintain client session state.

Question: 16.

A Web application uses ASP session variables to store client session state on the Web server. The application is configured on a Network Load Balancing (NLB) cluster, which is directly exposed to the Internet. How should Application Center be configured to support "sticky sessions" in this environment? (Select two.)

- A. Configure NLB to use class C affinity.
- B. Adjust the Bandwidth throttling for the Web site.
- C. Configure NLB to use single client affinity.
- D. Implement a routing cluster.
- E. Enable Request Forwarding using ASP session state only.

Answer: A & E

Explanation:

If a Web application is using ASP session variables to store per-client session state on the Web server, there must be one or more techniques in place to ensure that the client always connects to the same IIS server in the Web cluster for the duration of the session. This essentially describes what a "sticky session" is - the process of setting the Network Load Balancer to lock clients to a single Web server. This is required because Application Center does not synchronize client session state across the cluster. Two features are used to provide sticky sessions: affinity and request forwarding. When the Web cluster is directly exposed to the Internet, it is almost always the case that the clients are coming from behind clusters of proxy servers or network translation devices. In this situation it is recommended to use the Class C affinity setting. This setting ensures that the client coming within a Class C address range is locked down to the same IIS server (which allows for the address to change anywhere within the Class C address range). To complement this setting, Request Forwarding should also be enabled. Request Forwarding works on the same concept, but it does not use the IP address as its basis. Instead, it places cookies on the client's machine and uses the cookies to identify the session ID. This complements the Class C, in the event that a user's address spans across multiple Class C address ranges (which is possible with a pool of proxy clusters).

Single client affinity is generally used for intranet settings, where the IP address is known to remain the same. NLB will connect the IP address to one Web server for the duration of the session.

Bandwidth throttling is a feature of Internet Information Service that allows the administrator to limit the amount of traffic in proportion

to the total network traffic that a particular Web site will receive. This will not affect the processing of the COM components that will continue to take place on the Web server; it would just cut down on overall traffic. This does not provide a solution.

Routing clusters are used in conjunction with Component Load Balancing Clusters to route COM component requests to the appropriate COM+ server. They are not used to manage ASP session variables.

Question: 17.

You perform an Administrative Client installation of Application Center on a management server. Identify the tasks that CANNOT be performed from the management server. (Select all that apply.)

- A. Add and remove cluster members
- B. Join a cluster with the Administrative Client server
- C. Set members online and offline
- D. Add and remove cluster members
- E. View Cluster Status
- F. Run the New Deployment Wizard
- G. Create a cluster with the Administrative Client server

Answer: B & G

Explanation:

The Administrative client is used for remote management of Application Clusters. Most of the administrative tasks can be performed using the client with the exception of creating or joining an existing cluster with the computer running the client. The Administrative client can be used to perform all other listed administrative duties.

Question: 18.

You are preparing to install the full version of Application Center. You will be creating a four-member Web cluster to host your company's Web site. Identify the considerations you must make when adding servers to a cluster. (Select all that apply.)

- A. All cluster members must have the same Application Center installation directory as the cluster controller.
- B. All cluster members must have the same Program File path as the cluster controller.
- C. All cluster members must belong to the same Domain, Tree, or Forest.
- D. All cluster members must have the same System Root as the cluster controller.
- E. Each member must have two network cards on the same subnet.
- F. Each member's IP address must be bound to the controller.

Answer: A, B & D

Explanation:

All potential cluster members must share the same directory structure for the system root, Program Files, and Application installation directory. This is the requirement for adding members to a cluster.

On a non-NLB cluster, in which each member has a unique IP address, each member's IP address must be bound to the controller. This allows the controller to synchronize the members and their Web sites effectively. This is not a requirement before adding a member to a cluster that is using NLB.

Each server that is added to an NLB cluster must have two network cards. One card will serve as the public connection and one the private connection for cluster communications. It is recommended these network cards be on separate subnets.

It is recommended that the cluster members belong to the same domain, tree, or forest. (Domain is most recommended). However, it is not a requirement that this be in place. Issues around synchronization, permissions, and ACLs become apparent when the members do not belong to the same domain.

Question: 19.

A Web cluster serves HTML and ASP pages, a fair amount of graphic content, and COM+ applications. How can you improve the Web service response time on the Web cluster?

- A. Create a second Web cluster and implement RRDNS.
- B. Move the graphics to a back-end server.
- C. Create a COM+ application cluster to host the COM+ applications.
- D. Increase the hard disk capacity on the Web servers.

Answer: C

Explanation:

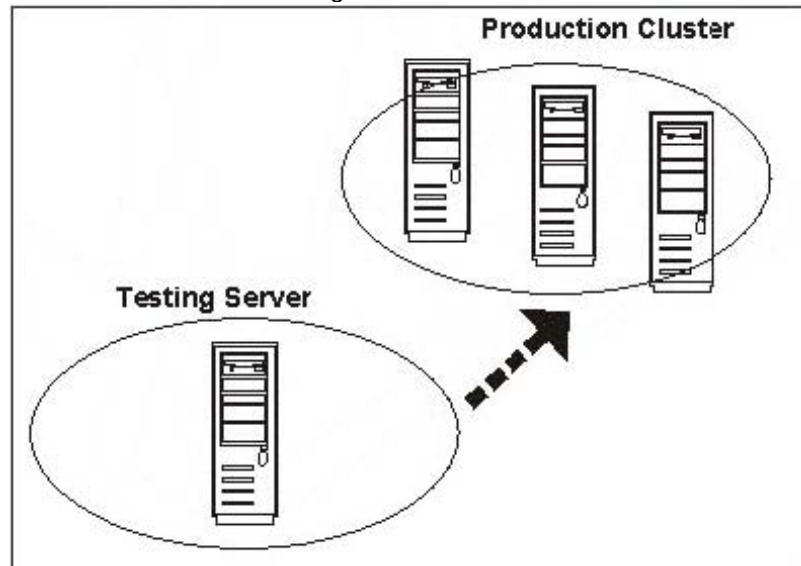
In this case, the Web service has the extra processing load of instantiating and executing the COM+ applications. Separating the COM+ applications to a separate cluster (COM+ Application cluster) will alleviate this extra burden on the Web service of the Web cluster.

It would not be beneficial to move the graphics to a back-end server. This would likely cause more of a slow-down for the clients, because the heavily used graphic pages would have to reference a remote server to display the content.

The Implementation of a second Web cluster can provide scalability. However, it does not make for the best solution in this case. If the COM+ components are left on the Web tier, (in whatever cluster) the problem still arises with the client response time. Increasing the hard disk capacity also does not address the Web service response time.

Question: 20.

Content is being deployed from the testing server to the Production cluster. (See graphic.) You need to design a method to move new content from the testing server to the Production cluster. Which method should you include in your design?



- A. Use Xcopy to copy from the testing server to the Production Cluster.
- B. Join the Testing Server to the Production cluster. Enable synchronization on the Testing Server.
- C. Create a new General Web cluster on the testing server. Add the production servers to the testing cluster.
- D. Install Application Center on the Testing server. Create an application and deploy it to the production cluster.

Answer: D

Explanation:

Application Center is installed and used for deployment purposes on a testing/staging server. On the testing server, you create an Application Center application and install the new content into the application. The application is then deployed to the Production Cluster controller and synchronized out to the members of the cluster.

The Xcopy command can be used to copy files and directories from one server to another. This does not present an adequate solution when deploying applications to a cluster, as it would only target specific directories and not include registry settings and other types of resources. It also does not address whether or not the target server needs to be restarted. It would not provide an adequate method for deploying content from a testing server to a production cluster.

It would not be appropriate to join the Testing server to the Production cluster. Doing so would eliminate the usage of a testing server. Also, even if this was desired, adding the Testing server to the Production cluster would cause it to be overwritten by the cluster controller's content during the synchronization process, thus not providing a solution for deployment.

Creating a new General Web cluster and adding the production servers to this new cluster would cause all of the old content to be overwritten with that of the testing server. In most cases the testing server is not physically exposed to the Web clients, and it would not be in the proper position to server client requests. This approach also causes a lot of unnecessary steps to be taken, when the New Deployment Wizard can easily deploy the new content to the existing content on the Production cluster.

Question: 21.

You are creating a two-member COM + application cluster that will be used to test COM + load balancing. You want client machines to directly access the COM components on the cluster from their Win32 applications. Which of the following settings should you configure to support this type of connection? (Select all that apply.)

- A. Enable request forwarding on the Web cluster.
- B. Select Server applications as the client type.
- C. Select Client applications as the client type.
- D. Specify the routing information in the Properties dialog box of the COM+ application cluster.
- E. Configure Network Load Balancing on the COM + application cluster.

Answer: C & E

Explanation:

When you create a COM+ application cluster to handle the processing of COM components, you select the type of applications that the cluster will service, either client or server. Selecting Client applications as the client type allows multiple independent client applications such as Win32 applications to directly access the components on the cluster. Server applications configure the cluster to accept requests from other servers or Application Center clusters. When the Client application client type is selected, Network Load Balancing (NLB) is added to the COM+ application cluster as well as Component Load Balancing. NLB is configured with a private and public network adapter just as it is configured for a general/Web cluster.

Routing information is not specified on the COM+ application cluster for the components that are installed at that tier. The members of the COM+ application cluster are specified on the routing list of the Web cluster, as it forwards the requests to the COM components housed on the COM+ application cluster.

Request forwarding is used on Web cluster to assist with session state through the use of client cookies. This does not contribute to a client's ability to directly access a COM component on a COM+ application cluster.

Question: 22.

In a two-tier Application Center 2000 clustered environment, a Web application uses COM Classic and COM+ components. Which of the following methods are used on the Web cluster to configure the COM components to work with Component Load Balancing? (Select all that apply.)

- A. Enable request forwarding.
- B. Enable single client affinity.

- C. Install the COM+ applications on both the Web and COM+ application clusters.
- D. Disable dynamic load balancing support.
- E. Install the COM Classic components into a COM+ application.
- F. Install the COM+ applications on the COM+ application cluster only.
- G. Enable dynamic load balancing support.
- H. Configure the COM+ application cluster routing list.

Answer: C, E, G & H

Explanation:

In a two-tier clustered environment, the COM and COM+ components are separated from the pages that use them by using a general Web cluster, which services the Web page requests, and a COM+ application cluster, which services the COM+ component requests. The Web cluster uses Component Load Balancing to route requests to the COM+ application cluster. Application Center does not support the use of COM classic components with Component Load Balancing. For these components to work with Component Load Balancing, they must be installed into a COM + application.

In a two-tier configuration, the COM+ applications are installed on both tiers: the machine(s) that are making the requests (Web tier), and the machines that are hosting a copy of the components (COM+ application tier). Having the COM+ applications installed on the Web tier provides the scripts and applications with the necessary Registry information required to locate the components. When the applications make a call to the component, at that point, component services take over and remotely make a call to the COM+ application cluster where the components are installed. In this way, the applications/scripts assume the component(s) are local.

Dynamic load balancing is enabled on the Web cluster using the Component Services section of the Application Center administration tool. Enabling this on the Web cluster for the components that will be using Component Load Balancing provides the Web cluster members with a routing list of the back-end cluster.

The Web cluster is configured with the routing list for the members of the COM+ application cluster. When an activation request is made for one of the COM + components that is supporting dynamic load balancing, the routing list is used to forward the request to one of the members of the COM+ application cluster.

Request forwarding is used to redirect visitors of a Web site to a specific server in a Web cluster. Similar to client affinity, request forwarding uses cookies to maintain a unique ID on the client. This unique ID connects all subsequent requests to the same cluster member, which can then maintain session state for the client. Request forwarding is a strategy used to design session state on a Web tier and is not part of the COM+ component configuration.

Single client affinity is a configuration that directs traffic within the Web cluster. It uses the source IP address of incoming requests, and ensures that all subsequent requests from the source host are directed to the same Web cluster member. This setting is not used to configure component load balancing.

Question: 23.

Sean attempts to remove a member from the Web cluster and inputs his own personal logon when prompted in the Application Center 2000 console. He receives an error message and the process fails. The administration tool shows that some of the member's settings could not be removed, and the member has been partially removed. Which of the following steps should an administrator perform to resolve this problem?

- A. Take the server offline and drain the connections
- B. Disband the cluster
- C. Ac cluster /clean
- D. Ac cluster /remove
- E. Ac cluster /delete

Answer: C

Explanation:

Incorrect logon credentials when removing a cluster member will cause a failure in the process and will leave partial cluster information on the member. To clear this cluster information from the member, the AC cluster /clean command is issued locally on that machine. This command specifies that all cluster configuration information be removed from the local machine on which the command is run.

The AC cluster /remove command is used to programmatically remove a member from a cluster, rather than using the Application Center 2000 administration tool.

The AC cluster /delete command is used to delete an existing cluster and is not used for a specific member of a cluster.

When planning to remove a cluster member, it is advisable to take it offline and drain existing connections first. Draining connections prevents any disruptions to the client connections by preventing any new requests from occurring and allowing time for existing connections to complete before the member is taken offline. This does not provide a method for cleaning up cluster configuration information, but rather is an initial step taken in the process of removing a member.

A cluster that is no longer required or is to be completely reconfigured would be disbanded. It is not necessary to disband the cluster to clear this information from one cluster member.

Question: 24.

An administrator needs to be able to view Network Load Balancing (NLB) errors generated by any member of a Web farm's cluster. Which of the following should the administrator use to view the NLB errors at an aggregate level?

- A. Create a filter within the Event Viewer on each cluster member.
- B. Using Event IDs, Product and Severity (Type), configure Event Exclusions on the cluster node's Event Properties.
- C. Create a filter within the Event Viewer on the cluster controller and remotely connect to the member's log file.
- D. Disable performance counter logging for the cluster.
- E. Create a filter on the cluster node's Event View.

Answer: E**Explanation:**

Application Center 2000 includes event logging generated from Windows 2000, Health Monitor, and Application Center 2000. In a clustered environment, this allows an administrator to view logged events of any of the cluster's members as an aggregate. Application Center 2000 pulls from all members of the cluster and alleviates the task of having to individually examine each member's Event Log. By creating a filter on the Cluster node's Event View, the NLB errors can be viewed for the cluster as a whole. It is not necessary to use Event viewer on each member individually, or remotely from the cluster controller, with the use of Application Center 2000.

Logging of specific events can be disabled through the use of Event Exclusions on an Application Center Cluster. By specifying Event IDs, Product and Severity, specific events can have logging disabled for the cluster members. This would be used to omit events from the Application Center 2000 log files.

Disabling performance counter logging for the cluster prevents the collection of performance counter data from the members of the cluster. It does not affect the logging of events that may be generated from members of the cluster.

Question: 25.

You are supporting a Web site that consists of an NLB Web cluster and a back-end SQL cluster. Developers require an area to test out and deploy new content. How will you configure the testing area?

- A. Perform a Typical Installation and configure a CLB cluster.
- B. Add a Server to the existing Web cluster and keep it out of the synchronization loop.
- C. Perform a Typical Installation and configure a single-node cluster.
- D. Perform the Administrative Client Installation on a remote computer.

Answer: C

Explanation:

A testing area is referred to as a stager. This stager is typically a single-node Application Center cluster that is used to fully test the quality and functionality of content before it is deployed to the production clusters. Applications are deployed from the stager using the Deployment Wizard.

Adding a server to the existing Web cluster does not provide a stand-alone testing platform, and would not have all of the liberties a stager has. It also is not physically the best choice, because the Web clusters are not likely that accessible.

The Administrative Client installation provides an administrator with the tools required for remotely monitoring and managing a cluster; however, it is not the full Application Center installation and would not serve as a development and testing platform.

A CLB (Component Load Balancing) cluster is used to support COM and COM+ components and applications. It is not used for testing and development.

Question: 26.

You want to load balance two different COM+ applications' components across a COM + application cluster. Which of the following statement summarizes the configuration you need on the COM+ application cluster to ensure Component Load Balancing (CLB) will perform this task?

- A. Prepare a two-node COM+ application cluster. Install all of the COM + components from both applications on each of the nodes.
- B. Prepare a single node COM+ application cluster. Install the COM components from both applications on the single node.
- C. Prepare two single-node COM+ clusters. Separate the COM+ components, install one application's components on one cluster and the other application's components on the second cluster.
- D. Prepare a two-node COM+ application cluster. Separate the COM+ components, and install one application's component on one node, the other application's components on the second node.

Answer: A

Explanation:

Component Load Balancing (CLB) performs load balancing for COM + application clusters when each member of the cluster has the same COM+ components.

If there is one node, then no load balancing is possible. If the COM components are separated onto separate nodes or clusters, then a routing mechanism is required, which was not mentioned in any of the solutions. Either routing lists on Web servers or implementing COM + routing cluster is required to perform this task.

Question: 27.

You have configured a third COM+ server to participate in Component Load Balancing in a multi-tiered Web application. How do you designate the server to be part of the COM+ application cluster?

- A. Add the new COM + server to the routing list on the Web cluster.
- B. Use the New Deployment Wizard from the staging cluster.
- C. Enable the components on the new COM + server to support dynamic load balancing.
- D. Edit the registry on the Web cluster members.

Answer: A

Explanation:

To designate a COM+ server, which participates in the COM+ application cluster, the server name must be added to the routing list

on the Web cluster. The Web cluster or the COM+ routing cluster (if this was used) is performing the Component Load Balancing, and therefore is responsible for identifying the COM+ servers that it will forward requests to.

The components on the COM+ server disable dynamic load balancing on the COM components, because the COM+ application cluster processes the requests. The COM components on the Web cluster (they are configured on both tiers) enable dynamic load balancing, to instruct the requests to be forwarded, and not serviced locally. This property, in any case, is not used to designate the COM + servers that are in use.

You are not required to edit the registry for this configuration. Application Center provides appropriate interfaces to work through.

The New Deployment Wizard is used to deploy applications and updates to the clusters. It is not used to update or edit the routing list on the Web cluster.

Question: 28.

A company creates a COM+ application cluster to simplify the management of their server applications. For security purposes, they are placing a firewall between the Web server and the COM+ application cluster. Which of the following ports do they need to keep open on the firewall to support this communication?

- A. DCOM
- B. RCP
- C. UDP
- D. SSL

Answer: A

Explanation:

Component Load Balancing (CLB) is used to balance calls from IIS (Web servers) to the COM+ application clusters. These communications require a DCOM session from the Web server to the COM+ application cluster and back. To instantiate the COM components and for communication to be successful, the firewall between these two tiers must open the DCOM ports in both directions.

UDP is used for remote NLB administration. RCP is used when deploying content from a staging server to a production cluster. SSL is used when a client connects to a secure Web site.

Question: 29.

You have taken a cluster member offline and out of the synchronization loop to test some new configurations. You decide to keep this configuration and want replicate it to the other members of the cluster. Which of the following methods will achieve this with minimum administrative effort?

- A. Bring the member back online and enable and start synchronization.
- B. Take all other cluster members offline. Bring the modified member back online. Enable and start synchronization for the member. Repeat this for the other cluster members.
- C. Promote this machine to cluster controller. Enable and start synchronization. Set the new controller online.
- D. Disband the cluster. Create a new cluster with the modified member as the cluster controller. Add the other servers into the cluster.

Answer: C

Explanation:

Application Center allows any member of the cluster to become cluster controller. When this happens, the current cluster controller automatically gets demoted. In this situation, the most efficient route to take is to promote the newly configured member to cluster

controller, enable and start synchronization, and set the controller online. As these steps are taken, the new content and configuration will be synchronized to the other cluster members, and their current configuration will be overwritten.

Disbanding the cluster would provide a long way of accomplishing this. It would involve much more administrative overhead than simply promoting one member.

If the member is brought back online and synchronization is enabled, this will cause the member to have its content and configuration overwritten by the cluster controller, because synchronization is a one-way process.

Taking members offline and back online or disabling synchronization and enabling it has no bearing on the fact that synchronization occurs from the cluster controller to the cluster members as a one-way process. The only way around this is to promote the modified member to be cluster controller.

Question: 30.

A Network Load Balanced (NLB) cluster consists of four Windows 2000 Advanced member servers, all belonging to the Webcluster workgroup. A new Web site is being deployed to the cluster controller using the New Deployment Wizard defaults. Using NTFS permissions, only preferred customers are granted permission to the home directory of the Web site. After synchronization occurs, all users are able to connect to the new Web site. Which of the following has caused this?

- A. ACL synchronization was not selected in the New Deployment Wizard.
- B. The synchronization process inherits the target directory ACL.
- C. The management network adapters are not communicating.
- D. The ACLs and security identifiers (SID) on the cluster controller refer to the local server and are not valid on other members.

Answer: D

Explanation:

It is recommended that you create a Windows 2000 domain to share accounts across a cluster and its members. Application Center does not synchronize or deploy Windows 2000 user accounts, and if the members are not part of the same domain, tree, or forest, problems will occur. By default ACL synchronization is selected when using the New Deployment Wizard, and Application Center will attempt to synchronize ACLs for folders and files. ACLs and SIDs (except for well known ones like administrator) are not valid on the other members of the cluster because they are all stand-alone servers. The only way around this is to reconfigure everything using the domain model, or fix incorrect settings on all target machines manually. This is not indicative of the management network adapters not communicating. The fact that the synchronization occurred indicates the network is functioning properly.

If ACL synchronization is not selected in the New Deployment Wizard, then the ACLs are inherited from the directories on the target servers.

Question: 31.

You are planning on adding a new server to an existing Web cluster. The cluster controller consists of Web sites, File system folders, and COM+ applications. When will the new cluster member be updated with this content?

- A. When the server is added to the cluster
- B. When it joins the synchronization loop for the first time
- C. When it is taken offline and online
- D. When the next automatic synchronization takes place

Answer: A

Explanation:

When a server is added to a cluster, a complete deployment and synchronization takes place. It does not have to wait to be taken

offline, to join the synchronization loop, or for the next automatic synchronization.

Question: 32.

A Web Cluster consists of three members: ServerA, ServerB, and ServerC. ServerA is the cluster controller. You need to disband the cluster. In which order will you perform this task?

- A. Promote ServerB to cluster controller. Remove ServerA and ServerC from the synchronization loop.
- B. Take ServerB and ServerC offline and drain existing connection. Remove ServerB and ServerC from the synchronization loop.
- C. Take ServerB offline and drain existing connections. Remove ServerB from the cluster, and repeat for ServerC. Disband ServerA.
- D. Take ServerA offline and drain existing connections. Remove ServerA and ServerB from the cluster.

Answer: C

Explanation:

To disband a cluster, you remove all members of the cluster, except for the cluster controller, and then you disband the cluster controller. To remove all members from the cluster, each member should be first taken offline, existing connections drained, and then removed from the cluster. This is repeated for ServerB and ServerC, followed by disbanding ServerA

Removing cluster members from the synchronization loop prevents the member from receiving updates. It does not equate disbanding, nor is it a necessary step in the process of disbanding. It is also not necessary to promote a server to the controller position in order to disband a cluster.

Question: 33.

You want to change the name of a server that belongs to a Web cluster. Which of the following steps should you take?

- A. Remove the member from the cluster.
- B. Take the member out of the synchronization loop.
- C. Take the member offline.
- D. Take all members out of the synchronization loop except for the member to be renamed.

Answer: A

Explanation:

In order to change the name of a cluster member, the member must be removed from the cluster. Once it is removed, the member is renamed using Windows 2000 tools. The server is then restarted and added back to the cluster. This process prevents any communication problems that may otherwise occur when a member changes its name because Application Center does not immediately pick up its changes. It is also important to note that any services using the old server name should be updated because this could cause conflict on the network.

Taking the server or servers out of the synchronization loop or taking them offline prevents them from receiving updates, or client requests. This does not alleviate problems with communications that could occur if a server was renamed while it was a member of the cluster.

Question: 34.

You are configuring a second COM+ load balanced cluster that will work with an existing Web cluster. The second COM+ cluster will support a different set of COM components than the first COM+ cluster supports. The Web cluster will work with both COM+ clusters. Which of the following should be completed to support this configuration?

- A. Create a Routing List on the Web Server.
- B. Create COM+ Routing Cluster.

- C. Enable Round Robin DNS.
- D. Create a second Web Cluster.

Answer: B

Explanation:

If you want to load balance two different COM+ application clusters, you will need a COM + Routing Cluster. In a configuration that uses one COM+ application cluster, this is not necessary (although it can be used for firewall purposes). Normally, the Web cluster maintains a routing list for the members of the COM+ application cluster. When there are two COM + application clusters, the Web cluster will still provide this for one of the COM+ clusters. However, a COM+ Routing Cluster is configured to load balance the components on the second COM+ application cluster.

Round Robin DNS is a static low-cost method of providing load-balancing services using the DNS service. This does not contribute to the configuration of COM+ Application Clusters.

Creating a second Web Cluster is not required in this case. That step would be taken to increase the overall capacity of the Web tier. It would not contribute to the COM+ Application cluster configuration.

Question: 35.

You are preparing to replace a server's network card, and plan to take the server offline. How can you take the server offline without disrupting any session data the server may be maintaining?

- A. Set the draining option to the default amount of time.
- B. Disable Request Forwarding.
- C. Remove the server from the synchronization loop.
- D. Force synchronization before taking it offline.

Answer: A Explanation:

When taking a member offline, the draining option is used to prevent disruptions to any current client connections. It does this by allowing the current connections to complete before the member is taken offline. No new connections will be made to the member; it will just wait the amount of minutes specified. (20 minutes is the default). This feature alone will prevent any disruptions to session data the server may be maintaining, as it allows the client to finish its session.

Request Forwarding is either used or not used to assist in session management. Disabling it, however, will not meet the goals described in this scenario.

The server does not need to be removed from the synchronization loop. Doing this would not provide a session saving mechanism. Saving session data is not about synchronization, and therefore forcing synchronization has nothing to do with this.

Question: 36.

You are adding a new member to a Web cluster and are concerned that the new server's hardware performance is substantially lower than the performance of the other cluster members. How should you configure the amount of traffic the new server will handle?

- A. Set the client affinity.
- B. Set a low host priority on the cluster member.
- C. Enable Request Forwarding.
- D. Set the Load weighting property on the cluster server.

Answer: D

Explanation:

Load Weighting is a cluster member setting that dictates how much traffic an individual cluster member handles in relation to the total amount of traffic. This setting can be used when you need to compensate for hardware-based performance differences.

Request Forwarding is used when you need to maintain session state. It uses cookies to identify clients through the use of a unique ID, and it ensures that clients maintain communications with a single server in the cluster for the duration of the session. This does not provide a solution for this scenario.

Client Affinity is similar to Request Forwarding, but it does not use cookies. Client Affinity, when used, works with the IP address of the incoming packet and uses that to ensure that subsequent client requests are forwarded to the same cluster member.

Host priorities are a property of Network Load Balancing. This host setting can range from 1 to 32 and is used to determine which host, out of the NLB cluster, will be the default host. The lower numbers denote higher priorities. The default host handles all traffic that is not to be load balanced.

Question: 37.

A Web cluster consists of static HTML pages and graphic content. After monitoring the cluster, you notice that some of the members are receiving more requests than the others. Which of the following should you configure to ensure that every client request is load balanced across the NLB cluster?

- A. ClassC affinity
- B. Request Forwarding
- C. No affinity
- D. Multicast mode

Answer: C**Explanation:**

Affinity controls how the incoming client requests are directed to the NLB cluster. No affinity specifies that NLB client requests may be handled by any of the active servers within the Web cluster. In this example, this is the best solution, as it will evenly distribute the traffic across the cluster.

ClassC affinity specifies that all requests from within a specific ClassC IP address range be handled by the same server in the Web cluster. This would not provide even distribution.

Multicast mode is a property of NLB that dictates whether or not the MAC address on the Web server's network cards is overwritten or not. It does not pertain to how the traffic is balanced across the Web cluster.

Request forwarding works with dynamic pages by using cookies to maintain session state. It also specifies that subsequent client requests continue to be serviced by the same server.

Question: 38.

A Web site consists of a two-tier order-process application. The front-end tier consists of the Web servers, and the back-end tier consists of the order-application servers. The application incorporates COM+ components, which are processed on the order-application servers. You need to design a method that must evenly balance the traffic from the Web servers to the order-application servers. Which elements should you include in your design?

- A. Creation of a COM+ cluster that uses Component Load Balancing (CLB) for the order-application servers.
- B. Addition of custom components to the order-process application to load balance the load across the order-application servers.
- C. Creation of a COM+ cluster that uses Network Load Balancing (NLB) for the order-application servers.
- D. Creation of Round Robin DNS entries for each order-application server.

Answer: A

Explanation:

In a two-tier application, Application Center can use Component Load Balancing to balance requests for COM+ applications. Application Center is used to create a COM+ application cluster. This cluster uses Component Load Balancing (CLB) to provide the load balancing service. CLB maintains a routing list of the COM+ servers in the cluster and keeps track of their response time. This internal list is used to determine which COM+ server will create the COM object for the client request.

On a one-tier application, Network Load Balancing (NLB) can be used to distribute client requests across a COM+ application cluster. However, when multiple tiers are in the design, CLB is used.

It is not necessary to customize the order-process application to load balance across the servers. This is taken care of through the use of the Application Center COM+ Application cluster.

Round Robin DNS is method of load balancing through the use of the DNS database. The DNS server maintains a list of IP addresses that correspond to a host name. It then distributes requests for the host name to each machine listed in turn using a fixed pattern. This system could be used on the Web servers. However, it does not provide the sophisticated features of Application Center clusters, and should only be used to distribute traffic between multiple Application Center clusters.

Question: 39.

A Web application consists of a Web cluster and an Application cluster. The Application cluster load balances the COM+ component requests. To which of the following Application cluster members will the Web cluster forward the component requests?

- A. the cluster member with synchronization enabled
- B. the cluster controller
- C. the cluster member with the best recorded response time
- D. the cluster member that has been idle the longest

Answer: C

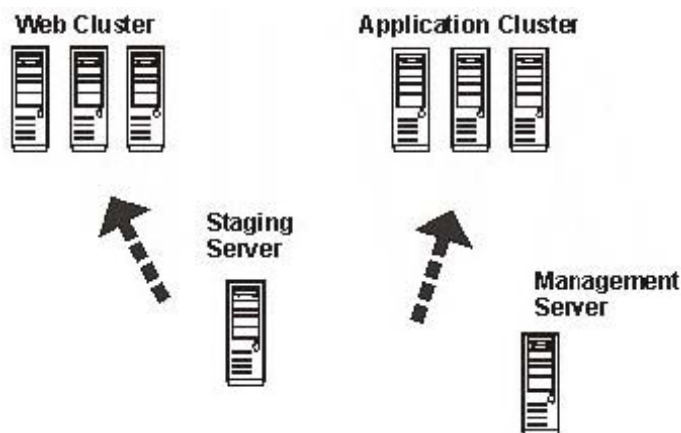
Explanation:

When a COM+ application cluster is in use, Component Load Balancing (CLB) records the response times for each COM component call made to every member of the cluster in a table. This table is rebuilt every so many milliseconds to track the current response times. Using this table, CLB can then best determine which COM+ application cluster member should create the COM object for the client request.

This is the algorithm that is used with CLB and COM+ application clusters. It is not based on which cluster member has been idle. The role the member has, such as cluster controller, is not determinant in the process, and whether or not members are part of the synchronization loop does not determine if they will instantiate the COM object for the client requests. Synchronization determines whether or not they will receive content updates from the cluster controller within the cluster.

Question: 40.

Content deployment is shown in the deployment diagram. (See graphic.) You are testing and deploying a COM+ application out to the production Web site. Build a list of servers needing Com+ components installed by moving servers from the List of Servers to the List of Servers Needing Com+ Components.



A. Application Cluster Staging Server Web Cluster 1 True

Answer: A Explanation:

To deploy a COM+ application in an environment that uses a COM+ application cluster, the actual COM+ components must be installed in three places. First, to test them and prepare for the deployment of the application, the COM+ components are installed on the Staging Server. They must be installed on the staging server before they can be added to the Application Center application that will be deployed to the production environment. To work with the component Load Balancing (CLB) that is used by the application cluster, the actual COM+ components are installed on both the Web cluster and the Application cluster. CLB uses DCOM to communicate with the remote application cluster servers. In order for DCOM to work, it must be installed locally on the Web server(s), the machine(s) making the component requests, and on the application server(s), the machines executing the requests.

Question: 41.

A Web application includes an order entry method that uses Active Server Pages (ASP). The Web application depends on the ASP session object to maintain client state. You want to minimize the impact of the order entry application on the Web cluster. What should you do?

- A. Move the session state to an application server.
- B. Enable synchronization on all members of the Web cluster.
- C. Use the Affinity feature in Network Load Balancing.
- D. Add a CPU to each Web server.

Answer: A

Explanation:

The best method of minimizing the impact of maintaining session state on the Web site is to remove the session information to another server, such as an application server. Offloading this from the Web cluster improves the performance of the Web cluster.

The Affinity feature in Network Load Balancing is used to ensure that the same server within a Web cluster always services a client. This is necessary if the Web cluster is maintaining the session state. To provide minimal impact on the Web cluster, this method is not preferred.

Adding a CPU to each Web server will scale the Web cluster up by providing more processing power, but this does not provide the best method for minimizing the impact of an ASP application on the Web cluster.

Under normal configurations, synchronization would be enabled for all members of the Web cluster. This ensures that the cluster controller content is replicated out to all members of the cluster. If a Web cluster was maintaining session state, the synchronization process does not replicate session state among the cluster members. This is why the use of Affinity or Request

Forwarding is necessary in this type of configuration. Therefore, in terms of session state management, synchronization does not become an issue.

Question: 42.

A network consists of various servers and configurations. You want to install Application Center 2000 on one of them and create cluster of Web servers. Which of the following servers should you use?

- A. Windows NT 4.0 Domain Controller
- B. Windows 2000 Backup Domain Controller
- C. Windows NT 4.0 Server with Microsoft Cluster Service
- D. Windows 2000 Domain Controller
- E. Windows 2000 Advanced Server with Network Load Balancing

Answer: E

Explanation:

Application Center supports the use of Windows Network Load Balancing, Component Load Balancing, and Third Party Load Balancing Solutions. When installed on a Windows 2000 Advanced server using Network Load Balancing, it can be used to create a cluster to support the Web servers required in this scenario. The full version of Application Center 2000 (not the Administrative client installation) is supported by the following operating systems: Windows 2000 Server, Advanced Server, and Datacenter Server. It does not support earlier versions of operating systems, which eliminates Windows NT 4.0 as a possibility. Application Center also does not support installations on either a Domain Controller or Backup Domain Controller.

Question: 43.

You perform an unattended Administrative client installation of Application Center on a management server. You try to monitor the Web cluster from the management server using the Web interface and cannot connect. Why are you unable to connect using the Web interface?

- A. You must open the correct ports on the firewall.
- B. You must specify the correct port number.
- C. You must specify the correct IP address.
- D. You must perform a full installation.

Answer: D

Explanation:

The Web interface can be used for remote monitoring. To use the Web interface, Application Center Events and Performance Logging must be installed, as this type of monitoring requires the use of the logging features. When performing an unattended Administrative client installation, Application Center Events and Performance Logging is not included in the installation. In this case, the Web monitoring is not available. The solution is to complete a full installation on the management server in order to utilize the Web interface-monitoring tool.

When using the Web interface, the correct port number must be specified in the Internet address. (The default is 4242.) The correct IP address would naturally be required and it may need consideration at the firewall as well.

Question: 44.

During the installation of Application Center on a Windows 2000 stand-alone server, you receive a message indicating this server is equipped for a "client only installation". Which of the following steps do you need to take in order to install the full version of Application Center?

- A. Upgrade to Windows 2000-Advanced Server.

- B. Log on with local administrator account.
- C. Install the hot fixes.
- D. Reconfigure the server to join a domain.

Answer: C

Explanation:

In order to install the full version of Application Center on Windows 2000 Server or Windows 2000 Advanced Server, it must have Windows 2000 Service Pack 1 and several "hot fixes" that are described as Pre-Service pack 2. If the service pack and hot fixes are not installed, the installation will detect this and indicate that this server can perform a "client only installation". The Administrative Client installation requires Service Pack 1.

You can install the full version of Application Center on a Windows 2000 server and it does not require that the server belong to a domain. (However, this is recommended). An administrator account is required to run the setup and launch the Application Center user interface. However, it would not generate the "client only installation" message.

Question: 45.

You are configuring a Web application that consists of an eight-node Web cluster and a COM+ Application cluster that processes the COM+ components. Place the correct items from the Components list on the right under the appropriate item in the Clusters list by clicking on the cluster and dragging the component to it. (Items can be used more than once.)

- A. 1True

Answer: A

Explanation:

To configure a Web application that uses a Web cluster and a COM+ Application cluster, the COM+ components are installed on both of the clusters. However, only the Web cluster enables the dynamic load balancing for the components. The Web cluster uses the Routing List to determine the best server in the COM+ cluster to forward the request to. The Routing List is used by the Web cluster and not the COM+ Application cluster. The requests are then received and processed by the selected cluster member. The COM+ cluster does not require that dynamic load balancing be enabled, as it is not responsible for this.

Question: 46.

You write your own CGI scripts to be used in a Web application. The Web application is hosted on a four-member Application Center Web cluster. Client connections are most likely to originate from proxy environments. You want to be sure that client requests are forwarded to the correct server. Which of the following should you use to configure this?

- A. Enable single Client Affinity.
- B. Enable Request Forwarding for all Web sites.
- C. Create Port Rules.
- D. Enable Request Forwarding for Web sites using ASP session state only.

Answer: B

Explanation:

Applications that use server-side scripting, such as CGI programs, require the client to return to the same member of the Web cluster for every request in a single session. This is not the default behavior of a Web site. Without special configuration, a user connects to a Web site, retrieves the file, and the connection is lost. There are two mechanisms available on an Application Center cluster that will assist in maintaining a client's connections with the same server in a cluster. Request Forwarding is the recommended method to use with ASP and CGI server-side scripting. Request Forwarding works with different types of files and uses cookies to identify the

user and return them to the cluster member they have already initiated a session with. To work with CGI scripts, Request Forwarding must be enabled for all Web sites, because there is not an exclusive selection for this type of script as there is for ASP session state only.

When a client connection originates from a proxy environment, it is possible that a client can appear to have a different IP address throughout its session with the Web site. Client affinity uses the IP address to continue a client's requests with the same cluster member. In a proxy environment, this may be an unreliable mechanism because the IP address can change.

Port rules are a Network Load Balancing technique used to control how TCP and UDP ports handle different types of TCP/IP traffic. For example, Port 25 may support single affinity, while Port 80 supports No Affinity. This feature does not ensure that subsequent client requests are forwarded to the correct server in a cluster.

Question: 47.

You support a Web cluster that consists of four members. One of the members, not the controller, is reporting that the hard disk is running low on space. All of the members have Application Center installed on C: drive, with a data partition on the E: drive. This server indicates that drive

E: has 2 GB of free space. Which of the following should you do?

- A. Take the server offline. Reinstall the Program Files on the E: drive. Bring the server back online.
- B. Remove the server from the cluster. Reinstall Application Center to the E: drive. Join the server back into the cluster.
- C. Take the server offline. Move the System Root to the E: drive. Bring the server back online.
- D. Remove the server from the cluster. Replace the hard disk with a larger disk and restore the contents from backup.

Answer: D

Explanation:

One of the requirements of Application Center is that all servers added to a cluster must have the same directory structure as the cluster controller. This includes the same System Root, Program Files path, and Application Center directory path. Therefore, the only possible solution is to remove the server from the cluster. Then replace the hard disk with a larger disk, and restore the contents from backup.

Question: 48.

You want to store all user session information and preferences in a back end database so that it can be globally available from any server within the clusters that make up a Web farm. Each server in the clusters will access a SQL database to extract the client's information when the client requests a Web page that requires the information. Which of the following will you use?

- A. ClassC Affinity
- B. Persistent cookies
- C. Single Client Affinity
- D. Request Forwarding

Answer: B

Explanation:

If a Web application accesses a back-end database to retrieve user session information, there must be a way to identify the user with each page request. A persistent cookie can be used in this example. The persistent cookie holds the user ID and is used each time the user requests a page that needs to get information from the back-end database.

Because the information is being stored on a back-end database, no member of the Web clusters is responsible for maintaining the Session State. If the web servers were maintaining the session state information, then either Request Forwarding or Affinity settings would be used. Request forwarding uses cookies to identify a user and ensure that the subsequent requests are forwarded to the same cluster member for the duration of the session. Client Affinity uses the IP address of the client to ensure that all subsequent requests are forwarded to the same cluster member. Single Client Affinity uses the IP address of the client. ClassC Client Affinity

uses the IP address range the client is coming from in case the client requests are coming through a range of proxy servers.

Question: 49.

You are configuring a Web farm that will use a third-party load balancing solution. You are using machines with two network adapters to form the cluster. Which of the following settings will you specify in the New Cluster Wizard to support the third-party load balancing solution? (Select all that apply.)

- A. Create a General/Web Cluster and specify the network adapter used for the management traffic and the network adapter used for client requests.
- B. Create a COM+ Routing Cluster and specify the network adapter used for client requests.
- C. Create a General/Web Cluster and specify the network adapter used for management traffic.
- D. Create a General/Web Cluster and specify the network adapter used for client requests.

Answer: C

Explanation:

To create a Web farm, you create a General/Web Cluster, which can either work with Network Load Balancing or a third-party load balancing solution, such as with this case.

A COM + routing cluster is used to handle load balancing for COM+ applications on a separate tier, and does not apply in this scenario, as COM components are not mentioned.

When using a third-party load balancing solution, a back-end network can be created if the machines in the cluster have two network adapters. This back-end network is physically separate from the public network and is used to process all cluster management information such as synchronization, content replication, performance logging, etc. During the setup process of the cluster, the New Cluster Wizard will prompt the user to specify which adapter is to be used for management information if the machines have two network cards installed. The New Cluster Wizard will bypass this prompt if the cluster members have one network card, and all traffic, including management and client requests, will be transmitted over the public network.

Question: 50.

In a multi-tiered Web environment, requests for COM + applications come from both Web clients and corporate Windows based applications. To handle the routing of the requests, the environment uses a Web cluster, COM+ routing cluster, and a COM + application cluster. Select and place the correct components that will be used on each tier of the clustered environment. Place the components to the right of the corresponding cluster. You will use at least one of the sets of components twice.

Web Cluster



Routing Cluster



Com + App Cluster



A. 1True

Answer: A

Explanation:

The Web cluster will process all of the Web client's requests for the COM + applications. The routing cluster will process the corporate Windows based application requests. Both of these clusters use Load Balancing to route requests to the COM + application cluster. COM + components with load balancing enabled and a routing list are configured on both clusters to support this feature. With load balancing enabled for the COM + components, when the client applications or Web pages make a call to the COM component, component services routes the requests to one of the members of the COM + application cluster, which are identified in the routing list. Both of the clusters use Network Load Balancing (NLB). The Web cluster uses NLB to distribute client requests across the cluster, and the routing cluster uses NLB to distribute incoming requests. Once the request is received, CLB is used to route these requests to the COM+ application cluster.

On the COM + application cluster, the COM+ components are configured with load balancing disabled, unlike the Web or routing clusters. The COM+ application cluster is responsible for processing the component requests that are received by the other clusters, and does not have to make load-balancing decisions. It is also for this reason that the COM + application cluster is not configured with a routing list. This cluster is not configured with Network Load Balancing, as the Web and routing clusters handle the load balancing.

Question: 51.

A company has switched its Internet provider and now must modify the address ranges used within the network. The Web tier consists of two clusters. Which of the following should you do to change the primary address for each of the clusters?

- A. Remove all members from the cluster. Modify the primary IP address in NLB on the cluster controller. Add each member back to the cluster.
- B. Using the properties of the cluster controller, enter a dedicated IP address under the Load Balancing options.
- C. Add the new IP address using the Cluster IP Address Editor dialog box in the Application Center administration tool.
- D. Take the cluster controller offline. Modify the NLB address and bring the controller back online. Allow the automatic synchronization to occur.

Answer: A

Explanation:

Application Center does not allow you to modify the primary IP address of the NLB cluster. In order to change the primary, you must remove all members from the cluster, modify the primary IP address in the NLB properties on the cluster, and then add the members back to the cluster. The members inherit the new IP address when they are added back to the cluster. This cannot be achieved by taking the cluster controller offline and bringing it back online. The automatic synchronization would not replicate the primary IP address across the cluster; this must occur at the time of joining the cluster.

A dedicated IP address is used to distinguish the members of the cluster by assigning them their own IP address. To enter a dedicated address, the IP address is added under the Load Balancing options on the property sheet of a cluster member. Changing this IP address does not modify the primary IP address for the cluster.

The Cluster IP Address Editor dialog box in the Application Center administration tool is used to specify additional IP addresses that this NLB connection will respond to (for example, if you were adding a new Web site that had a different IP address than that of the NLB primary address).

Question: 52.

You have created a new Web site on a cluster controller. Using the Application Center administrative tool, you add the site's IP address to the cluster's public load balanced connection. Users complain that when they access the new Web site using the IP address, they see the default Web site's home page. Which of the following steps need to be taken to ensure users are connecting

to the correct Web site?

- A. Force synchronization between the cluster controller and its members.
- B. Add a host header name to the Web site on the cluster controller.
- C. Specify the dedicated IP address on the properties of each cluster member.
- D. Add the IP address binding to the Web site on the cluster controller.

Answer: D

Explanation:

Multiple Web sites can be published on one Network Load Balanced (NLB) cluster, each using different IP addresses. To achieve this, the additional IP addresses are added to the cluster's load balanced connection, by right clicking the cluster in the Application administration tool and selecting Edit IP Addresses. Next, a folder that will contain the site's content is created. The Web site is then created using Internet Services Manager. (This can be accessed through the Application Center administration tool.) During the creation of the Web site, the IP address is specified, or bound, to the new Web site. Binding the IP address ensures that when users access the Web site via the IP address, they are directed to the correct Web folder and home page.

When Web sites are created on the cluster controller, its configurations are replicated automatically to the members of the cluster through Application Center's synchronization process. There are no additional steps required to take on any of the cluster members. Any Web site, virtual folder, IP address settings, or other configurable parameter is included in the synchronization process automatically.

When the subsequent IP address is added to the list of load balanced IP addresses on the cluster itself, this information is configured for the cluster as a whole. It is not necessary to configure this additional IP address as a dedicated address on the individual cluster members. Dedicated addresses are only configured in the event of requiring direct communication with specific members.

Host headers and port numbers can be used to distinguish Web sites when multiple sites are published on a Web server. This is not required to be used in conjunction with different IP addresses to distinguish the Web sites.

Question: 53

A Web farm hosts multiple Web sites. One of sites contains a shopping cart for users to purchase products. You would like this Web site to maintain the user's shopping preferences on the server side, and for this information to persist across different sessions. Which of the following will provide this solution and maintain the most efficient performance on the Web tier?

- A. Implement Form Controls and Query strings to each of the Web pages. Enable Single host affinity on the NLB cluster.
- B. Disable Request Forwarding and Affinity settings. Implement persistent cookies with a far-off expiry date to identify users.
- C. Enable Request Forwarding in Application Center. Use the ASP session object to maintain state on the server(s). Use the session ID to make the values persist from the session to a backend database prior to closing the session.
- D. Disable Request Forwarding in Application Center. Use persistent cookies to store user IDs. Connect the user to a backend database using the cookie's ID to access their stored state information.

Answer: C

Explanation:

When session state is enabled, a session is created for every user when they first request an ASP page from the Web server. At this point a unique session ID is generated and stored in a cookie on the client. This session ID is used to connect the user to his or her own unique ASP session object, which is stored on the server. This session object will maintain the visitor's data throughout the time the visitor is visiting the site. It is important that when the ASP session object is used to maintain client state on a Web farm, a mechanism is in place to ensure that the user's requests are directed to the same server with each subsequent request. If this doesn't occur, separate session objects will be created on each server the user connects to, resulting in incorrect state information. Enabling Application Center's Request Forwarding feature will ensure that the users go to the server where their session started and where their current ASP session object is stored. Request Forwarding uses the cookies to connect session IDs with the appropriate

server-side session object. In order to maintain state between sessions, a back-end database must be used. The user's session ID is used to establish a connection to a backend database and update the values contained within it. To provide the most efficient solution, one connection is made to the database prior to the session ending.

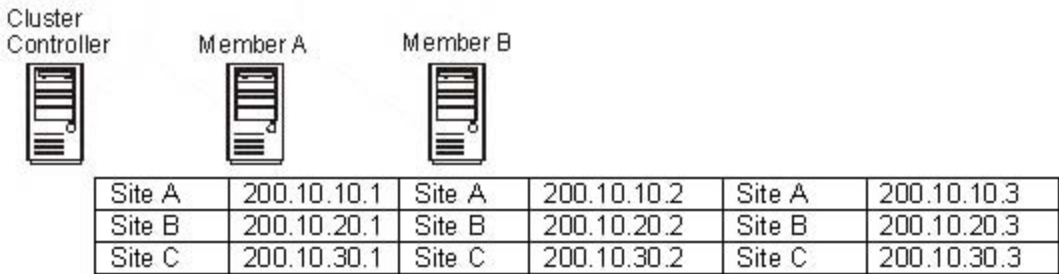
Another method used to create persistent state information between sessions is to use persistent cookies and a backend database. The cookie will contain a unique ID for the user. This ID is used to connect the user to the backend database to retrieve client state information when required. This method does not use client affinity, request forwarding, or ASP session objects. It is a less efficient mechanism, as it requires continual access to the database, unlike the ASP session object, which can take advantage of values stored in the session's memory, and require less access to the database.

Implementing Form Controls and Query strings for each Web page is a traditional method of passing client state between Web pages. This method stores client state information on the client, not the server, through the use of hidden form controls and query strings appended to the URL. This technique will not maintain information between client sessions. Single host affinity is used with Network Load Balancing to ensure that requests from a single IP address are directed to the same cluster member during a visit to the Web site. This becomes a requirement when using various techniques to maintain session state.

Cookies can be used as a means of maintaining state information between sessions. However, it requires storing the information on the client, which defeats the requirements in this scenario.

Question: 54.

CustomerRequest is one of several Web sites supported by a three-member cluster using Application Center 2000 and a third-party load-balancing solution. (See graphic exhibit.) Administrators notice that after the synchronization process, client requests are only reaching the controller and not the other members of the cluster. What steps must be taken to ensure the traffic is balanced between all three cluster members?



- A. Add all the individual members' IP addresses for the Web site to the network adapters on each of the cluster member's network adapter.
- B. Add all of the individual members IP addresses for the Web site to the network adapter on the cluster controller.
- C. Add the other members' IP addresses for the Web site to the cluster's load balanced connection in Application Center.
- D. Bind the IP addresses to the Web site using IIS on the cluster controller.

Answer: D

Explanation:

In a non-NLB cluster, each Web site that is supported by the cluster will have a unique IP address on each member of the cluster assigned to it. Application Center synchronization process will overwrite these as it replicates Web site information including IP addresses of Web sites across to all members within the cluster. This can cause some members to never respond to client requests because their specific settings have been overwritten. To remedy this situation, you must bind all member-specific Web site settings (IP address) of the respective Web site on the controller. In this way, the bindings will be replicated and client requests will be balanced across the members of the cluster.

If all individual IP addresses for the Web site configured on each of the members were added to the network adapters of the

controller or any of the members, IP conflicts would occur. The Web site IP addresses used by the other members must be bound to the Web site on the controller using IIS to provide alternate servers where the Web site can be reached.

IP addresses for non-NLB clusters are not maintained through the Application Center interface, but would be in most cases managed directly on the load balancing device. You do not establish multiple IP addresses that the cluster will respond to for the NLB connection when using a non-NLB solution.

Question: 55.

An NLB cluster has both the load balanced and the management traffic adapters on the same subnet. Identify the configurations that should be made to support this scenario. (Select three.)

- A. Assign a default gateway to the front-end adapter.
- B. Assign one static IP address to the private adapter.
- C. Assign a default gateway to the back-end adapter.
- D. Use DHCP for both the public and private adapters.
- E. Configure the front-end adapter with an Interface Metric of 1, and the back-end adapter with 2.
- F. Configure the front-end adapter with an Interface Metric of 2, and the back-end adapter with 1.
- G. Assign one static IP address to the load balanced adapter.

Answer: C, E & G

Explanation:

NLB cluster members require two network cards. One is used for the public (client request) connections, and the other is a private network (heartbeat connection) used for cluster-to-cluster communications. It is recommended that the adapters on the NLB cluster members be situated on two separate subnets to ensure traffic is routed correctly. However, in the event that this does not happen, there are some recommended configurations that should be used to ensure problem-free communications.

The load balanced adapter, the one bound to the NLB service (the public connection), should be assigned a static IP address. (This is the case whether they are on the same subnet or not). The private adapter, which connects the cluster members together for cluster management traffic, can use DHCP or be assigned a static IP.

On the Advanced TCP/IP properties the Interface metric should be set to 1 for the back-end (private) adapter, and 2 for the public adapter. The Interface metric indicates the hop count (cost) of that adapter's connection. This helps when the dual-homed server is determining the best route to take. The important measure taken here is that the management network, where cluster communications occurs, will be selected as the primary connection, and the private as the secondary.

To ensure that traffic is properly routed, when the load balanced and management traffic is on the same subnet, you must assign a default gateway to the back-end (private) adapters. This will assist in routing inter-cluster communications and prevent communication problems.

Question: 56.

You are configuring a four-member Web cluster on Windows 2000 Advanced Server. Which of the following Network Load Balancing features does Application Center NOT support? (Select all that apply.)

- A. Unicast Mode
- B. Single-host port rules
- C. Host Priority
- D. Client Affinity

Answer: B

Explanation:

Port rules are used with NLB to determine which traffic to load balance and which traffic to ignore. NLB configures all ports for load

balancing by default. Port rules are set for either multiple hosts or single hosts. Application Center does not support single-host port rules. These should be disabled prior to the installation.

Client Affinity is supported by Application Center and is used to maintain client session state.

Network Load Balancing is configured by default in unicast mode when using the New Cluster Wizard. In unicast mode of operation, NLB reassigns the machine's MAC address for the adapter on which it is enabled, and all members of the cluster are assigned the same MAC address. In multicast mode NLB adds a virtual MAC address to the existing one. (This may be more compatible for some adapters). These modes are both supported by Application Center. However, to change to multicast mode, it must be preconfigured before the installation or before any members are added to the cluster.

Host priorities are a Network Load Balancing setting for the individual cluster members. Each cluster member can be assigned a unique host priority, which is used to determine the default host. The host with the highest priority is the default host. This default host handles all client traffic for the cluster IP address that is not intended to be load balanced. Application Center supports the use of this Network Load Balancing parameter.

Question: 57.

A Web site on a NLB Cluster has changed its IP address. Where should you go to remove the previously bound IP address for the Web site?

- A. The cluster's public connection
- B. Host file on each of the cluster members
- C. The TCP/IP properties on each of the cluster members
- D. The Web site's properties

Answer: D

Explanation:

IP address bindings can be added or removed from the properties of the Web site using the IIS snap-in, in the Application Center administration tool.

Hosts files can provide a local hostname lookup table in case DNS is unavailable. Host files are not used for binding IP addresses to a Web site.

Web Site IP addresses are configured on the properties of the Web site. They are not configured on each of the cluster members' TCP/IP properties or the cluster's public connection.

Question: 58.

A Businesses Web site consists of an online shopping area for car parts. Customers complain that they add items to their cart, and sometimes the shopping cart items are lost. What Application Center feature can be configured on the Web cluster to prevent this from happening?

- A. Request Forwarding
- B. Unicast Mode
- C. Client Affinity
- D. Port Rules

Answer: A

Explanation:

Application Center uses Request forwarding to provide support for maintaining session state, such as shopping cart items, by using cookies to associate clients with particular cluster members. This cookie temporarily maintains the user's preferences and information.

Defining Port rules is a technique used with NLB that allows you to regulate the type of traffic processed by the cluster member. This is not used to maintain user preferences.

Client affinity is a feature that is similar to Network Load Balancing. It determines how the client requests are distributed to the cluster. For example, single host client affinity ensures that all requests from a single host are sent to the same cluster member. Class C Client Affinity ensures that any packet from the same Class C IP address range is forwarded to the same cluster member. Setting Client Affinity to None specifies that traffic will be evenly distributed across the cluster with no preference given to cluster members. Affinity is often used in conjunction with establishing a secure connection and applications that require subsequent packets.

Unicast mode is an NLB setting. When NLB is operating in unicast mode (which by default it is), it overwrites the MAC address of the cluster members to make them appear as one server. This setting has nothing to do with maintaining user preferences.

Question: 59.

Application Center 2000 is being installed on a server that is connected to a load-balancing switch. You will be creating a four-member cluster that will support multiple Web sites and use the load-balancing features of the switch. Which of the following tasks should you complete to fully support this configuration? (Select all that apply.)

- A. Create a General\Web Cluster.
- B. Configure Round Robin DNS (RRDNS).
- C. Create a COM+ Routing Cluster.
- D. Bind all Web site IP addresses for each member on the cluster controller.
- E. Schedule manual updates of cluster controller content.

Answer: A & D

Explanation:

A General/Web Cluster is created when deploying a third-party load balancing solution. When the New Cluster Wizard reaches the point of specifying the load-balancing type, you select "Other".

A COM+ routing cluster works in conjunction with a COM+ server to handle the processing and routing of COM components for Web applications that incorporate them. Integrating these additional tiers to the application alleviates the processing requirements on the Web servers. This is a necessary component to support third-party load balancing solutions.

To establish proper communications to each of the Web sites, the IP addresses for all Web sites on every cluster member must be added to the cluster controller. This is due to the fact that in a third-party load-balancing configuration, the individual cluster members have a separate IP address for each hosted Web site. This information will be overwritten during the synchronization process. To prevent it, those IP addresses are added to the cluster controller, and then the accumulative list is synchronized out to each member.

You do not need to configure RRDNS to use a third-party load balancing solution. RRDNS is in itself a static means of providing load-balancing services. The DNS server can point client requests to a pool of Web servers. This is an inexpensive method of providing load-balancing services with the main disadvantage being it is not dynamic or designed for high traffic levels.

Application Center's synchronization process will fully integrate with the third-party load balancing solution. It is not necessary to schedule manual updates of cluster controller content.

Question: 60.

You are adjusting the server weight on a Web cluster member. What must you do in order to modify this Network Load Balancing (NLB) setting?

- A. Shut down the server.

- B. Remove the member from the cluster.
- C. Set the member offline.
- D. Remove the member from the synchronization loop.

Answer: C

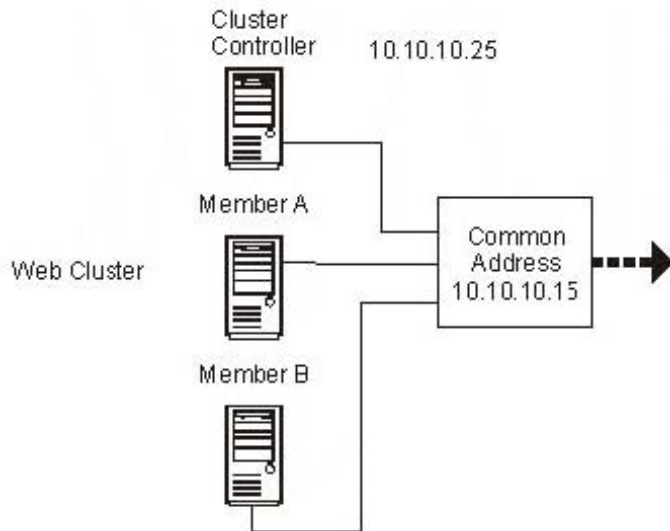
Explanation:

If you need to modify an NLB setting, such as load weighting, you must take the member offline first. Taking the server offline means the server will no longer receive new requests for content. The server will continue to participate in synchronization. It is necessary to stop client requests while NLB is reconfigured. When finished modifying NLB settings, set the member online.

It is not necessary to shut down the server or remove it from the cluster. Removing it from the synchronization loop does not prevent it from receiving client requests, which is what needs to be done during the configuration change.

Question: 61.

You need to remotely monitor the processor usage on a cluster member. (See graphic exhibit.) Identify the method you will use to connect to the Application Center Administrative site and which tools will be available for monitoring. (Select two answers.)



- A. Connect using <http://10.10.10.15:4242>
- B. Connect using <http://10.10.10.15:4040>
- C. Performance Monitoring and Event View
- D. Connect using <http://10.10.10.25>
- E. Health Monitor, Performance Monitoring and Event View, and Component Services
- F. Connect using <http://10.10.10.25:4040>
- G. Health Monitor, Performance Monitoring and Event View

Answer: A & C

Explanation:

You can connect to the Application Center Administrative Web site, which gives you basic performance monitoring and Event View capabilities. The Web interface is assigned, by default, port 4242, and addressed using the cluster IP address followed by the port number, in this example, <http://10.10.10.15:4242>. This port number can be modified or blocked at the firewall, if so desired.

All other monitoring tools and MMC snap-ins must be accessed through the Application Center Administration tool.

Question: 62.

You want to monitor the CPU utilization of each cluster in the Web tier. Management has requested a one-month analysis of processor monitoring. How should you configure the cluster to ensure that detailed information is maintained for one month?

- A. Back up all of the ALog files on each server.
- B. Use the 1-day time frame in Performance View.
- C. Use the 3-month time frame in Performance View.
- D. Back up the ALog file on the cluster controller.

Answer: A

Explanation:

Application Center uses a Microsoft SQL Server 2000 Desktop Engine (MSDE) on each cluster member for logging monitoring data. The database provides a persistent store for historical events and performance counter logging. ALog is the name of the database that is used. Application Center periodically summarizes the data stored in the database and relogs it to a summarization table. To capture event and monitoring detail, you should back up the ALog file before data summarization occurs. This would occur on each cluster member, as there is a log file for each member.

The summarization points are available for viewing in the Performance View: 15 min, 2 hours, 1 day, 1 week, and 3 months. As you view the longer time frames, you see less detail. The 1-day performance view summarizes every 2 hours and stores that detail for one day. The one-day is then rolled into a one-week summary. The 3-month view collects at a one-day interval and keeps the data for 30 days.

Question: 63.

You want to determine the normal memory usage for the Web cluster and on each member to develop a baseline of normal activity. Which of the following tools will you use?

- A. Configure Network Monitor on each of the members and the cluster controller.
- B. Add memory counters to the cluster Performance view and to the Performance view of each of the cluster members.
- C. Create one Global and a Local monitor for each cluster member.
- D. Use the Event view on the cluster controller.

Answer: B

Explanation:

Performance View will measure how much of a resource is being used on a cluster or an individual cluster member. To determine normal memory usage for the Web cluster and develop a baseline of normal activity, you add a memory counter to the Performance view of the cluster and the Performance view of each of the members. This provides you with a comparison of views in which you can identify the problem server and see the overall cluster usage at the same time.

Monitors are created using Health Monitor to set thresholds and specify actions to be taken should certain levels be reached or states of activity become critical. Health Monitor is not designed for monitoring real-time activity and does not provide a chart view, which visually brings together the resource activity.

Network Monitor is Windows 2000 tool that provides the service of capturing network packets for analysis and detection. It does not measure resource usage on a particular server.

The Event view displays a listing of generated events by Health Monitor, Windows 2000 and Application Center. This is used to monitor the behavior of applications and services, but does not provide a real-time analysis of resource usage.

Question: 64.

You want to ensure that the synchronization process is successful across a Web cluster. How can you configure Application Center to allow you to diagnose any inconsistencies with the synchronization process over time?

- A. Enable logging of All Events for Application Center on the cluster properties. Specify the number of days to keep logged data.
- B. Create a service monitor Data Collector in the Synchronized Data Group, and allow Automatic Synchronization to replicate it to the cluster members.
- C. Enable logging of All Events for Windows 2000 Events on the cluster properties. Specify the number of days to keep logged data.
- D. Create a service monitor Data Collector in the Non-synchronized Data Group.

Answer: A

Explanation:

Event logging is used to record events that are generated on clusters and cluster members from a variety of application, service, and object sources. On the properties for the cluster, you can specify the degree of logging you would like to take place for the cluster. These events can be kept for a specified number of days. Logging the events allows you to diagnose problems with the network or watch for inconsistencies with particular applications. Three areas of events tracked by Application Center include: Application Center events, Windows 2000 events, and Health Monitor events. The synchronization process is part of Application Center. Any events that the synchronization process generates will be logged to the Event view provided that All Events is specified for the Application Center Event logging properties.

There are no data collectors that are required to be set for this process, as it generates events by default. Synchronized Data collectors perform collection of data from a selected source. Synchronized, or Global, data collectors are replicated to all members of the cluster. Non-synchronized, or local, data collectors are used to collect data from a selected source on an individual cluster member. Unlike Global data collectors, they are not synchronized across the cluster.

Question: 65.

Application Center was installed using the typical installation. Some members of the cluster are reporting high memory usage. You want to configure the cluster so that the pages per second usage events are logged for each of the members in the cluster for a period of 30 days. Which steps should you take to accomplish this?

- A. In Application Center, modify the Event Collection Properties for the cluster so that it logs All Events for Application Center and Health Monitor. Specify the number of days it keeps logged events to 30.
- B. Create a global monitor for the cluster. Specify All Events for the Cluster's Health Monitor Event Collection properties.
- C. Create a local monitor for the cluster controller. Specify All Events for the Cluster's Health Monitor Event Collection properties.
- D. In Application Center, exclude the appropriate event IDs from the Event Collection Properties for the cluster. Specify the number of days it keeps logged events to 30.

Answer: A

Explanation:

In a typical installation, the default event logging settings for a cluster are as follows: Application Center - Errors and Warnings, Windows - Errors Only, Health Monitor - Errors Only. In order to collect the pages per second usage events for each of the members in a cluster, using the default monitors, you need to configure Application Center to collect All events from both Application Center and Health Monitor. You also need to increase the number of days that it keeps logged events to 30 days, as the default is 15.

Exclusions are created for Event IDs that you do not want collected and logged. It is not necessary to create a global or a local monitor to monitor the pages per second because Health Monitor provides a default monitor for this task. Global monitors are monitors that apply to the entire cluster. The default monitors that Health Monitor supplies are Global Monitors. Local monitors are created or defined for individual cluster members.

Question: 66.

An administrator creates a custom data collector that will send an e-mail to the administrator when its threshold is reached. How can the administrator view the logged events that result when the threshold of this data collector is met?

- A. Use the Windows 2000 Event Viewer on the cluster controller.
- B. Using Access or SQL to query the MSDE database.
- C. View the Data Group that contains the custom data collector using Health Monitor.
- D. Use the Events view in the Application Center Console. Type the name of the custom data collector in the Events source box to filter the event log.

Answer: D

Explanation:

Application Center's Event view displays events that are generated by a wide range of objects, applications, and services. When a custom data collector is created, it will generate an event when its threshold is met. This event is written to the Event Log and can be viewed in the Application Center console. To target the information for the custom data collector only, the name of the data collector is entered into the Events source box to provide a filtered view.

Health Monitor is used to configure the data collector and the group that it may belong to. In Health Monitor you create the custom data collector, specify the thresholds, actions, and other associated properties. You can view the details of the data collector, but this is not where you would read the events generated by the collector.

Windows 2000 Event Viewer will show the Windows 2000 generated events, but not that of the Health Monitor in detail. It is unnecessary to use Windows 2000 Event Viewer because Application Center provides the interface for this.

Application Center uses a Microsoft MSDE database on each cluster member for logging monitored performance data. This provides historical data for monitoring performance trends over time. This does not store events, however, and is not used to view the data collector's generated events.

Question: 67.

You need to add an additional performance counter to monitor one of the Web cluster members for a short period of time while you undergo some testing on the member. You do not want to make this counter available on all cluster members, only the one undergoing the testing. Which of the following should you perform?

- A. Add the performance counter on the cluster controller. Remove all cluster members from the synchronization loop except for the member undergoing the testing.
- B. Add the performance counter on the cluster controller. Copy the mof file to the cluster member. Take the member out of the synchronization loop.
- C. Take the member out of the synchronization loop. Add the performance counter to the cluster member.
- D. Add the performance counter on the cluster controller. Run counters.vbs on the cluster member.

Answer: C

Explanation:

Application Center enables a default set of performance counters that are used for all cluster members. If you require additional monitoring capabilities, you can add new counters to either the cluster controller or to an individual member, depending on where you want it available. In this situation you want only to add to the member undergoing testing. In order to accomplish this, you must remove the member from the synchronization loop, and add the performance counter to the cluster member. The reason for taking it out of the synchronization loop is because the local counter collection will get overwritten by the one on the cluster controller. Usually you would add new counters on the cluster controller because this information is replicated to all cluster members. However, in this case, it is not desired.

When a new performance counter is created, it is done so in a .mof file. The .mof file is used to define classes and class instances, which can be compiled and added into the Add counter interface. These files are created when defining a performance counter.

The counter.vbs script can be used to obtain a list of installed counters on a server. If this were used on the cluster controller, it would indicate the installed counters.

If the new counter were added to the cluster controller and all other members were taken out of the synchronization loop, this could provide a temporary solution. However, it defeats the goal to only make the counter available on the cluster member.

Question: 68.

Chris is monitoring a cluster for the presence of an outdated DLL file on newly added cluster members. Members are added infrequently throughout the day, and mainly in the evening. He has created a monitor and has set the threshold settings as follows: Collection interval - 60 min, Total samples for average collection - 6. Which of the settings would you suggest Chris change to ensure the monitoring is having minimal effect on the cluster?

- A. Increase the total samples.
- B. Decrease the total samples.
- C. Increase the collection interval.
- D. Decrease the collection interval.

Answer: B Explanation:

In this example it is not necessary to collect any more than one instance of this monitor, and the suggestion should be to decrease the total samples averaged to 1. The monitor is checking to see if a DLL is updated, and only one instance is necessary to determine this. If you were measuring memory or processor usage, it might be necessary to take several samples to average.

The collection interval is not regular enough to cause much disruption. Once an hour has minimal effect on the cluster.

Question: 69.

You want to create a data collector that can check to if the latest version of a Windows 2000 service has been installed on newly added cluster members. Which two items will you use to allow you to perform this task? (Select two.)

- A. Create a COM+ Application monitor in the Non-Synchronized Monitors group.
- B. Create a threshold that uses the date and time stamp.
- C. Create a COM+ Application monitor in the Synchronized Monitors group.
- D. Use the default threshold for the data collector.
- E. Create a WMI Instance monitor in the Non-Synchronized Group Monitors.
- F. Create a WMI Instance monitor in the Synchronized Monitors group.

Answer: B & F

Explanation:

To create a monitor that will check the latest version of a Windows 2000 service, you will create a WMI Instance monitor. WMI instance data collector (monitor) allows monitoring of WMI providers, of which there are several types. Windows configuration and management, which is one of the WMI providers, can be used to determine the latest version of Windows service. Because you want to test the presence of the service when the server is added to the cluster, the new monitor will be created in the Synchronized Monitors group. The Synchronized Monitors group replicates the monitors within it to all cluster members. As the new members are added to the cluster, they will be synchronized. Non-synchronized monitors are not replicated to cluster members and would only be effective on the cluster controller.

The default threshold for the WMI instance monitor is for Errors. Errors will not indicate a change in the version. In this case, a threshold that uses the date and time stamp should be created.

A COM+ Application monitor gathers information about COM+ applications. This would not apply to the monitoring of a Windows service and its version.

Question: 70.

A Web cluster consists of three servers: APP1, APP2, and APP3. APP1 is the cluster controller. You have created a local monitor on APP3. Using the Application Center administration tool on a remote machine, you want to view the monitor on the APP3. Which of the following must you perform?

- A. In the Connect to Server dialog box, select "Manage cluster for the specified server".
- B. Use the Windows 2000 monitoring tools to connect to APP3.
- C. In the Connect to Server dialog box, select "Manage this server only".
- D. Connect to APP3 using Performance Monitor on the remote management server.

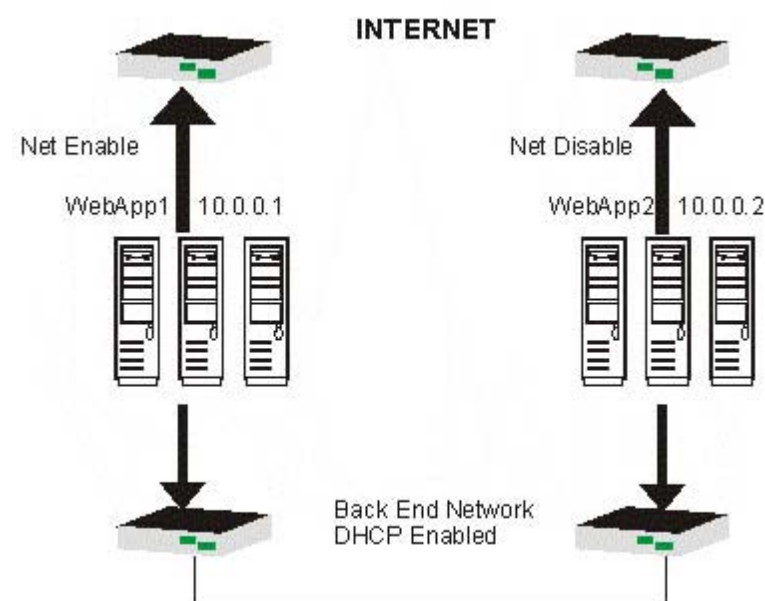
Answer: C Explanation:

If you have added a new performance counter on a cluster member, you need to connect directly to that member in order to view the counter. From the remote management tool, you must select "Manage this server only" to view the monitor for that machine only. If you select "Manage cluster for the specified server", you will see only the counters for the cluster controller.

The Application Center administration tool is used to view the counters that are created for the cluster and or cluster members. Neither Performance Monitor nor any of the other Windows monitoring tools will allow you to view the Application Center created monitor.

Question: 71.

A Web site consists of two Web clusters, WebApp1 and WebApp2. (See graphic) When you manage WebApp1 and WebApp2 from the staging server, you experience no problems with the connection. However, when accessing over the Internet, you cannot connect to WebApp2. Which of the following should you perform to resolve this problem?



- A. Add the IP address of the WebApp2 to WebApp1.
- B. Add a public IP address to the front-end adapters on WebApp2.
- C. Use static IP addresses on the back-end adapters for both WebApp1 and WebApp2.
- D. Add a public IP address to the front-end adapters on WebApp1.

Answer: B

Explanation:

In this example, the Web servers are located behind two devices: one that handles Network Address Translation (NAT), and one that doesn't. When NAT is used, it allows the Web servers to use private addresses, such as 10.0.0.1 and 10.0.0.2. These private addresses are translated to public addresses by the NAT device, making these Web servers accessible to the public. If a device does not support NAT, then the front-end adapter on WebApp2, in this case, requires a public IP address. Without the public IP address, connections across the Internet will fail. The front-end adapter on WebApp1 is fine to use a private address because it sits behind a NAT device. Adding WebApp2's IP address to WebApp1 would not resolve this. This would likely cause network conflict, as it would appear to the network that WebApp1 shares the same IP address as WebApp2.

The back-end adapters are not involved in this process, so changing them to static IP addresses is irrelevant in this case.

Question: 72.

The Port rules on a Web Cluster's Network Load Balancing appear as follows:

Start = 0, End = 65535, Protocol = Both, Mode = Single, Priority = N/A, Load = N/A, Affinity = N/A

After monitoring the cluster, you notice that the traffic is not evenly distributed across the cluster. Each member of the cluster uses the same Network Load Balancing configuration. Which of the following should you configure to balance the client requests evenly across the cluster? (Select all that apply.)

- A. Load Weighting Equal
- B. Affinity None
- C. Multiple Hosts Mode
- D. Affinity ClassC
- E. Affinity Single
- F. Single Hosts Mode
- G. Load Weighting Disabled

Answer: A, B & C

Explanation:

Port Rules are used by Network Load Balancing to customize load balancing of server ports. Port rules can be multiple-host or single-host. With multiple-host load balancing, client requests are evenly distributed across all members of the cluster, which is desirable in this scenario. Single-host load balancing directs all client requests to the host with the highest handling priority. This would create an environment in which one server would handle all client traffic for a specific application. To evenly distribute the client requests across the cluster, as desired in this scenario, this feature would not be desirable.

Load Weighting is used in conjunction with multiple-host load balancing to allow cluster members with higher capacity to receive a larger fraction of the total client load. It can be used to specify the percentage of load balanced network traffic that this cluster member should handle, or Equal distribution can be selected. In this case, to evenly distribute requests, load weighting would be configured to the equal setting.

When multiple-host load balancing is configured, one of three client Affinity modes is selected. To distribute traffic to all cluster members, No client mode affinity is selected. With this setting, traffic from one IP address is not forwarded to a singular cluster member for the duration of the session, like it is with single client affinity. The class C affinity mode load balances all client traffic from a single class C address space on a single cluster member. The class C and single client affinity modes do not provide an environment that maximizes the load balancing across the cluster members.

A configuration setting for the multiple-host filtering mode within a port rule specifies the percentage of load balanced network traffic that this host should handle; allowed values range from 0 (zero) to 100. The actual fraction of traffic handled by each host is computed as the local load weight divided by the sum of all load weights across the cluster.

Question: 73.

You are configuring a Web cluster that uses a third-party load balancing solution. The cluster controller hosts a Web site, TestSite, using an IP address of 10.0.0.1. You are adding another member to the cluster, which also hosts TestSite using an IP address of 10.0.0.2. Which of the following should you do in order to add this member to the cluster?

- A. Add 10.0.0.20 to the host file on the cluster controller.
- B. Add 10.0.0.2 to the hosts file on each cluster member.
- C. Add 10.0.0.1 to the TestSite on the new member.
- D. Add 10.0.0.2 to the TestSite on the cluster controller.

Answer: D

Explanation:

When using a third-party load balancing solution, you must bind all member specific Web site settings to the respective Web sites on the cluster controller. In a non-Network Load Balancing cluster, such as this, each cluster member will have a different IP address for each site it hosts. Application Center's synchronization process will overwrite all member-specific Web site settings, such as IP address. Therefore, it is necessary to bind the IP address of the individual member's Web site's address to the Web site on the controller.

Whatever settings you may configure on the new member will be overwritten by the cluster controller's settings, so this does not provide a solution.

A host file may be used to offer local name resolution, but this does not provide a mechanism for client name resolution, nor does it prevent the synchronization process from overwriting the Web site settings on the cluster members.

Question: 74.

You support an eight-member Web cluster that hosts 10 Web sites. One of the Web sites needs to maintain client Session State on the Web Server. How will you configure the cluster to support the maintenance of client Session State on the Web Server for the one Web site? (Select two answers.)

- A. Enable Session State in the ASP page.
- B. Enable Client Affinity.
- C. Enable Request Forwarding for all Web sites.
- D. Disable Session State in the ASP page.
- E. Enable Request Forwarding for sites using ASP pages only.

Answer: A & E

Explanation:

To provide a solution to this scenario, we need to enable Session State in the ASP pages of the Web site that needs to maintain the client state on the server. The Session Object is used in the code of the ASP file for the purpose of maintaining information about the user's current session. If Session State were maintained on the client, we would disable the ASP Session State for the Web pages and extract Session State from the client side cookies instead. When Session State is stored on the Web Server, it requires the use of either Request Forwarding or Client Affinity. Request Forwarding can be enabled on a cluster for Web sites using ASP Session State only, or for all Web sites. Client Affinity ensures that a client's initial request and subsequent requests are forwarded to the same server within the Web cluster. Client Affinity cannot distinguish between Web sites, but rather works with all client communications. Therefore, in this case, to enable Session State for only one of the Web sites, Request Forwarding is better suited.

Question: 75.

The Web cluster supports multiple Web sites. Some of the Web sites require the client to maintain user preferences for the duration of the session. Which of the following should you configure on the cluster?

- A. Enable Class C Affinity
- B. Disable Client Affinity
- C. Enable Single Affinity
- D. Enable Request Forwarding

Answer: D

Explanation:

Request Forwarding ensures that the client maintains Session State through the use of cookies. When the client first establishes a connection to the cluster, a cookie is generated and the session information is retained in the cookie on the client. Request Forwarding directs a client to the correct cluster member if the client has already established Session State on a member.

The Affinity settings, Class C and single affinity, use the IP address of a client to determine which cluster member subsequent requests should be forwarded to. This would work if user preferences were stored on the server, but in this case, you need to use cookies in order to maintain user preferences on the client. If Client Affinity is disabled, then all traffic is evenly distributed across the entire cluster, and traffic is not directed to a particular cluster member.

Question: 76.

You are supporting a Web cluster that uses a third-party load balancing solution. You have configured a management server with Application Center. One of the cluster members must be taken offline. How can you accomplish this from the management server?

- A. Run the ACEXT.EXE command line.
- B. Using the Application Center snap-in, select Set Offline.
- C. Run the CLUSTER command.
- D. Use the third party device software.

Answer: B

Explanation:

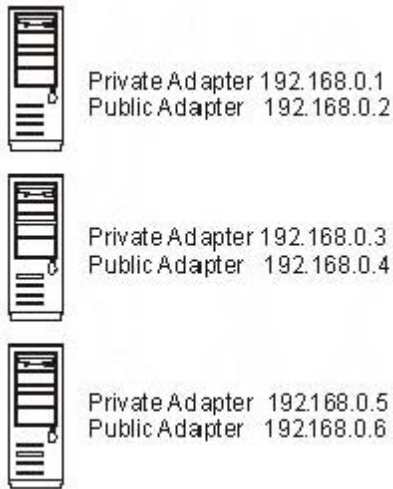
Application center supports working with a Web cluster that uses a third-party load-balancing device. Application Center provides a command-line tool and a service that is used to allow a certain amount of interaction between the Application Center interface and the third-party load-balancing device.

To take a server offline, you initiate the Set Offline command against the member using the Application Center snap-in. This in turn generates an event that executes the ACEXT.EXE command, which is executed on the device and the target member is set offline. The administrator does not have to run this command; it is handled by Application Center.

The CLUSTER command is a command line tool used to perform various tasks on an Application Center cluster. This is not used with third-party load balancers.

Question: 77.

Chris is configuring Network Load Balancing on a four-member Web cluster. He has one Class C address range to work with and configures each of the cluster members as illustrated in the graphic. Which of the following would you suggest Chris configure?



- A. Set the Interface metric for the Public adapter to "1".
- B. Set the Interface metric for the Public adapter to "2".
- C. Use DHCP for the Private Adapters.
- D. Use public IP addresses for the Public Adapters.

Answer: B

Explanation:

Network Load Balancing uses two network cards on each cluster member. The private or management adapter is used to communicate between the cluster members. The public or load balanced adapter is what interfaces to the switch and receives the incoming requests.

It is recommended that the adapters be configured on two separate subnets. If, however; there is one ClassC address range to work with, and the private and public network cards must be on the same subnet, then the Public network adapter requires that the Interface Metric is set to "2", and the private network adapter is set to "1". A server with two network cards uses the Interface Metric to make routing decisions. If the private adapter has a lower metric, then this would be perceived as the best route, or the one with the least cost associated with it. This ensures that the management traffic is not going out through the adapter that the incoming requests are being processed on. If the Private adapters are on a separate subnet they would, in most cases, use DHCP. This is not required, however. The public adapters of clustered servers do require the use of static IP addresses.

It would be considered a secure configuration to have the Web clusters using a public IP address. In most cases the Web clusters are positioned between a Network Address Translator device and a firewall. This is not a recommended change in configuration.

Question: 78.

You have a Web cluster that receives regular updates and a large volume of data that is replicated throughout the day. You want the cluster configuration to support the replication in the most efficient manner. Which of the following should you do?

- A. Increase the server weight on the cluster controller.
- B. Decrease the server weight on the cluster controller.
- C. Decrease the server weight on all other cluster members, except the cluster controller.
- D. Increase the drain time on the cluster controller.

Answer: B

Explanation:

The server weight parameter determines the amount of workload a particular cluster member processes relative to the amount

processed by the entire cluster. When there are regular updates and replication occurring throughout the day, it is best to set the server weight lower than the other cluster members. In this way, the cluster controller can focus its resources on the synchronization and update traffic and respond to fewer client requests.

If the server weight were decreased on all other cluster members except for the cluster controller, this would put more client requests on the cluster controller and less on the other members. This would not support the efficiency of the replication and update processes.

The drain time is used when setting a cluster member offline. The drain time specifies the amount of time the server will drain current client connections before going offline. This is designed to minimize disruptions to client connections. This setting does not dictate how much traffic each cluster members will process and is not used to determine how the synchronization process will occur.

Question: 79.

A Web cluster uses a third party load balancing solution. The Web cluster supports multiple Web sites, with some of them requiring secure connections. Which of the following should you include in your cluster configuration?

- A. No Client Affinity
- B. Request Forwarding for all Web sites
- C. Single Client Affinity
- D. Request Forwarding for ASP pages only

Answer: C

Explanation:

Secure Socket Layer protocol provides secure connections to Web sites. When it is used, communication undergoes a three-way handshake between the client and the server before transmission begins. To support this on a Web cluster, there must be a way to ensure that the client requests are being forwarded to the same server in the cluster. There are two methods of achieving this, Client Affinity and Request Forwarding. To perform the encryption services that are performed during an SSL connection, it is recommended that Client Affinity be used. Client Affinity is based on the client IP address rather than the client cookie to determine which server the request should be forwarded to. This mechanism ensures the session stability required to perform the encryption services. Single Client Affinity means that Network Load Balancing (NLB) will use the client IP address as the determinant.

Request Forwarding can be set for all Web sites or just those using ASP pages only. It can be used in conjunction with SSL, but when it is used with SSL, it only supports one SSL site per cluster using port 443 (which is the default port for SSL connections). Again, the recommended method is to use Client Affinity.

Question: 80.

You support a third-party load balancing solution. Three servers are configured on a load-balancing switch. You are interested in creating an Application Center cluster to manage these servers. Which of the following should you do?

- A. Remove the servers from the third-party load balancing software. Run the New Cluster Wizard.
- B. Run the New Cluster Wizard.
- C. Add secondary network adapters to the server, and run the New Cluster Wizard.
- D. Install Network Load Balancing on the servers and run the New Cluster Wizard.

Answer: B

Explanation:

Application Center supports working with a third-party load balancing solution. When doing so, you do not require Network Load Balancing nor do you require multiple network adapters. This type of solution can work with multiple network adapters, but they are not required. To configure a cluster using this existing hardware solution, you run the New Cluster Wizard from the Application Center server. You select, "Other load balancing" as the Load Balancing type used for the cluster you are creating and the wizard sees you

through the necessary steps. The servers do not have to be removed from the third-party software, nor do you have to configure extra adapters or services.

Question: 81.

The Web developer has updated several Web pages from one of the company's Employee Web sites. The updated pages are saved in the home directory along with the rest of the site's content on the staging cluster. You are in the process of deploying a new customer Web site, and would like to include the updated Employee Web site files in the application package. Identify the steps you should take to perform this task.

- A. Add the updated files from the Employee Web site home directory to the new customer application package using the File System Path option in the Add Resource dialog box.
- B. Add the Employee Web site to the new customer application package using the Web Site and Virtual Directory option in the Add Resource dialog box.
- C. Add the Employee Web site home directory to the new customer application package using the File System Path option in the Add Resource dialog box.
- D. Re-deploy the original application package to the cluster controller.

Answer: A

Question: 82.

One of the cluster members has been removed from the synchronization loop for troubleshooting purposes. Several COM + applications have been deployed while the member was out of the synchronization loop. What steps should be taken to ensure that the member is up to date with the application images?

- A. Disband the cluster.
- B. Add the member back to the synchronization loop.
- C. Take another cluster member out of the synchronization loop (other than the cluster controller) and replicate its content to the removed member.
- D. Use the New Deployment Wizard and deploy the content to the member.

Answer: D

Explanation:

When a cluster member that has been out of the synchronization loop is brought back into the loop, it is not automatically updated. To ensure the content and settings are correct, you should perform either member synchronization with the cluster controller or use the New Deployment Wizard to deploy the entire cluster image to the member.

Adding the member back to the synchronization loop will not synchronize the new COM+ applications. Further steps are necessary.

If you were deploying content that was coming from another member, it might be necessary to remove that server from the synchronization loop in order to replicate to the removed member. However, in this case it would be redundant to involve another server in this process. The content needs to come from the cluster controller to the removed member, which is accomplished by using the New Deployment Wizard.

Disbanding the cluster is completely unnecessary in this scenario. There is no need for the cluster to be disassembled in this case.

Question: 83.

A Web site is created on a cluster controller using the default location for IIS. Which of the following components will be synchronized across to the other members of the cluster by Application Center's automatic synchronization? (Select all that apply.)

- A. Registry settings

- B. Virtual directories
- C. COM and COM+ components
- D. www folder
- E. SMTP folder
- F. Data source Names
- G. IIS Metabase
- H. FTP folder

Answer: A, B, D, F & G

Explanation:

When the cluster controller is updated with new content, or has its content modified, the changes are automatically synchronized to the cluster members in the synchronization loop. Application Center will synchronize most of the components associated with a Web site. The www root folder and any of its content will be included. Folders outside of the www root folder must be associated with the Web site via a virtual directory, as the process will also synchronize Web sites and virtual directories. The SMTP and FTP folders are not included in the automatic synchronization process, unless they too are associated with the Web site with a virtual directory. Any registry settings that are modified due to the Web content will be included in synchronization. Data source Names used by the Web site to connect to a database are also synchronized. The IIS configuration settings (metabase) are automatically included in the synchronization. If the Web site uses COM or COM+ components, these items must be deployed across the cluster and are not included in the automatic synchronization. The deployment process copies the components and the associated registry settings to the target servers.

Question: 84.

You are preparing to deploy some newly developed COM + components out to the Web and middle tier of your Web application. You prepare the application package on the staging server, which includes the COM+ components, global Internet Server Application Programming Interface (ISAPI) filters, a virtual directory, and some updated HTML files. Which of the deployment methods will NOT support the type of application package you have prepared?

- A. Use an online deployment method. Deploy the application from the staging server to the Web and middle tier cluster controller respectively. Allow Application Center to automatically synchronize the new content to each of the cluster members.
- B. Use a Phased Deployment. Take part of the site offline and perform the upgrade, allowing the other half to service requests. Bring the first part of the site online and repeat the process for the other section.
- C. Use a serial deployment. Take one server offline, drain the existing connections, and deploy the new content. Bring the server back online and repeat the process on the next cluster member.
- D. Use an offline deployment. Take all servers offline before deploying the new content. Deploy the content from the staging server to the cluster controllers on both tiers. Allow Application Center to automatically synchronize the new content to each of the cluster members. When the deployment is complete, bring each of the servers online again.

Answer: A

Explanation:

When deploying COM + components and ISAPI filters to a cluster, the IIS service on each of the cluster members must be restarted before these components can be fully registered and available for use. Due to this, the online deployment is the only type of deployment that cannot be used to deploy these components. Each of the other deployment methods calls for the server(s) to be taken offline, content deployed, and if necessary services restarted, before bringing the server(s) back on line.

Question: 85.

You are updating COM+ components that are used in a Web application. This is a non-critical application and downtime is not a concern. You want the simplest method of deploying the updates to the COM+ components. Which of the following methods will you choose?

- A. Include the updates with the next scheduled maintenance.

- B. Implement a Phased Deployment.
- C. Implement a staging server. Make the changes on the staging server, and using the New Deployment Wizard, deploy to the Web application.
- D. Mirror the CLB cluster and update the mirrored copy. Switch the traffic from the CLB production cluster to the Mirrored cluster.

Answer: A

Explanation:

If the application is non-critical, then the simplest method of updating is by taking the cluster down, applying the updates, and bringing them back online. This is usually performed along with a scheduled maintenance.

Mirroring the cluster for the purpose of updating COM+ components would prove to be a very expensive method and more time consuming. This method works well if the operational requirements are 7-day/24-hour.

A phased deployment is viable if you are updating changes across the entire application, for example, including ASP, HTML changes as well as COM+ component changes. The phased deployment is a very complex and vulnerable method of deployment and should be used in those instances where availability, performance, version control are issues.

The use of a staging server is generally the best solution. A staging server provides greater management of the production process. It gives the developers a testing area before content is rolled out to the production clusters. If you are looking for the simplest solution for non-critical applications, simply taking the servers offline, updating, and bringing them back online provides the best answer.

Question: 86.

A team of staff members is responsible for updating content on the intranet Web site. Web pages are developed using the Front Page authoring tool and are published directly to the production cluster. The developers are concerned about users connecting to the old content that may exist on some of the cluster members. Which of the following should they configure to ensure that the published content is properly synchronized and available across the cluster?

- A. Configure average-load balancing on each member server's properties.
- B. Enable request forwarding in the cluster's property dialog box.
- C. Remove the cluster members from the synchronization loop.
- D. Exclude the Web directory from the synchronization properties.

Answer: B

Explanation:

With a Web site running on a Network Load Balancing (NLB) cluster, it is possible that published Web content could be written to any member of the cluster, as all client requests are subject to load balancing. If this were to happen, during the synchronization process, the cluster controller would overwrite the Web content with that of its own. To prevent this from happening, request forwarding is enabled on the cluster's properties. When Request Forwarding is enabled, the option to Forward Microsoft FrontPage publishing requests is selected, and this ensures that all published Web content is forwarded to the controller. Once on the controller, the content will be synchronized across the cluster members.

Excluding the Web directory from the synchronization properties would prevent the Web directory from being synchronized across the cluster members. This would create a complicated system of coordinating which server had newly published content and which didn't, and would not ensure that users were connecting to current or old content. Publishing to the controller and synchronizing across the cluster gives tighter control over the content.

Servers are removed from the synchronization loop when you do not want them to receive updates from the cluster controller. This does not provide a solution.

Load balancing can be set on the individual cluster members. This property specifies how much of the client request load, relative to the other cluster members, this particular server will take. This does not contribute to the synchronization across the cluster.

Question: 87.

Tim is creating a two-member COM+ Application Cluster. He is working from a staging server that is running Application Center 2000. What must Tim confirm on the machines that will be part of the new COM+ Application Cluster before he begins the configuration?

- A. Network Load Balancing is not bound to the network adapter(s).
- B. The servers have two network cards.
- C. The servers have Network Load Balancing Configured.
- D. The servers have Microsoft Cluster Service (MSCS) configured.

Answer: A

Explanation:

COM+ Application Clusters do not use Network Load Balancing (NLB), and it must be removed, or unbound, from the network adapter of the machines that will be part of the cluster. If the New Cluster Wizard detects NLB, then it will disable the COM+ Application Cluster selection. It may be necessary, on previously NLB bound servers, to run the `ac cluster /clean` command which will remove any lingering configuration parameters. Only one network card is required for COM+ Application Clusters, unlike NLB, which requires two network cards.

Creation of an Application Center cluster on machine running Microsoft Cluster Service (MSCS) is unsupported. MSCS is the earlier version of clustering technologies. This cannot be present when you create an Application Center cluster.

Question: 88.

You are creating a New COM+ application using the Install Wizard. Users of the Web site log on anonymously and you want the application components to run the same. Which of the following should you configure in the application to support this authentication?

- A. Set the activation type to Server application.
- B. Select the Interactive user option.
- C. Set the user account to IUSR_machinename.
- D. Set the activation type to Library application.

Answer: B

Explanation:

If the site supports anonymous access, then an account is actually used to log on. It is usually the IUSR_machine, or IWAM_machine account. If you want the component to run under the same identity as the current user, you select the Interactive user option. The Interactive user selection is the user who is currently logged on to the server. So as long as anonymous access is in place, there is an actual account that is logged on. This is the recommended configuration.

The activation type is used to control which process the component will run within. A server application runs in its own process, which is managed by IIS. A library application runs in the process of the client that creates it. Neither of these settings has to do with user identify, but instead they control how the process is handled.

Question: 89.

A single-tiered Web site is expanding to include a staging server and a back end cluster, which will relieve the Web tier of some of the processing load. The COM+ components are to be separated and installed on the back-end tier. Presently, all of the COM components are installed on each of the Web cluster members. Identify the steps that should be taken to prepare for deployment of the COM components to the back-end cluster.

- A. Install the COM+ components on the staging server. Create a COM+ application. Create a New Application Package and install the COM+ application into the New Application Package.
- B. Create an Application Center application on the staging server. Copy the components from a Web server to the staging server. Create an application package.
- C. Install the COM+ components on the staging server. Create a New Application Package and install the COM+ components into the New Application Package.
- D. Create a New Application Package on one of the Web servers. Add the COM+ application to the New Application Package. Deploy the package to the staging server.

Answer: A

Explanation:

You can only add COM+ applications that are properly registered with Component Services on the local server to an application deployment package. The COM+ components, in this case, need to be installed on the staging server first, and then added to a COM+ application on the staging server. (You build the application on the staging server first, and then you can package it for deployment.) Once the COM+ application is listed in the Application Center, it can now be added to a New Application package, which is the final step in preparing to deploy the components to the back-end cluster.

The point of having the staging server is to do the testing and deployment from that point, not from the Web server. The deployment application package needs to be created on the staging server so that it can be deployed to the back-end cluster.

Question: 90.

A company has just signed up with a new Certificate Authority and must modify the Certificate Trust List (CTL) for the Web site. Which of the following outlines the steps that should be taken?

- A. Take each cluster member offline and update the CLT manually on each cluster member.
- B. Update the Certificate Trust List (CTL) on the cluster controller. Enable Automatic synchronization on the cluster controller.
- C. Deploy the changes to the cluster controller. Use the New Deployment Wizard to synchronize the changes from the cluster controller to the other cluster members.
- D. Decrease the synchronization interval on the cluster properties.

Answer: C

Explanation:

The automatic synchronization process does not update changes that are made to server Certificates or Certificate Trust Lists. These changes must be manually deployed out to the cluster members using the New Deployment Wizard.

It is not necessary to take each server offline to update the Certificate Trust List. The New Deployment Wizard will synchronize the update across the cluster.

Updating the Trust List on the staging server does not automatically synchronize the information out to the cluster. It needs to be deployed to the cluster controller.

There are two types of automatic synchronization in Application Center: Change-based and Interval-based synchronization. Interval based occurs by default every 60 minutes, and it ensures all Application Center applications within the cluster are in synch. Change-based occurs more rapidly. Notifications are sent out if content on the controller changes, and the synchronization then occurs. These are two types of automatic synchronization that do not support synchronization of updated server certificates and Certificate Trust Lists.

Question: 91.

You want to move the cluster controller of a four-node Application Center General/Web cluster to another three-node cluster due to its hardware capabilities. Which of the following steps must you first take to remove the cluster controller from the Web cluster?

- A. Promote another member.
- B. Disband the cluster.
- C. Disable automatic synchronization.
- D. Take the controller offline.

Answer: A

Explanation:

In order to remove a controller from an Application Center cluster, another member of the cluster must first be promoted to the position of controller. Once this is performed, the controller can then be removed, as any member of a cluster can be. Cluster members can be set offline and online to provide time for maintenance or changes in traffic requirements. Setting a server offline is a temporary step and is not the same as removing the server from a cluster. This step is not necessary when removing a cluster controller.

You cannot disable synchronization on a cluster controller. The cluster controller is the source for all synchronization and it cannot be disabled. This is not a step that is required when removing a cluster controller.

Disbanding the cluster requires removing all members from the cluster, with the controller being the last member to be removed. This would involve the removal of all servers, rather than just the cluster controller.

Question: 92.

A Web application consists of a four-member Web cluster, a two-member COM + application cluster, and a backend two-member SQL database cluster. You need to design the application so that it ensures secure connections between the Web cluster and the COM components and provides even distribution of requests to the components. How will you configure this? (Select two. Each answer provides a complete solution.)

- A. Use a third party load balancing solution on the Web cluster. Create a COM+ Application Cluster and use NLB to distribute requests to the COM+ cluster. Configure a firewall between the COM+ cluster and the SQL database.
- B. Use a third party load balancing solution on the Web cluster. Enable load balancing between the Web servers. Configure a firewall between the Web cluster and the COM+ Application cluster.
- C. Create a Web Cluster using Network Load Balancing. Create a Network Load Balancing cluster for the middle tier. Install the COM components on the middle tier. Configure a firewall between the middle tier cluster and the SQL database.
- D. Use a third party load balancing solution on the Web cluster. Create a COM+ Application Cluster and use CLB to distribute requests to the COM+ Application cluster. Configure a firewall between the Web cluster and the COM+ Application cluster.
- E. Create a Web Cluster using Network Load Balancing. Configure CLB to distribute the requests to the COM+ Application cluster. Configure a firewall between the Web cluster and the COM+ cluster.

Answer: D & E

Explanation:

The solutions for this scenario must provide even distribution of the client requests for COM components, and must provide a secure connection for these requests. This can be accomplished with two of the suggested designs. The first design uses a third party load balancing solution on the Web cluster. This will provide load balancing for the incoming client requests. Component Load Balancing (CLB) is used to distribute the component requests to the COM+ application cluster, and a firewall is positioned between the Web servers and the COM+ application cluster to protect the components from untrustworthy clients.

A second possible solution follows the same recipe, but it uses Network Load Balancing (NLB) Web cluster instead of the third party load balancing solution. Again Component Load Balancing (CLB) is used to enhance Web security by placing the components on a middle cluster. CLB is used distribute the component requests, which pass through a firewall-protected COM+ application cluster.

The firewall is placed between the Web servers and the COM+ cluster to provide security for the components. If the security were placed between the COM+ cluster and the SQL database, it would only be providing security for the database.

When a COM+ application cluster is implemented, Component Load Balancing is used rather than Network Load Balancing.

Question: 93.

You have created an application on the staging server and are ready to deploy it to the production cluster. To provide an additional layer of security with the exposure the application will have to the Internet, you disable FTP, SMTP, and RPC ports on the Web servers. After a while you notice that synchronization is not occurring. Which of the following steps must you take to correct this?

- A. Enable RPC on each cluster member.
- B. Enable FTP on the cluster controller.
- C. Enable FTP on each cluster member.
- D. Enable SMTP on the cluster controller.

Answer: A

Explanation:

The synchronization process uses remote Procedure Call (RPC), DCOM, and HTTP to perform the inter-cluster synchronization. Therefore, RPC must be enabled on each cluster member in order for synchronization to occur.

FTP and SMTP are not used by the synchronization process and therefore do not offer a solution.

Question: 94.

You want to create a Web cluster with three servers. SRV1 will be the cluster controller; SRV2 and SRV3 will be cluster members. Each of the servers presently has different applications configured. Which of the following should you consider in the cluster creation process?

- A. Create the cluster on SRV1 and add SRV2 and SRV3 to the cluster. Create an application on SRV2 and SRV3 and deploy the content to SRV1.
- B. Add SRV2 and SRV3 to the cluster and disable synchronization on both cluster members.
- C. Ensure SRV2 and SRV3 have all of the same applications configured as SRV1 before creating the cluster.
- D. Ensure all content and configuration is on SRV1 before adding SRV2 and SRV3 to the cluster.

Answer: D

Explanation:

All of the servers are synchronized with the cluster controller in a Web cluster. When the members are added to the cluster, the content on the controller is replicated to the members. To eliminate problems with synchronization, all content and configuration that you want to be replicated to the cluster members needs to be configured on the cluster controller before the other members are added to the cluster.

It is not necessary to copy SRV1's content to SRV2 and SRV3 prior to forming the cluster, because they will receive a copy of it when they are added to the cluster. It is important, however, that SRV1 is configured with all of SRV2's and SRV3's applications that are to be supported by the newly formed cluster.

The deployment process can be used within a cluster, but this does not provide a solution in this situation because as soon as the cluster is formed, SRV2 and SRV3 will be overwritten with SRV1's content.

Question: 95.

You are deploying a COM+ application from a staging server to a Web cluster named PRODUCTION and a COM+ application cluster named APPLICATION. You prepare the application package and deploy and synchronize the components across the

servers in both the PRODUCTION and APPLICATION cluster. Which of the following steps will you complete next?

- A. Configure the Network Load Balancing settings on the APPLICATION cluster.
- B. Enable dynamic load balancing support for each new COM+ component on the COM+ Application cluster.
- C. Enable dynamic load balancing support for each new COM+ component on the Web cluster.
- D. Remove the APPLICATION cluster members from the synchronization loop.

Answer: C

Explanation:

When using a two-tier cluster that consists of COM+ components, the Web cluster handles the routing information to the COM+ application cluster for component requests. Because of this, the components are configured for load balancing on the Web cluster. In this example, the new application is deployed to both the PRODUCTION and APPLICATION cluster, and the PRODUCTION cluster enables the dynamic load support for each of the COM components. The dynamic load support works in conjunction with the routing list that the Web cluster maintains to allow the component requests to be dynamically routed to the COM+ Application cluster.

Dynamic load balancing support is not enabled on the COM+ Application cluster because this cluster does not manage the routing details. This cluster is where the components are initiated and processed to lessen the load on the Web cluster.

The APPLICATION cluster is a COM+ Application cluster and therefore does not use Network Load Balancing.

It is not necessary to remove the cluster members from the synchronization loop on the APPLICATION cluster in order to deploy an application. Doing so would prevent the cluster members from receiving any updates from the cluster controller.

Question: 96.

A multi-tiered Web environment consists of a Staging Cluster, Web Cluster, 2 COM+ Application Clusters and a COM+ Routing Cluster. You are configuring the COM+ components that will reside in the middle tiers to alleviate the processing burden on the Web cluster. You divide the components between the two COM+ Application Clusters (ClusterA and ClusterB). On which cluster will you enable the dynamic load balancing support for each of the COM+ components?

- A. COM+ Routing Cluster
- B. COM+ Application ClusterB
- C. COM+ Application ClusterA
- D. Staging Cluster

Answer: A

Explanation:

The COM+ Routing Cluster uses Component Load Balancing to route the COM+ component requests from the Web cluster to the correct COM+ Application cluster. The COM+ Routing cluster has the components installed and dynamic load balancing support enabled for them. This allows the requests to reach the COM+ Routing cluster and be forwarded to the correct COM+ Application cluster through the dynamic support and the use of the Routing list. The Routing list identifies the COM+ Application servers and components and decides which server to forward the request to, based on response times.

The COM+ Application cluster disables dynamic load balancing support for the installed COM+ components. When incoming requests for the components are received, the components are processed or executed, and not load balanced to other servers. Therefore, ClusterA or ClusterB are incorrect answers.

The Staging Cluster is not involved in providing load-balancing support. The Staging Cluster is used for deployment purposes and does not process incoming requests for the components or any of the Web cluster traffic.

Question: 97.

Chris is preparing to deploy an application to a two-tiered Web site, consisting of a Web cluster and a COM+ Application cluster. The application consists of Classic COM and COM+ components. Chris defines the following plans.

- 1 Create a COM+ Application and install the COM+ components into the application.
- 2 Install the Classic COM components into the COM+ Application.
- 3 Add the COM+ Application to an Application Package.
- 4 Deploy the application to the Web and COM+ Application cluster.
- 5 Enable dynamic load balancing on both clusters for the components.
- 6 Configure the routing list on the Web cluster.

Which of the following would you modify in Chris' plan?

- A. Add only the COM+ components to the Application package. Create a separate application for the Classic COM components.
- B. Enable dynamic load balancing support on the Web cluster only.
- C. Deploy the application to the COM+ Application cluster only.
- D. Configure the routing list on the COM+ Application cluster.

Answer: B

Explanation:

To deploy COM components to a cluster, the first step is to place the components into a COM+ Application. Classic COM components must be added to an application in order to be synchronized by Application Center. For deployment purposes, both the COM+ components and Classic COM components are added to one COM+ Application, which is then added to an Application package for deployment. Deploying COM+ Applications causes a restart of the target server. Adding them to the same application and package limits the number of restarts on the target server(s).

Once the application package is prepared, it is deployed to both the Web and COM+ Application clusters. In a two-tiered environment, the components are installed on both the Web and the COM+ Application cluster to support the Component Load Balancing requirements. The Web cluster first receives the incoming requests for the components. The Web cluster then uses the routing list to determine the best COM+ Application server to forward the component request to for activation. The Web cluster has dynamic load balancing support for the components enabled, which allows for this, and it also has the routing list to reference. Dynamic load balancing support is disabled on the COM+ Application cluster, because the components are activated at that tier and not forwarded to another tier.

Question: 98.

You are adding a server to a Web cluster. The cluster controller and members have two network cards. The load balanced adapter is assigned a static IP address and the private network adapter uses DHCP. The cluster members use Single Client Affinity to manage client sessions. The new server has a static IP address on both adapters and the NLB settings specify no Client Affinity. Which of the following will happen when the server is added to the cluster?

- A. The Added member will retain the No Client Affinity setting and be assigned an IP address.
- B. Application Center will configure Single Client Affinity on the added member and automatically assign a new static IP address.
- C. Application Center will configure Single Client Affinity on the added member, and the member will retain its static IP address.
- D. The Added member will retain the No Client Affinity setting and its static IP address.

Answer: C

Explanation:

When members are added to a cluster, Application Center configures the Network Load Balancing settings of added members to match that of the controller. In this case, if the controller uses Single Client Affinity, the added member will be configured to use it as well. Application Center will retain any static IP addresses assigned to the new member. If the server had multiple IP addresses on the load balanced adapter, those addresses would be overwritten by IP addresses on the controller.

Question: 99.

You have installed Application Center without Application Center Events and Performance Logging on a management server. You suspect one of the cluster members is experiencing low disk space, and you want to verify if any warnings have been logged. How will you view this logged information?

- A. Select the Events view on the cluster member node.
- B. Select the Events view on the cluster node.
- C. Write a SQL query to extract the information from the AC database.
- D. Use Windows 2000 Event Viewer on the cluster member.

Answer: D

Explanation:

If Application Center has been installed without the Events and Performance Logging, then alternative tools must be used to view the events that occur. Application Center logs error events to the Windows 2000 Event Log all of the time, and will also log Warning events to the Windows 2000 Event Log if Application Center Events and Performance Logging is not installed. Using the Windows 2000 Event Viewer on the cluster member is the correct answer in this case.

Without the Events and Performance Logging installed, there is no database of logged information that a query could extract information from, making this an incorrect choice.

The Event view for the cluster or cluster members in the Application Center snap-in is not available without these features installed, making these incorrect answers.

Question: 100.

A Web site consists of multiple clusters on the Web tier, each using a common switch for external access. Switch flooding is becoming a problem, as a significant percentage of network traffic is directed to one of the clusters. Which of the following steps should be taken to reduce switch flooding? (Select all that apply.)

- A. Configure NLB for multicast mode.
- B. Configure NLB for unicast mode.
- C. Configure a virtual LAN for the cluster host addresses.
- D. Assign a secondary virtual IP address to the cluster.
- E. Assign a secondary IP address to the public adapter of each cluster member.

Answer: A & C

Explanation:

Switch flooding is a behavior induced by Network Load Balancing to simultaneously deliver all incoming client packets to all switch ports. This capability to deliver very high throughput can cause high switch occupancy. When multiple clusters share a switch and the combined traffic becomes significant, it is recommended to set up a virtual LAN and to run the Network Load Balancing in multicast mode.

By default, Application Center is configured in unicast mode. This means that Network Load Balancing (NLB) overwrites the MAC address of the cluster member's network adapter with its own virtual media access control (MAC) address. To distribute incoming Network traffic, NLB reassigns the station MAC address for which it is enabled and the cluster member's MAC address to the same MAC address so that incoming requests are received by all cluster hosts and passed to NLB for filtering. If connected to a switch, outgoing packets are modified by NLB using the host's priority within the cluster. The end result of this is that the switch never learns the individual host MAC addresses, and as a result, incoming packets are delivered to all switch ports. Switching to multicast mode adds a virtual MAC address to the host's adapter. Multicast mode will also flood all ports in the attempt to deliver multicast traffic. However, now that there are distinct MAC addresses, virtual LANs can be configured to segregate the cluster's traffic. A virtual LAN is configured within the switch for the ports corresponding to the cluster hosts, providing separation of the traffic. Configuring the

clusters to use multicast mode and incorporating VLANs is the recommended solution for alleviating potential switch flooding that can occur in the case of multiple clusters connected to a common switch.

Assigning a secondary virtual IP address for the clusters is not going to address the traffic problem at the switch level. You would use this process if the cluster were hosting a Web site with a unique IP address. Assigning a secondary IP addresses for the cluster member network adapters simply gives another address by which the individual server can be addressed. The switch is operating at a MAC address level, and modifying the IP addressing does not provide a solution for traffic alleviation.

Question: 101.

You support a hardware-based load-balancing cluster. Each server is configured with two network adapters. The cluster hosts 10 Web sites. Which of the following statements describes the necessary configuration for this cluster?

- A. The IP address of each cluster member's front-end adapter should be added to the IIS settings on the cluster controller.
- B. The IP address of the front-end adapter on the cluster controller should be added to each of the cluster member's IIS settings.
- C. The IP address of each cluster member's back-end adapter should be added to the IIS settings on the cluster controller.
- D. The IP address of the front and back end adapters of each cluster member should be added to the IIS settings on the cluster controller.

Answer: A

Explanation:

On clusters using a hardware-based load balancing solution, the IP addresses of the front-end adapters are used to connect to the Web sites that each member hosts. In order for the cluster to work with Application Center's synchronization process, it is necessary to add the IP address of each cluster member's front-end adapter to the IIS settings on the cluster controller. In this way, when synchronization occurs and the cluster controller replicates its settings, the members' IP addressing for the Web sites will not be lost.

No matter what is specified on the IIS settings of the individual cluster members, it will be overwritten by whatever is configured on the cluster controller. This highlights the need to configure the IIS settings on the cluster controller with all of the necessary IP addresses used by each of the cluster members.

The back-end adapter is referred to as the private, or heartbeat, network, which Application Center uses for cluster management traffic. The IP addresses of these adapters are not included in the IIS settings for the Web sites, and therefore are not replicated to the cluster members.

Question: 102.

You have Web servers that will host two Web applications for your organization. You want to ensure that the two Web applications are available in the case of a switch failure. How will you configure the Web applications and cluster(s) to provide this level of availability?

- A. Create two clusters. Deploy one Web application to two members of one cluster and deploy the other Web application to the other two members of the cluster. Use the same configuration on the second cluster. Connect each cluster to a separate switch.
- B. Create one eight-member cluster and deploy both Web applications to the cluster.
- C. Create two clusters and deploy one Web application to one cluster and the second Web application to the second cluster. Connect each cluster to a separate switch.
- D. Create two four-member clusters and connect them to the same switch. Deploy both Web applications to each of the clusters. Configure RRDNS between the clusters.

Answer: A

Explanation:

To provide a backup for both applications, the applications have to exist in two places. Generally one Web cluster with eight servers would provide this backup. If one server fails, the other members of the cluster take over. However, in this case, you have to

consider protecting against switch failure. To do this, you create two clusters, with each cluster hosting the two Web applications. You connect each cluster to a different switch. Then if one switch should fail, the other switch can provide access to both of the applications.

If two four-member clusters were created and connected to the same switch, there is no protection in the event of switch failure.

Round Robin DNS (RRDNS) is used when there are multiple clusters hosting the same Web site. Each cluster's IP address for the Web site is entered into the DNS database, and the DNS service attempts connections to the Web site using a round robin fashion. This offers a load-balancing solution between the clusters.

Question: 103.

You maintain a three-member Web cluster. After monitoring the cluster, it appears that SRVA is obtaining more of the Web page requests than SRVB and SRVC. The port rules for each cluster member are set as follows: (See graphic.)

Which of the following should you do to evenly distribute incoming client requests?

	Start	End	Protocol	Mode	Priority	Load	Affinity
SRVA	80	80	Both	Multiple	8	Equal	Single
SRVB	80	80	Both	Multiple	12	Equal	N/A
SRVC	80	80	Both	Multiple	10	Equal	N/A

- A. Decrease the Host priority on SRVB.
- B. Increase the Host priority on SRVA.
- C. Decrease the Load Weight on SRVA.
- D. Set Client Affinity to None on SRVA.

Answer: D

Explanation:

Single Client Affinity is used to forward incoming requests from one IP address to the same server in the cluster. Setting this to None on SRVA will allow for even distribution of client requests across the cluster.

Host priorities are unique numbers assigned to cluster members ranging from 1 to 32. The lower the number, the higher the priority. Host priorities handle the default traffic for server applications not configured for load balancing. This ensures that these applications receive client traffic on a single host. This number should not be a factor for Web page requests, because the Web servers fully support load balancing. However, it could make a server process more of the traffic if a server application was being accessed that did not support load-balancing.

Question: 104.

You want to maintain user Session State while visitors of your site utilize the Web application. Clients that visit your site are typically coming from behind an array of proxy servers and using a variety of browsers. Which of the following should you use to allow the Web application to maintain Session State in this environment?

- A. No Affinity
- B. Single Affinity
- C. ClassC Affinity
- D. Request Forwarding

Answer: C

Explanation:

Client Affinity uses the IP address of incoming requests to determine which server to direct the request to. Client Affinity ensures that all subsequent client requests are forwarded to the same server within the Web cluster. ClassC Affinity uses all requests from clients within a ClassC address range to determine which server the requests are forwarded to. In other words, all incoming requests coming from the same ClassC address range would be forwarded to the same server within the cluster during the session, making this the correct answer.

Single Affinity uses a client's IP address and does not pay heed to the address range that it belongs to. No affinity does not support maintaining Session State because it directs incoming requests evenly among all servers in the cluster.

Request Forwarding is also used to maintain Session State. It does this through the use of cookies. Cookies store the user's identity and are used to connect the user already engaged in a session to the same server. The only problem with Request Forwarding is that it requires the use of cookies, which in this example in which the version of browsers is unknown, may not be supported. Cookie support can be disabled from a browser, which is usually why a combination of Request Forwarding and Affinity is used.

Question: 105.

You are preparing to deploy a COM+ application from the staging server to the cluster controller on the production cluster. You prepare the application package, which includes the COM+ components, a virtual Web site, and System DSN and select the controller as the target server. Which of the following will happen when the deployment is complete?

- A. The new application is fully installed on the cluster controller. The deployment process is repeated for each member of the cluster.
- B. The new application is fully installed on the cluster controller. Using the New Deployment Wizard, it now must be deployed to other cluster members.
- C. The new application is on the cluster controller and is automatically synchronized across all machines in the cluster.
- D. The virtual Web site and System DSN are synchronized across all machines in the cluster. The COM + components must be deployed using the New Deployment Wizard to other cluster members.

Answer: D**Explanation:**

Application Center's synchronization process does not automatically replicate COM + applications as it does other content types. COM+ components must be manually synchronized. When the new application is deployed to the cluster controller, the virtual Web site and System DSN are synchronized across all machines in the cluster automatically. The COM+ components must be deployed using the New Deployment Wizard to the other cluster members.

Due to the synchronization process on the cluster controller, the deployment process does not take place from the stager to each individual member of the cluster.

Question: 106.

You are deploying a Web site for the HR staff members only on a production cluster. You connect to IIS on the cluster controller, create the HR Web site, and assign the HR personnel appropriate NTFS permissions on the Web site's home directory: c:\dept\hrsite. What additional steps should you take to make this Web site available across the cluster?

- A. Using the New Deployment Wizard, create an application package, and select the "Deploy Folder and File permission" option, and deploy the Web site to the other cluster members.
- B. Move the c:\dept\hrsite into the wwwroot folder. Using the New Deployment Wizard, create an application package, and deploy the Web site to the members of the cluster.
- C. Using IIS on the cluster controller, specify the permissions on the Web site's property sheet. Automatically synchronize the content to the cluster members.
- D. Using the New Deployment Wizard, create an application package and deploy the Web site to the members of the cluster. Specify the appropriate NTFS permissions for the home directory on each cluster machine.

Answer: A

Explanation:

The New Deployment Wizard allows you to package a Web site and its content for deployment out to other servers. It also gives an administrator more advanced control over the synchronization and deployment process by providing options such as 'Deploy folder and file permissions'. This option will apply the same NTFS file and folder permissions on the target machine as on the source machine. To ensure that only the HR staff members access this Web site, NTFS permissions are specified on the Web site's folders. If the HR Web site is deployed using the New Deployment Wizard, all of the files and folders and their associated permissions will be synchronized to the other cluster members, ensuring the same level of authentication is occurring on all members of the cluster. This prevents an administrator from having to individually specify the NTFS permissions on each of the cluster members.

It is not necessary to contain all Web site home directories within the wwwRoot folder for the deployment to take place. The New Deployment Wizard will synchronize a Web site's home directory as long as it is a local path, and any virtual directories associated with it. The ability to deploy folder and file permissions is not lost because the location is outside of the wwwroot folder.

Using the New Deployment Wizard provides the option to include the folder and file permissions in the synchronization process. The property sheet of the Web site in IIS allows you to specify the level of access you desire on the home directory, including read, run scripts, execute, write, or browse. There is no mechanism within this property sheet that allows you to specify the users granted permission. NTFS permissions are required to set specific user permissions.

Question: 107.

A web application that uses Classic COM and COM+ components is to be deployed from a staging server to a COM+ application cluster. Identify the steps that are required to complete this task. (Select all that apply.)

- A. Using the New Deployment Wizard, deploy the application package to the cluster controller from the staging server.
- B. Add the Classic COM and COM + components to the application package.
- C. Force synchronization from the cluster controller to the cluster members.
- D. Create an application package using the Application Center administration tool on the staging server.
- E. Copy the Classic COM components to the cluster controller's hard disk. On the controller run the regsvr32.exe.
- F. Using the New Deployment Wizard, deploy the application package from the controller to the other cluster members.
- G. Remove the other members from the cluster. Add the Classic COM and COM+ components to the cluster controller. Add the members back in to the cluster.

Answer: A, B, D & F

Explanation:

Application Center 2000 does not support the synchronization of Classic COM components. These components must be placed in an application package to be deployed to a cluster. The steps taken in this example are as follows:

- 1) Create an application Center application package that will include the Classic COM and COM+ components desired in the deployment.
- 2) Add the Classic COM and COM+ components to the package.
- 3) Using the New Deployment Wizard, deploy the application package to the cluster controller from the staging server. The application is prepared on the staging server, and deployed to the cluster controller.
- 4) Once on the cluster controller, because this application contains COM and COM+ components, it must be deployed again using the New Deployment Wizard to the other members of the cluster. Because the synchronization process in Application Center does not automatically synchronize the COM components across the cluster, it must be performed manually.

COM and COM+ components have to be installed on each machine to be used. Application Center takes care of this when you package the components into an application and use the New Deployment Wizard. If the Classic COM components were copied to the cluster controller's hard disk, and registered with the regsvr32.exe, they would not be synchronized automatically across the cluster, as this is not supported. This also does not address the need for the components to be installed on the other cluster members, making this an unviable solution.

Forcing a synchronization between the cluster controller and the cluster members will serve no purpose in this process, as the COM components must be synchronized using the application deployment method.

Question: 108.

An application package has been deployed to a cluster named Production. After testing the application, you want to delete the application from the cluster. Which of the following steps do you take?

- A. Take the each member out of the synchronization loop and remove the application folder from the respective machines. Delete the application from the cluster controller, and add the members back into the synchronization loop.
- B. Delete the application on the cluster controller. Use the `ac cluster /clean` command on each cluster member.
- C. Delete the application on the cluster controller and allow the automatic synchronization to remove the applications on the cluster members.
- D. Take the cluster controller offline. Delete the application from the controller. Bring the cluster controller back online.

Answer: C

Explanation:

To remove an application that has been deployed to a cluster, the application is deleted on the cluster controller. When this has happened, the application will also be deleted from all cluster members within the synchronization loop. This is all that needs to be completed to delete an application from a cluster.

It is not necessary to remove members from the synchronization loop, nor is it necessary to take the controller or any member offline in order to accomplish the deletion.

The `ac cluster /clean` command is used to delete a cluster and remove all remaining stored cluster information. This command is used for cluster management and not for deleting an application from a cluster.

Question: 109.

You are planning a deployment of applications to both the Web and the COM+ cluster. Each cluster consists of four machines. To guard against possible problems or errors with the new content, there must be a means to roll back the new content and return to the last known good version. The solution must also maximize the server capacity on the respective tiers. Which method should you select for your deployment plan?

- A. Take one server offline and deploy the content to that server. Bring it back online, and repeat the process for each cluster member, making sure the cluster controller is the last machine to be taken offline and updated.
- B. Keep the servers online and deploy content to the cluster members while they are servicing client requests. Deploy from the staging server to the cluster controller first, and allow the automatic synchronization to replicate content from the cluster controllers to the cluster members.
- C. Take all of the servers offline. Once they are offline, deploy the content to the cluster controller and allow automatic synchronization to the cluster members.
- D. Perform a phased deployment by dividing the clusters into segments. Take half of the cluster members offline and perform the upgrade. Bring the first half back online and repeat the process for the second segment. Ensure the cluster controllers are included in the second segment.

Answer: A

Explanation:

All of the above methods provide deployment choices. However, the criteria that must be met include minimizing the server capacity and providing a roll back mechanism in case of problems or errors with the new content. Two of the methods allow for rollback: the phased deployment and the serial deployment (one server updated at a time). With both of these methods, the cluster controller is not updated until the end, which is the factor allowing the point of return to the previous version of application. The other two methods, offline and online, update the cluster controller first and have the content synchronized to the other members of the cluster. Neither of these methods supports the rollback process.

Server capacity is measured by how many servers are available to process requests while the update is taking place. The serial method provides the best server capacity, as only one server at a time is taken out of the client request loop. Although application

versions may vary, that was not a criterion in this example. Phased deployment will provide 50% of the server capacity. The clusters are divided into segments, with one segment servicing client requests at a time. The offline deployment method provides 0% server capacity, as all machines are unavailable during the upgrade. The online deployment provides 100% server capacity, but does not provide the rollback capability.

Therefore, the method that meets both of the requirements in this example is to take one server offline at a time, perform the update and bring the server back online, repeating this process for each member and saving the cluster controller for the last.

Question: 110.

A company hosts multiple Web sites for a variety of purposes on a six-member Web cluster. You are deploying a new Web site that uses Certificate Services and SSL to protect sensitive information. After deploying it to the cluster controller of the Web farm, you must now configure the deployment of the server certificates. Identify the steps you should take to enable SSL for this Web site.

- A. Install the server certificates on the Web site on the cluster controller. Automatic synchronization will replicate the certificates across the cluster members. Enable Request Forwarding.
- B. Use the New Deployment Wizard to deploy the Web site from the cluster controller to other members of the cluster. Enable Request Forwarding on the cluster.
- C. Install the certificates on one of the cluster members. Remove that server from the synchronization loop. Direct users of the Web site to the certificate server's IP address.
- D. Manually copy the certificates on each of the cluster members. Enable Request Forwarding on the cluster.

Answer: A

Explanation:

To integrate certificates and SSL for a Web site, the server certificates are installed on the Web server. Install the certificates in the appropriate Web site on the cluster controller, and the automatic synchronization process will synchronize the certificates across the cluster members. Request Forwarding will force visitors to access the same server each time for the duration of their session. It is worth noting that the Request Forwarded supports only one SSL site per IP address on a Web cluster. This is due to the addressing scheme that is used.

It is unnecessary to use the New Deployment Wizard to deploy across the cluster. This process is necessary for some types of components such as COM+ applications, but not for server certificates. It is also unnecessary to manually copy the certificates across to the individual cluster member, as the synchronization process will perform this task.

You would not want to have to train users to connect to one specific server each time they visit the Web site. This would defeat the purpose of the cluster's load balancing efforts, and is not necessary in this instance. Certificates can be made available from each of the members, regardless of what server the client request is received by. Request Forwarding will ensure that the client continues his or her session with the server that initiates the session.

Question: 111.

You support a four-member Web cluster that hosts 10 Web sites. Users of the Sales Web site claim that sometimes they connect to a Web page that differs from the Web page co-workers seem to be using. Developers are constantly updating the Sales Web site, and you suspect that this is causing the problem. Which of the following can you configure to prevent this from happening?

- A. Increase the server weight on each cluster member.
- B. Enable ClassC Client Affinity.
- C. Enable Request Forwarding.
- D. Enable Single Client Affinity.

Answer: C

Explanation:

When a developer publishes content to a Web site on a Load Balanced cluster, it is possible for the content to be written to any

member of the cluster. As in this case, the users of the Web site may see different content depending on which Web cluster member they connected to. To eliminate this problem and control the publishing process, the Request Forwarding feature is used. This feature provides an option to Forward Publishing requests to the cluster controller. With this feature in use, the content will first go to the cluster controller and then be synchronized out to the cluster members, eliminating the chaotic updating that previously was occurring.

Client Affinity is used to ensure that a client's requests are forwarded to the same server within the cluster, and not necessarily the cluster controller. This feature is used when session state is maintained, and there is a need for the client to maintain its session with the same server. Client Affinity uses IP addresses to determine a client's identity. Single host client affinity uses a single IP address, while ClassC affinity uses a range of ClassC IP addresses to determine the identity. This is not a solution for ensuring publishing is taking place on the controller alone.

Server weight can be set for each cluster member individually. This setting determines how much of the cluster's workload the individual member processes based on a percentage of the overall number of requests. This feature is not used to direct requests to the cluster controller.

Question: 112.

You try to view the log file for a Web site on a cluster member named SRV4. The Web cluster consists of four members: SRV1 (controller), SRV2, SRV3, and SRV4. When you view SRV4's log file, you get the same information as you do when viewing the cluster controller's log file. How can you configure the cluster so that SRV4's log file can be maintained?

- A. Configure SRV1 to use a different directory for the Web site.
- B. Take SRV4 offline.
- C. Set up exclusion for the log file folder for the cluster.
- D. Configure SRV4 to use a different directory for the Web site.

Answer: C

Explanation:

Logging is enabled for a Web site on the properties for the Web site. The properties for a Web site are part of the IIS configuration settings for the cluster, which are included in the synchronization process. During the synchronization process, the IIS settings on the cluster controller are replicated out to all cluster members. As in this case, the cluster controller log files overwrite the log files on the individual cluster members. To maintain the individual content on each of the cluster members, the log file folder on the cluster is excluded from the synchronization process. With this in place, the cluster controller will not synchronize the specified folder to the cluster members, resulting in the individual members being able to maintain their own specific content.

When creating a Web cluster, the cluster members must have the same file and folder structure as the cluster controller. If the directory of a Web site were changed on the cluster controller, it would be replicated to the cluster members, because the Web site directory is also part of the IIS configuration settings. If SRV4 were configured to use a different Web site directory, during the next synchronization process, the controller would overwrite this.

Taking SRV4 offline does not take it out of the synchronization loop but stops it from receiving incoming requests. This could not be used as a possible solution in this scenario.

Question: 113.

You prepare a deployment package to distribute to a Web cluster. The staging server is a stand-alone Windows 2000 Server, and the Web Cluster consists of stand-alone Windows 2000 Servers. You want to deploy the Application package to the cluster with minimal effect on the Web cluster. Which of the following should you do?

- A. Create a domain for the staging server and one for the Web cluster. Log on as administrator and establish a trust between domains.
- B. Join the staging server to the Web cluster workgroup and log on as Administrator.
- C. Set the same password for each local Administrator account.

D. Create a new domain, and add the Web cluster servers and the staging server to it.

Answer: C

Explanation:

To deploy an application, you require administrative privileges for the source server and for the target servers. Because each of the servers involved is a stand-alone server, there is no shared account database, or no one account you can use to log on and achieve the required authority. The simplest solution is to set the same password for each of the local Administrator accounts, then and log on as Administrator and deploy the application from the staging server. With this configuration of stand-alone servers, you have to use the local accounts, and the passwords must be the same.

If the staging server were to be added to the same workgroup as the Web cluster servers, it would not change the account setup. Each machine uses a local account database, and would still require the same password for the local Administrator accounts.

Domains could be created, but this solution would not provide the least effect on the Web cluster, because the servers would have to be restarted when the network configuration is modified.

Question: 114.

You have created a Web site on a cluster controller using Internet Service Manager. You create a virtual directory for the Web site and place all of the Web pages in the virtual directory. You specify IP address restrictions to the Web site and enable server certificates for secure communications. Which of the following must you perform to make this site available across the cluster?

- A. The Web site and its configuration will automatically replicate to the cluster members. The server certificates are manually installed on each Web server.
- B. Use the New Deployment Wizard to deploy the Web site to each cluster member.
- C. Use the New Deployment Wizard to deploy the server certificates and allow automatic synchronization to replicate the Web site and other settings.
- D. The Web site and its configurations will automatically replicate to the cluster members.

Answer: D

Explanation:

If you create a Web site directly on the cluster controller, the content is immediately replicated to the cluster members. This includes the Web site, virtual directory, and any configuration settings such as IP address restrictions and server certificates for secure communications. Nothing more needs to be done other than to let the automatic synchronization process handle it.

The New Deployment Wizard is not required in this example because COM+ components or ISAPI filters are not included in the Web site. These components both require explicit deployment because the servers must be restarted after each of these components is installed.

Question: 115.

You have deployed an application to a Cluster Controller. The Web cluster consists of four stand-alone servers: SRV1 (controller), SRV2, SRV3, and SRV4. The application includes several virtual directories, HTML pages, graphic files, registry settings, and COM+ components. You have created a user account that will be used to access one of the virtual directories and set the necessary permissions on the directory. Which of the following steps should you take to make this application available across the cluster?

- A. Use the New Deployment Wizard and deploy the application to SRV2, SRV3, and SRV4.
- B. Create the user account on each of the servers. Allow the Automatic Synchronization process to replicate the application to SRV2, SRV3, and SRV4.
- C. Allow the Automatic Synchronization to replicate the application and its configurations to SRV2, SRV3, and SRV4.
- D. Create the user account on each of the servers. Use the New Deployment Wizard to deploy the application to SRV2, SRV3, and SRV4.

Answer: D

Explanation:

This application has two elements that will not be replicated with Application Center's automatic synchronization process. First, synchronization does not replicate account databases, and therefore in this case, the user account must be created on each of the other cluster members. Second, COM+ applications must be explicitly deployed to each member of the cluster to be properly copied and installed. (This restarts the cluster member that registers the component.) Therefore, the correct answer in this case is to create the user account on each of the servers, and use the New Deployment Wizard to deploy the application to SRV2, SRV3, and SRV4.

Question: 116.

Ethan is planning to configure a second COM+ Application cluster in which developers will install new components for the Web applications. Ethan makes the following plans:

- 1 Create a second two-node COM+ Application cluster.
- 2 Create a COM+ Routing cluster.
- 3 Install the new components on the Web cluster and the COM+ Application cluster.
- 4 Configure the Routing List on the COM+ Routing cluster.
- 5 Configure a COM+ proxy on the Web cluster.

What changes would you suggest to Ethan's plan?

- A. Install the components on the COM+ Routing cluster only.
- B. Configure the Routing List on the Web cluster and the COM+ Routing cluster.
- C. Configure the Routing List on the Web cluster.
- D. Install the components on the COM+ Routing cluster and the COM+ Application cluster.

Answer: D

Explanation:

When a second COM+ Application cluster is introduced to the tiered environment, a COM+ Routing cluster is required to direct the client's requests to the secondary cluster. The configuration requires that the Web cluster use a COM+ proxy to forward these component requests to the COM+ Routing cluster; the new components are installed on both the COM+ Routing Cluster and the new COM+ Application cluster; and the Routing list is maintained on the COM+ Routing cluster.

When using a COM+ Routing cluster, the routing list for the second COM+ Application cluster is maintained on the routing cluster and not the Web cluster. The COM+ components are installed in two places: where the dynamic load balancing (CLB) is initiated (source) and on the COM+ Application cluster (target). With this configuration, the source is the COM+ Routing cluster.

Question: 117.

You are administering a Web site and are concerned that some of the members of the ten-member cluster may be too slow in serving client requests. You want to be notified if the response time exceeds 15 seconds for any client request. Which of the following should you configure?

- A. performance counter
- B. global monitor
- C. custom data monitor
- D. local monitor

Answer: B

Explanation:

To monitor client requests for the entire cluster, you use a global monitor in Health Monitor. A global monitor is synchronized out to all members of the cluster, with monitoring occurring on individual cluster members. This will provide the cluster-wide monitoring required in this scenario.

This will also require establishing a threshold of 15 seconds, and associating an e-mail action with the global monitor.

Local monitors work locally on the cluster member and do not synchronize to other cluster members. This would only provide feedback on one cluster member, rather than the cluster as a whole.

Performance counters can be used to provide real-time monitoring of resource usage on the cluster as a whole or on individual members. Performance view, however, does not provide threshold and action capabilities, which are needed in this scenario.

It is not necessary to define a custom data monitor for this example. The default monitors can adequately monitor response time for client requests.

Question: 118.

You have removed a cluster member to replace a failed hard drive. When the server is added back to the cluster, you want to monitor the new hard disk's activity and be alerted if there are problems. Which steps will you have to take to configure this?

- A. Enable All Events for the Application Center event collection properties.
- B. Configure a local monitor on the cluster member for the physical disk. Define a threshold for the local monitor and associate the e-mail action with the monitor.
- C. Configure a global monitor on the cluster controller for the physical disk. Define a threshold for the global monitor and associate the e-mail action with the monitor.
- D. Enable All Events for the Health Monitor event collection properties.

Answer: B**Explanation:**

A local monitor created on a cluster member will monitor events on that cluster member. In this example, to monitor the hard disk on the member, a local monitor for the physical disk is created in that server's monitor data group, a threshold is defined for the monitor, and an e-mail action is associated with it.

Global Monitors apply to the entire cluster. While monitoring the local machine, the global monitor is synchronized out to all cluster members, so that they too will monitor the particular data collector locally. This is not required in this instance, as it is a specific machine that requires monitoring.

When All Events are enabled for either Health Monitor, or Applications Center, this causes more events that are generated by these two applications to be logged to the Event View. This is not used to monitor disk usage, but to watch for problems with applications and services.

Question: 119.

You want to prepare a server that can come online when needed and go offline when not needed, based on the overall client requests for the Web site. How can this be configured for a Web cluster using Application Center?

- A. Create a non-synchronized HTTP data collector. Specify the acceptable and unacceptable threshold values and associate a script action with the data collectors.
- B. Create a synchronized HTTP data collector. Specify the acceptable and unacceptable threshold values and associate the default command line actions with the data collector.
- C. Create a non-synchronized HTTP data collector. Specify the acceptable and unacceptable threshold values and associate a Windows event log action with the data collectors.
- D. Enable all of the default monitors in Health Monitor. Configure a schedule for the synchronized HTTP data collector.

Answer: B

Explanation:

Synchronized monitors are replicated to all cluster members, so that all cluster members will partake in the monitoring. In this example, the HTTP monitor (data collector) will be used to monitor client requests on each cluster member. Unacceptable threshold values are determined and the status is set for the threshold. Following these steps, actions are associated with the data collectors.

The command line actions Take Server Online and Take Server Offline are default actions available with Health Monitor. When specifying the action, these can be selected.

Non-synchronized monitors are local monitors, meaning that they are not replicated across to the cluster members. Therefore, monitoring would only be occurring on the cluster controller and not on any of the other members. This would not provide an accurate reading of the required data.

Script actions are used to run Jscript or VBScript files, which are not required to take the server offline or online.

Windows event log actions will write to the Windows Application Event Log. This would not be used to take the server offline or online.

Actions can be scheduled to control when the monitoring is active and how often data is measured. The problem with this solution is that it does not specify any thresholds or actions, making it an incomplete choice.

Question: 120.

A Web site consists of several COM applications. The developers are keeping a close watch on the efficiency of the Web site's design and need to be notified if any of the COM applications reach critical states. Which of the following will provide the easiest method of providing the development team notification?

- A. Create a local data group and add the COM+ data collectors for the individual COM+ applications. Create a threshold for each of the data collectors that triggers an e-mail action the application equals critical.
- B. Create a data group and add COM+ data collectors for each COM+ application. Create a threshold for each of the data collectors that triggers an e-mail action when the application equals critical.
- C. Use Performance View on the cluster and add the appropriate counters to the view.
- D. Add the COM+ data collector to the Non-synchronized data group on the cluster controller. Create a threshold for each of the data collectors that triggers an e-mail action when the application equals critical.

Answer: B

Explanation:

To notify the development team of any problems with the COM+ applications, the best solution is to create a data group and define actions for the group. The COM+ data collectors monitor the resources and their thresholds. If the threshold is met, the action of either the data collector or the data group is triggered. Adding the COM+ data collectors to a group makes the use of actions easier, and notifies the administrators if any of the applications hit the thresholds.

If the Non-synchronized data group on the controller is used, the data collector will work locally on the controller only. This will not provide across-cluster monitoring.

Performance View is not the correct tool for this case. Performance View monitors real-time resource usage on a cluster or an individual member. It is not used to establish thresholds and actions for given statuses.

Question: 121.

A Web Server hosts three Web Sites: SiteA, SiteB, and SiteC. You install Application Center on the machine and create a cluster, adding four members to it. You are concerned that the IIS Metabase may be out of synch on the cluster members. How can you manually synchronize the entire Metabase across the cluster for each of the Web sites?

- A. Manually synchronize the Default Web Site application.
- B. Manually synchronize the Administration Web Site application.
- C. Manually synchronize the Application Center 2000 Administrative Web Site application.
- D. Manually synchronize the AllSites application.

Answer: D

Explanation:

When Application Center is installed, it creates an application image for every site on the server. The AllSites application image includes all Web sites and virtual directories in the IIS Metabase. This provides a single point of reference for all the Web site information on the controller, and can be used to synchronize the entire Metabase across a cluster.

The other application images are created by default. They ensure that the IIS administration, Application Center administrative Web site, and the default Web site are available across a cluster without user intervention.

Question: 122.

You are preparing to deploy a Web application out to the production servers. Using Application Center you create a New Application Package. Which of the following resources can you add to your application package? (Select all that apply.)

- A. Virus Checking Software
- B. COM + Applications
- C. System DSN
- D. User DSN
- E. Classic COM components
- F. File System Paths
- G. Registry Keys

Answer: B, C, F & G

Explanation:

An application package refers to a collection of resources associated with an application that is bundled up for deployment to a production cluster. The types of resources that can be added to an application package include: COM+ applications, Data Sources, (System DSN only), File System Paths, Registry Keys, Web Sites, and Virtual Directories.

Classic COM components have to be installed into a COM+ application to be added to an application package. They are not added in their native state.

You cannot add user and file data source name resources (DSN) to Application Center applications. System DSN is generally the recommended type of data source name to use in a server/Web-based environment and is all that is supported in Application Center.

Question: 123.

You publish a new Web site to a cluster controller using the default settings, and do not explicitly identify it and its resources as an Application Center application. The automatic synchronization will replicate the following default application images. Which default application does the new Web site become a resource of?

- A. Default Web Site
- B. Administration Web Site
- C. Application Center 2000 Administrative Web Site
- D. AllSites

Answer: D

Explanation:

The new Web site will use the default Web site if other locations were not configured. The default Web site is automatically associated as a resource of the AllSites application, which Application Center creates automatically. The AllSites application contains all Web sites and virtual directories in the IIS Metabase. It also associates the default Administration Web Site, Default Web Site, and default Application Center 2000 Administrative Web Site as its resources. This hierarchy ensures that all of the default application images are synchronized across the cluster members without user interaction.

Question: 124.

A Web site contains a large number of files. Only a few of the files are ever updated, while the others contain static information. What would be the most efficient way to manage the updates for this Web site?

- A. Disable Automatic Updates on the cluster controller. Manually copy the files to each of the cluster members as changes are made.
- B. Move the files into a separate virtual directory. Configure synchronization exclusions for all other Web site content.
- C. Group the files that change into an application package. Disable Automatic Updates and use the New Deployment Wizard to synchronize the application across the cluster.
- D. Remove the cluster members from the synchronization loop. Update the files on the cluster controller. Bring the other members back into the synchronization loop.

Answer: C**Explanation:**

Applications can give an administrator more control over what and when synchronization occurs. Resources, such as individual files, can be grouped together into an application and deployed as needed. This solution would be very suitable in this case, as only a few of the files change.

You can work with synchronization exclusions; however, if the Web page has a large number of files, this becomes a great task. It is more efficient to group the changed files into an application.

Cluster members are removed from the synchronization loop when you do not want them to receive updates. When they are brought back to the loop, they are not brought up-to-date automatically. This would not provide a solution for this situation. Manually copying files from the cluster controller to the cluster members defeats the purpose of having a product like Application Center. Placing the files in an application ensures that they are not duplicated. Synchronization happens as a whole (not incrementally, where errors could occur), and there is much more administrative control over the process, making it the most efficient of methods.

Question: 125.

A .dll for a global ISAPI filter is updated on the cluster controller. After a while you notice that the ISAPI filter is not being processed on the other Web servers. What is causing this to occur?

- A. The Cluster controller must be restarted.
- B. The .dll must be deployed using the New Deployment Wizard.
- C. The Web service must be restarted on the cluster members.
- D. The cluster controller must be manually synchronized with each member of the synchronization loop.

Answer: C**Explanation:**

When Global ISAPI filters are deployed to the cluster controller, they are automatically synchronized to every member in the synchronization loop. However, the.dll is not loaded on the members until the Web service is restarted. This is what needs to be completed on the other Web servers.

The .dll can be deployed using the New Deployment Wizard, but it not absolutely required. The advantage would be that the Wizard would initiate a restart of the Web service on the cluster members. For this example, the synchronization has already occurred, and the Web service only needs to be restarted.

Manual synchronization will work as well, but it is not required. Again, if this method is used, the Web service must be restarted on the cluster members for the .dll to be loaded.

Restarting the Cluster controller would not provide a solution in this situation.

Question: 126.

An application is being deployed to a multi-tier cluster that uses both NLB and CLB. The application uses ISAPI filters and COM+ components. Which of the following statements is true about this type of deployment?

- A. The application is deployed from the staging server out to the entire cluster.
- B. Deploying to the entire cluster will have minimal effect on the client. Services will appear a bit slower, but uninterrupted.
- C. After deploying to the cluster controller, the automatic synchronization will take over and replicate the content, minimizing any effect on the client.
- D. Deploying to the entire cluster will leave only the controller available to service HTTP requests.

Answer: D

Explanation:

Deploying COM+ components and ISAPI filters causes the Web service to restart on the targets. If this application is deployed to the entire cluster, it will leave only the controller available for client requests for a period of time. It would be advisable to use a phased deployment in this instance. Automatic synchronization will not process the COM+ components and the ISAPI filters. This must be deployed from the cluster controller out to the members of the cluster. This type of application (one that contains COM+ components and ISAPI filters) is deployed in two steps. Because Application Center's automatic synchronization does not replicate these components, the deployment goes as follows: 1) First deployed from the staging server to the cluster controller 2) Deployed from the cluster controller to the members of the cluster (This is when the Web service is restarted, leaving only the cluster controller available to service HTTP requests.)

Question: 127.

Using the Application Center application tool on a stager server, you prepare to deploy an application. The Review Guide application consists of HTML and ASP pages, a System DSN for database access, a directory, and a Web site. You prepare the application and deploy the application to the production cluster controller. What steps can you take to verify the deployment has completed successfully? (Select all that apply.)

- A. Open the IIS snap-in for the cluster controller and verify that the ReviewGuide site is listed.
- B. Verify the Data Sources dialog box using the Administrative tools section of the Start menu on each member.
- C. Use the Windows Explorer on each member to verify the application directory.
- D. Verify the Review Guide is listed on the applications node on the controller.
- E. Verify the Data Sources dialog box using the Administrative tools section of the Start menu on the cluster controller.
- F. Use the Windows Explorer on the cluster controller to verify the application directory.
- G. Open the IIS snap-in for each member and verify that the ReviewGuide site is listed.

Answer: B, C, D & G

Explanation:

To verify the success of the deployment from the staging server to the production cluster controller, there are some things you should check on each of the cluster members and the controller. Once the deployment takes place to the cluster controller, automatic synchronization should replicate content out to the cluster members. In this example, the System DSN, the directory for the application, and the Web site should all be placed on the cluster members if deployment was successful. Use the IIS snap-in for each

member and verify that the site is listed. The directory for the application should be on the hard disk of each member. The System DSN can be verified by checking the Data Source dialog box on each member. The application will be listed on the application node for the cluster.

Verifying that the components are on the cluster controller is not indicative of a successful deployment. The deployment is complete when it has synchronized to all cluster members.

Question: 128.

Web content is changed fairly regularly on an investment firm's site. It is critical that when the content is changed, the risk of users connecting to old content is minimized. You want to select a method of deployment that minimizes inconsistencies between Web content updates without affecting its availability. Which of the following methods will you use in the deployment?

- A. Use an online deployment method. Deploy the application from the staging server to the Web and middle tier cluster controller respectively. Allow Application Center to automatically synchronize the new content to each of the cluster members.
- B. Take all servers offline before deploying the new content. Deploy the content from the staging server to the cluster controllers on both tiers. Allow Application Center to automatically synchronize the new content to each of the cluster members. When the deployment is complete, bring each of the servers online again.
- C. Use a Phased Deployment. Take part of the site offline and perform the upgrade, allowing the other half to service requests. Bring the first part of the site online and repeat the process for the other section.
- D. Take one server offline, drain the existing connections, and deploy the new content. Bring the server back online and repeat the process on the next cluster member.

Answer: C

Explanation:

The Phased Deployment, which is performed in sections, maintains a period of inconsistency that lasts only a few seconds. The upgrade is performed in sections. When the first section is complete, it comes back online, and the next section goes offline. The time it takes for that to occur is the time for possible inconsistencies between versions, making this the best choice.

Taking one server offline at a time, deploying the content, bringing it back online, and repeating this for each server has a very long period of inconsistency. Content can be inconsistent from the time the first server goes back online to the time the last server is taken offline for deployment.

An online deployment can vary in how much time inconsistencies may occur. Depending on the files and the size of the deployment, users could run into broken links and errors while the automatic synchronization is occurring.

Taking all servers offline to perform the upgrade has a zero chance of inconsistencies, but also makes the servers unavailable for the period of the upgrade. This does not meet the requirements of this scenario.

Question: 129.

An application contains a File System Path resource of c:\products. Using the administrative client, you remove the File System Path resource from the Application Center application. After synchronization has occurred, you notice that c:\products is still present on the cluster controller and the cluster members. Which of the following explains why this has happened?

- A. This must be completed on the cluster controller.
- B. The files in the folder must be removed first, and then the folder can be removed.
- C. The folder, c:\products, must first be removed from the cluster controller and then synchronized to the cluster members.
- D. The entire application must be removed from the cluster's application list.

Answer: C

Explanation:

To remove a folder that is part of the synchronized content, the folder, c:\products, must first be removed from the cluster controller and then synchronized to the cluster member. This will remove the folder from the cluster controller and the members. Once this is complete, then the File System path resource can be removed from the application.

This can be performed using the administrative client. You are not required to perform this task at the cluster controller.

The File System Path resource can be removed, whether it is file or a folder. If it is a folder, then the entire folder can be removed. It is not necessary to remove the files within the folder first. Resources can be removed from Application Center's applications. It is not necessary to remove the entire application in order to remove one of its resources.

Question: 130.

You are planning the deployment of a new Web site. You have the following resources to deploy: a virtual directory containing the graphic content, COM+ applications, and a System DSN. The graphic files are the only content that is updated regularly. Which of the following deployment methods should you use to perform the updates to provide minimal disruption to the client requests?

- A. Create an application and add all resources to the package. Use automatic synchronization to update the resources.
- B. Create an application and add all resources to the package. Use the New Deployment Wizard to deploy the updates.
- C. Create an application and add all resources to the package. Use On-demand synchronization for the application.
- D. Create a separate application for the Web site and virtual directory resource. Use automatic synchronization to update the resource.

Answer: D**Explanation:**

In this example, once the application is deployed, only the graphic files will require updating. The automatic synchronization process of Application Center supports synchronizing this type of content. The best solution is to create a separate application for the Web site and virtual directory resource. Deploying the updates to the controller this way will not affect the clients, because the Web service is not required to restart for this type of content. Unlike the COM+ components when they are deployed or updated, the New Deployment Wizard is required and the Web service is restarted on the target servers. It would be desirable to keep the COM+ components out of the application that will be used to handle updates in order to avoid having to restart the Web service, which will cause disruption to the client requests.

Question: 131.

A Web site consists of a five-member Web cluster and a COM+ cluster, which processes the components for the Web application. You want to configure a second COM+ cluster that will process separate components for the Web cluster. How will you configure the Web site to support this new cluster addition?

- A. Create a COM+ Routing cluster and COM+ Application Cluster. Install the COM+ components on the Routing cluster and on the second COM+ Application cluster. Configure a routing list on the Routing cluster and configure a COM+ proxy on the Web cluster to use the routing cluster.
- B. Create a COM+ Routing cluster. Install the COM+ components on the Web cluster. Add the COM+ Routing members to the routing list on the Web cluster.
- C. Create a COM+ Application and COM+ Routing cluster. Install the COM+ components on the Routing cluster and the second COM+ Application cluster. Configure a routing list on the routing cluster and Web cluster.
- D. Create a COM+ Application cluster. Install the COM+ components on the second COM+ Application cluster. Add the server names for the second cluster to the routing list on the Web cluster.

Answer: A**Explanation:**

To support a second cluster of COM components, a COM+ Application cluster is created. With two COM+ Application clusters, a

COM+ Routing cluster is required to direct the client's component requests to the appropriate cluster. The Web cluster already has in place a routing list and is using CLB to distribute activation requests for COM+ components across the original COM+ application cluster. CLB will perform load balancing for clusters that have the same COM+ components on each member. To introduce a second cluster with different COM+ components, the Web cluster will use a COM + proxy to forward these requests to the COM+ Routing cluster. The COM+ Routing cluster functions like the Web cluster does for the original COM+ Application cluster. The COM+ components are installed on both the COM+ Routing cluster and the second COM+ Application cluster. The routing list contains all the second cluster members and is maintained on the Routing cluster.

When using a COM+ Routing cluster, the routing list for the second COM+ Application cluster is maintained on the routing cluster and not the Web cluster. The COM+ components are installed where the dynamic load balancing (CLB) is initiated (source) and on the COM+ Application cluster (target). This is necessary in order for the COM+ components to be called and activated from a remote server. Usually this is on the Web cluster in a two-tier configuration. However, when the routing cluster is integrated, it provides the CLB, and therefore the COM+ components are installed there as well as on the COM+ Application cluster.

Question: 132.

You support a Web cluster that consists of three stand-alone servers: Srv1, SRV2, and SRv3. You create a Web site on Srv1 (controller) and grant permission to the local Webusers group on Srv1. Which of the following should you perform to ensure users can connect to this Web site with minimal amount of interference to the other Web sites?

- A. Enable automatic synchronization on Srv1, Srv2, and Srv3.
- B. Create a domain and add Srv1, Srv2, and Srv3 to the domain.
- C. Create a Webusers local group on Srv2 and SRV3.
- D. Manually synchronize Srv2 and Srv3 with Srv1.

Answer: C

Explanation:

When you create a Web site on a cluster controller and set permissions, this content is automatically synchronized with the other cluster members. The problem that is present when using stand-alone servers is that the cluster members do not share the same account database. So although the permissions will be synchronized to the other cluster members, the Webusers local group is not necessarily present in the account database of the other cluster members. It is recommended that a domain be used for the cluster members to prevent this situation. However, if all of the servers are already set up, and you want to make the necessary changes with minimal amount of interference to the other Web sites, then the best solution is to create a local Webusers group on Srv2 and Srv3.

Creating a domain and adding all three servers to the domain would involve restarting each of the servers during the configuration, which would disrupt the other Web sites.

Automatic synchronization on Srv1, Srv2, and Srv3 will not alleviate this problem, nor will manually synchronizing with the cluster controller.

Question: 133.

You are creating an application for your company's Web site on the staging server. The application consists of the following resources: COM and COM+ components, a File System path, a System DSN, Registry Keys, a Web site, and a virtual directory. You want to deploy this application out to a production Web cluster controller and allow synchronization to replicate the content across the cluster. The Web site resource is the only content that is updated frequently. How should you create the application on the staging server?

- A. Add the COM and COM+ components to a COM+ application. Add the COM+ application, File System path, System DSN, Registry Keys, and Web site to one Application Center application package. Create a separate Application Center application package for the Web site and virtual directory resource.
- B. Create two Application Center application packages: one containing the COM+ components, File System path, System DSN, and Registry Keys, and the second containing the Copy the COM components Web site and virtual directory resources.

Manually copy the COM

components to each of the production cluster members.

C. Create one Application Center application package and add all of the resources to the application. Enable automatic synchronization on each of the cluster members.

D. Add the COM and COM + components to a COM+ application. Create three Application Center application packages as follows: the 1st package containing the COM+ application, the 2nd package containing the File System path, System DSN, Registry Keys, and the 3rd package containing the Web site and virtual directory resources.

Answer: A

Explanation:

In this situation there are two considerations: first how to handle the updates, and secondly how to handle the COM components. If only some of the resources are updated frequently, then it is worth placing these resources in a separate Application Center package. In this way, when the content is updated, the rest of the resources do not have to be redeployed and cause the services or possibly cluster members to restart. So the best solution for this concern is to create a separate application package for the Web site and virtual directory resource.

Application Center does not support the synchronization of COM Classic components. To synchronize a COM Classic component, create a COM+ application, and then install the COM Classic component into the COM+ application. The COM+ application becomes a resource that is added to the Application Center package and deployed to the production cluster controller. It is not necessary to place the COM+ application into a separate Application Center application package. If the COM components were manually copied to the cluster members, this would not suffice for their installation and would require additional steps on the cluster members.

Question: 134.

You create an application on a Staging Server and are planning the deployment to a Web cluster named WEBAPPS. The Web cluster consists of four servers, Srv1 (controller), Srv2, Srv3 and Srv4. The application contains ISAPI filters, COM+ components, a System DSN, virtual directories, and a Web site. You create an application package and deploy it from the Staging server to Srv1. One hour later, you notice that some of the components are not available on Srv2, Srv3, and Srv4. Which of the following should you have done?

- A. Deployed the application to Srv2, Srv3, and Srv4 at the same time as Srv1
- B. Manually synchronized Srv2, Srv3, and Srv4 with Srv1
- C. Manually created the System DSN on Srv2, Srv3, and Srv4
- D. Enabled automatic synchronization on Srv2, Srv3, and Srv4

Answer: A

Explanation:

When an application contains COM+ components and Global ISAPI filters, the application needs to be deployed to each of the cluster members (in this case Srv2, Srv3, and Srv4). The reason is that these types of resources are not included in the synchronization process. So if the application were deployed to Srv1 from the Staging server, only the System DSN, virtual directories, and Web site would be synchronized to the other cluster members. The COM+ components and ISAPI filters must be deployed to the other members. Therefore, the best solution is to deploy the application to Srv2, Srv3, and Srv4 at the same time as Srv1.

There is no need to create the System DSN on Srv2, Srv3, and Srv4 as it is synchronized from the controller.

Question: 135.

Chris is preparing an application to deploy from a staging server to a production cluster. The production cluster consists of four Web servers: WebSrv1, WebSrv2, WebSrv3, and WebSrv4. Chris plans to take the following steps:

- 1 Chris prepares the application on the staging server. The application consists of the following resources: COM+

components, registry settings, User DSN, Web site and virtual directories.

- 2 He plans to take WebSrv1 offline and drain the connections.
- 3 IIS service will be stopped on WebSrv1.
- 4 The application is then deployed from the Staging server to WebSrv1.
- 5 WebSrv1 is brought back online and into the synchronization loop.
- 6 Chris repeats this step for each cluster member.

Which of the following would you suggest Chris change in his procedure?

- A. Remove the registry settings from the application and configure them locally.
- B. Change the User DSN to a System DSN.
- C. Deploy to WebSrv1 only. Allow synchronization to replicate to other cluster members.
- D. Deploy to all cluster members at the same time.

Answer: B

Explanation:

The problem with the planned procedure is that Application Center packages do not support the deployment of User DSN, but do support synchronization and deployment of System DSNs. Therefore, this modification needs to be made to the application before it is deployed.

Registry settings can be included in an application package. This does not have to be removed or configured locally on each cluster member.

The method that Chris is planning to use is effective for applications that contain COM+ components. This type of resource is not synchronized from the cluster controller to the other members of the cluster, and therefore must be deployed individually to each member. Performing this on the cluster controller and then repeating for each server is a recommended strategy.

Question: 136.

WebApp1 is an application on a production cluster that consists of the following resources: a file system path, a System DSN, and a Web site. Developers have changed the system DSN of the application and want you to deploy these changes to the production cluster. Which of the following methods should you use to modify the system DSN on the cluster members?

- A. Remove the file system path and Web site resources from the WebApp1 application. Modify the System DSN and deploy WebApp1 to the production cluster.
- B. Modify the system DSN on each of the cluster members and the staging server manually.
- C. Change the system DSN in WebApp1 and deploy WebApp1 to the production cluster.
- D. Create a new application named WebApp2 and add the changed system DSN resource to the application. Deploy WebApp2 to the production cluster.

Answer: D

Explanation:

If you have changed or updated an application, it is advisable to create a new application with a new name, in this case WebApp2. For two reasons this makes the best solution. First, only the modified parts need to be deployed to the production cluster. The modified System DSN can be added to WebApp2 and deployed to the production cluster. Second, creating a second application provides clarity for the version of the application. It can be noted that WebApp2 was an update to the System DSN.

It is possible to remove resources from an application, but if this is done and deployed to the cluster controller, the resources will also be removed from the cluster members, giving you undesired results.

It would not be recommended to manually go around and modify the System DSN on each of the cluster members when Application

Center can maintain the process for you through the use of application packages.

If WebApp1 were deployed again with a modified System DSN, it would cause unnecessary strain on the production cluster. It also does not provide a clear picture of which application is the most recent version.

Question: 137.

You have created an application named WEBAPP, which contains COM+ components, ISAPI filter, and HTML and ASP pages. You deploy the application to the production cluster. The ASP and HTML files will change frequently and the COM + components and filters will rarely change. How should you handle the updates with minimal disruption to the Web site?

- A. Remove the COM+ components and filters from WEBAPP.
- B. Take the cluster controller offline and deploy WebApp to the cluster controller.
- C. Create a separate application for the ASP and HTML updates.
- D. Create a separate application for the COM+ components and filters. Make the changes to WebApp and deploy to the production cluster.

Answer: C

Explanation:

You should assemble the regularly updated resources into one application so that when changes occur, all of the content does not have to be replicated. In this example, the directory containing the ASP and HTML pages should be added as a resource to a separate application, and this separate application is then deployed to the production cluster.

Removing the COM+ components and filters from WebApp would make the original application unavailable for future deployments of the original application, and would not provide any version tracking.

Taking the cluster controller offline and deploying WebApp is not minimizing the effects on the Web site. It is updating unnecessary content because the COM+ and filters are part of WebApp.

Question: 138.

You have deployed an application using an unattended script to a Web cluster. The Web cluster consists of members: Srv1 (controller), Srv2, and Srv3. After the script has run, you notice all of the user accounts and directory permissions have been deleted from all of the servers in the Web cluster and no one can access the Web application. Place the actions that need to take place on each of the Web cluster servers by selecting the server in the Servers list and then dragging the action to the server.

- A. 1True

Answer: A

Explanation:

In a disastrous case such as this, the NTFS permissions and user accounts need to be reset on each of the cluster members. To achieve this, the user accounts are created on each server within the Web cluster. This is necessary because the synchronization and deployment process does not synchronize the account database on the cluster controller. NTFS permissions that are configured on a Web site directory will be synchronized to the other cluster members, making this step only necessary on the cluster controller.

Question: 139.

A web cluster consists of three servers: WS1, WS2, and WS3. WS1 is the controller. You have just updated a secure Web application named WEBAPP with an exportable SSL certificate on WS1, and want to make it available to all servers. Which of the following steps should you take?

- A. Deploy an application to WS2 and WS3.
- B. Enable automatic synchronization.
- C. Create a file resource path on WS1.

D. Take WS2 and WS3 out of the synchronization loop and manually copy the certificate to the appropriate Web directory.

Answer: B

Explanation:

Exportable certificates can be automatically synchronized with Application Center's synchronization process. Certificates are synchronized or deployed with their associated Web site, so the solution for this scenario is to ensure automatic synchronization is enabled on all of the cluster members. Certificates cannot be added specifically to an application package for deployment, but they can be deployed with their associated Web site if they are added to an application package.

A file resource path would not provide a solution for the certificates. If a file resource path were created on the controller, this would be replicated to the other cluster members. This does not provide a means for the distribution of certificates.

There is no need to manually copy the certificate to the Web directory on each of the cluster members when automatic synchronization can perform this task.

Question: 140.

You need to design a testing area for a new application that will be deployed to a five-member Web cluster named Production1. The testing area you choose must help to maximize server resources while being able to function as a testing area. Which of the following should you select?

- A. Create a new Application Center single node cluster using the sixth server. Deploy the application from this cluster to the Production1 cluster.
- B. Test the application on the sixth server. Create a new Web cluster making the sixth server the cluster controller. Disband the Production1 cluster and add the cluster members to the new Web cluster.
- C. Add a sixth member to the Production cluster and do not enable synchronization. Test the new application on the sixth member. Deploy the application from the sixth member to the cluster controller. Add the sixth member back into the synchronization loop.
- D. Add a sixth member to the Production cluster and keep it offline and out of the synchronization loop. Test the new application on the sixth member. Deploy the application from the sixth member to the cluster controller. Bring the sixth member back online and into the synchronization loop.

Answer: D Explanation:

If the testing server is to help maximize server resources, then it will become a member of the Web cluster. A cluster member can be used to deploy content to the other cluster members. The first step is to take it out of the synchronization loop and offline. By doing this, the member will not receive updates from the cluster controller and will not receive incoming requests, which is required during the testing stage. Once the application is ready, the new content can be copied to the cluster controller that will synchronize the content to the other cluster members. The testing server is then brought back online and back into the synchronization loop.

If the testing server were only removed from the synchronization loop, it would receive incoming requests, which would not be desirable while an application is being tested.

Often a separate staging cluster is created for development purposes. However, in this case, one of the goals is to maximize server resources, which is accomplished by adding another server to the Production1 cluster. It is never recommended to create a new cluster with the testing server, disband the original, and join those members to the testing cluster. This suggests many unnecessary steps in the testing and deployment process.

Question: 141.

Your assistant is planning the deployment of a new application to a Web cluster. The Web cluster consists of four servers: Srv1, Srv2, Srv3, and Srv4. Srv1 is the cluster controller. You want to make sure that if the application fails, the Web cluster can easily be returned to normal. Your assistant makes the following plans:

Take Srv4 offline and drain existing client connections Remove Srv4 from the synchronization loop Stop IIS service Deploy the

application to Srv4 from the staging server Restart IIS service Bring the Srv4 back online and into the synchronization loop Take Srv2 and Srv3 offline and drain existing client connections Remove Srv2 and Srv3 from the synchronization loop Stop IIS service on Srv2 and Srv3 Deploy the application to Srv2 and Srv3 from the staging server Restart IIS service on Srv2 and Srv3 Bring Srv2 and Srv3 back online and into the synchronization loop Repeat the process for Srv1

Which of the following would you suggest she change in her deployment plans?

- A. Deploy the content to Srv1 before Srv2 and Srv3.
- B. Do not add Srv4 back into the synchronization loop before Srv1 is updated.
- C. Do not restart the IIS service until all servers are updated.
- D. Keep Srv4 offline until Srv1 is updated.

Answer: B

Explanation:

In order to test an application with a window available to return the cluster to the original state, the cluster controller must be last in the update process. The only step requiring modification in the assistant's plans is to not bring Srv4 back into the synchronization loop before Srv1 is updated. The reason is because once Srv4 is brought back into the synchronization loop, the cluster controller content will overwrite it. Bringing it back online will allow it to receive incoming requests, but its content will not be overwritten. Restarting IIS service on Srv4 is necessary for the new application to be tested. This step should not be modified.

Question: 142.

You are deploying an application package from WebCluster1 to WebCluster2. The application package contains several COM+ components. You want to minimize the impact on WebCluster2 during the deployment. Which of the following methods will you use?

- A. Place the COM+ components into one application package. Deploy the package to all cluster members in WebCluster2 at the same time.
- B. Place the COM+ components into one application package. Deploy the package to the cluster controller on WebCluster2.
- C. Place the COM+ components into separate application packages. Deploy them individually to the WebCluster2 controller.
- D. Place the COM+ components into separate application packages. Deploy the packages sequentially to all of WebCluster2 members at the same time.

Answer: A

Explanation:

If you are deploying an application to another cluster that contains COM+ components, you need to select each member of the cluster to deploy the application to. This is because the cluster controller cannot synchronize COM+ components, so the components must be deployed to each member. When COM+ components are deployed, the Web service on the members that you deploy to must be restarted. For this reason, it is advisable to place all of the COM+ components into one Application Center application and deploy them all at once.

Question: 143.

Ethan is planning to deploy an application to a Web Cluster. The application contains Classic COM and COM+ components, a System DSN, registry settings, and File system paths. Ethan prepares the following deployment strategy:

- 1 Create an application package on the staging server.
- 2 Add the Classic COM and COM+ components to the application.
- 3 Use the New Deployment Wizard and select "Deploy content outside the current cluster".
- 4 Enable the "Drain connections before resetting IIS" option.
- 5 Deploy the application to SRV1.
- 6 Enable synchronization on SRV2 and SRV3.

Which of the following would you change in Ethan's deployment plan?

- A. Deploy to SRV1 and enable synchronization on SRV2 and SRV3.
- B. Change the System DSN to a User DSN.
- C. Deploy to SRV1, SRV2, and SRV3 at the same time.
- D. Create a separate application for the Classic COM components.

Answer: C

Explanation:

When you deploy an application that consists of COM+ components, you need to deploy it to each member of the cluster, because the synchronization process does not properly install the components on each machine automatically. The New Deployment wizard can be used to deploy and synchronize the content from the staging server to SRV1, SRV2, and SRV3 all at the same time. The New Deployment wizard will restart the IIS service, which is necessary for COM+ components.

When an application includes Classic COM components, they must be placed in a package to be deployed to a cluster, as done in this deployment plan. It is not necessary to place them in separate packages as this causes IIS services to be restarted twice unnecessarily.

Application Center supports replication of a System DSN, not a User DSN. Therefore, you should not change the System DSN to a User DSN.

Question: 144.

A Web cluster hosts multiple Web sites. You need to enable Server certificates on one of the Web sites. Which of the following should you do?

- A. Create a file system path on the cluster controller.
- B. Deploy an application to the cluster members.
- C. Configure the Web site for certificates on the cluster controller.
- D. Configure the Web site for certificates on each cluster member.

Explanation:

Server certificates are configured on the specific Web site on the cluster controller, and then replicated to the other cluster members via the automatic synchronization process. Server certificates are part of the IIS Metabase (configuration) and are included in the automatic synchronization process. Therefore, it is not necessary to configure the Web site for certificates on each member, as the cluster controller will replicate its Web site information to all cluster members.

Server certificates are considered a resource that can be added to an application for deployment. The actual Web site can be added to an application and deployed, but in this example, the Web site is already deployed and only requires a configuration change. File system paths are resources that are used in application packages. File system paths are paths to folders and files on a local system and can be made part of a deployment package. This would not provide a solution for making server certificates available to all cluster members.

Question: 145.

You have developed an application that is to be deployed on a two-tier clustered Web site. The Web site consists of an Application Center Web cluster and a COM+ Application cluster. You have to install COM+ components, a Web site and home directory that contains HTML, and ASP pages. The HTML and ASP pages are the only resources that will be updated frequently.

How will you plan the deployment?

- A. Create two application packages. Place the HTML and ASP pages in APP1, and the component resources in APP2. Deploy APP1 to the Web cluster controller and APP2 to all members of both clusters.
- B. Create two application packages. Place the HTML and ASP pages in APP1, and the component resources in APP2. Deploy APP1 and APP2 to the cluster controller on each cluster.
- C. Create two application packages. Place the HTML and ASP pages in APP1, and the component resources in APP2. Deploy APP1 to the cluster controller on the Web cluster. Deploy APP2 to the cluster controller in the COM+ Application cluster.
- D. Create one application package. Place the HTML, ASP pages, and component resources in APP1. Deploy APP1 to the cluster controller on each tier.

Answer: A Explanation:

This scenario presents a couple of points of consideration. First, it is best to create a separate application package for the content that is updated regularly. In this way, the application can be redeployed as updates are made, without unnecessary strain on the clusters. Second, if an application contains COM+ components, it must be deployed to each member of the cluster(s), because automatic synchronization does not replicate COM+ components. The components must be configured on both the Web cluster and the COM+ Application cluster to support Component Load Balancing. The correct answer for this question is to create two application packages. Place the HTML and ASP pages in one and the component resources in a second. Deploy the first application to the Web cluster controller because this content will be synchronized, and deploy the second application to all members of both clusters because it will not be automatically synchronized.

Question: 146.

You have modified the Sales Web application on the Staging Server. The application will no longer use the File System Path resource, C:\production\market. You need to deploy this change to the Sales Web application with minimal impact on the Web cluster. Which of the following should you complete?

- A. Remove the C:\production\market resource from each of the cluster members.
- B. Create a new application on the staging server and add a File System Path resource. Deploy the application to the cluster controller.
- C. Remove the C:\production\market resource from the cluster controller.
- D. Remove the C:\production\market resource from the original Sales application package.

Answer: C

Explanation:

If a resource is removed from the cluster controller, the deletions will be synchronized with the target servers. In this example, if the C:\production\market resource is removed from the cluster controller, the automatic synchronization process will also remove it from the other cluster members, making this the correct answer. It is not necessary to remove the resource on each of the cluster members, because the automatic synchronization can perform this with minimal impact on the Web cluster.

If the File System Path resource is removed in the original Sales application package, it will have no effect until the application is again deployed to the Web cluster. This would take the application back to its original state, which may or may not be desirable. This also involves more steps than are required to perform this task.

Creating a new application would not provide a solution because the goal is to remove a resource, not add a resource to the Web cluster.

Question: 147.

You manage the clusters for a Web site. The Atlanta site hosts an eight-member Web cluster, and the Houston site hosts a five-member Web cluster. You are deploying updated content from a management server in the Atlanta location. Which of the following will you use to deploy the content to the Houston Web cluster?

- A. Manual Synchronization
- B. Content Deployment Service

- C. New Deployment Wizard
- D. Automatic Synchronization

Answer: B

Explanation:

To deploy Web content across a Wide Area Network, such as in this case, you use the Content Deployment Service. Content Deployment Service is available on the Application Center CD and is capable of handling the issues that arise out of Wide Area Networking.

Application Center is used for deploying content from one cluster to another within the network, but it is not equipped to handle network issues associated with Wide Area Networking. Automatic and Manual Synchronization and using the New Deployment Wizard would be performed by Application Center, which does not provide adequate support for Wide Area Networks, making these incorrect choices.

Question: 148.

A Web cluster consists of four servers W1 (the controller), W2, W3, and W4. You create an upload FTP site on W4, which clients use to upload .mdb files. The site's directory is c:\inetpub\wwwroot. The .mdb files will be periodically moved to a backend database. You notice that after one hour, the FTP directory is overwritten. What can you do to prevent the files from being overwritten?

- A. Exclude .mdb files from the automatic synchronization on the cluster controller.
- B. Exclude the upload folder from the automatic synchronization on the cluster controller.
- C. Take W4 offline and remove it from the synchronization loop.
- D. Move the upload folder out of the c:\inetpub\wwwroot folder.

Answer: D

Explanation:

Application Center automatically replicates any content you place in the root folder of the default Web site of the cluster controller (wwwroot), including any subfolders and their content. What's happening in this scenario is that the FTP site is being overwritten by the cluster controller because it is located within the wwwroot folder. The best solution in this case is to move the FTP site out of the wwwroot folder, which will prevent it from being overwritten. Application Center does not replicate any other folders unless they are configured as a virtual Web directory.

You can configure exclusions for the automatic synchronization process. You can select a single file, individual folders and their contents, or a file type. In doing this, you are telling the cluster controller not to include these files or folders that reside on its file system. Because the FTP site is located on W4, this would not provide a solution.

If W4 is taken offline, it could no longer receive incoming requests, which would disable its ability to provide the upload site.

Question: 149.

You are preparing an application for deployment on an eight-member Web cluster. The staging server hosts several applications and various resources that you need to deploy. You would like to deploy the content to the cluster controller and allow the automatic synchronization process to replicate the content to the cluster members. Which of the following can you include in your application package? (Select all that apply.)

- A. COM+ components
- B. Virtual Directories
- C. Registry Settings
- D. Global ISAPI filters
- E. Metabase
- F. System Data Source Names

G. ODBC connection
H. Web Sites

Answer: B, C, E, F & H

Explanation:

On the staging server, you will prepare an Application Center application package to deploy to the cluster controller. An application package contains resources, some which will be automatically synchronized from the cluster controller to all cluster members, and some that need to be deployed to each member individually. In this scenario, the desired outcome is to deploy the content to the cluster controller and allow synchronization to take over from there. First, resources that can be added to an application include: Web sites, virtual directories and their content and configurations, COM components, Global ISAPI filters, Data Source Names, File System Paths, and Registry Settings. Out of these resources, only some will participate in automatic synchronization. These include Data Source Names, Web Sites, Virtual Directories, Registry Settings, and IIS Settings (Metabase). Global ISAPI filters and COM+ components have to be deployed to each member individually, in order for the components to be copied to the members and the Web services restarted. Deploying them to each member configures the components and ISAPI filters and makes them available for use.

ODBC connections cannot be added as a resource to an Application Center application package. Only Data Source Names are supported.

Question: 150.

You are deploying an update to a COM+ application that is hosted on a single tier Web cluster. From the staging server you want to deploy the content to the Web cluster with minimal effect on the Web site. The Web cluster consists of four servers: W1 (the controller), W2, W3, and W4. You prepare a deployment package on the staging server. Which of the following should you perform?

- A. Deploy the application package to W1, W2, W3, and W4 simultaneously.
- B. Deploy to W1, and configure automatic synchronization on W2, W3, and W4.
- C. Take W1 offline deploy the application to W1. Bring W1 back online and take W2 offline and deploy the application. Repeat for W3 and W4.
- D. Take W4 offline and deploy the application to W4. Bring W4 back on line synchronize W4 with W1.

Answer: C

Explanation:

When deploying COM+ applications, the components have to be copied and registered on each member of the cluster. This is done during the deployment process, and then the Web services must be restarted on each member. If you deployed the application to all members at once, this would cause a disruption of service to the clients. In this example, using an incremental deployment will allow the users to connect to the old version of the application while the new version is being deployed. To perform an incremental deployment, take W1 offline and deploy to W1. Bring W1 back online and repeat the process for W2, W3, and W4 individually. Users can continue using the old version of the application until all cluster members have undergone the upgrade.

COM+ applications have to be copied and registered to each member of the cluster. Automatic synchronization cannot be used to replicate the components from W1 to the other cluster members, and therefore, this does not provide a solution.

Synchronization is a one-way process from the cluster controller to the cluster member. If W4 were synchronized with the cluster controller, its content would be overwritten with that of the W1. In any case, this does not provide a solution because COM+ components are not replicated with the automatic synchronization process and must be deployed to each member of the cluster.

Question: 151.

A hacker to your web site is attacking a cluster member. You want to monitor each of the cluster members to determine if your suspicions are warranted. Which of the following should you do?

- A. Capture incoming traffic using Network Monitor on each of the cluster members.

- B. Enable the Alert service to alert about this situation.
- C. Enable W3C extended logging on the cluster controller.
- D. Set ACLs on the Web site's virtual directories.

Answer: C

Explanation:

W3C Logging is configured for individual Web sites, and provides detailed information about the incoming visits to a Web site. W3C extended logging will record the IP address, username, server name, port number used, and much more detailed information. If there is suspicion about a Web site being under attack, it is essential to enable W3C extended logging for the Web site in question. This configuration is part of the IIS settings and will be replicated from the controller across the cluster when automatic synchronization occurs.

Access Control Lists (ACL) can be set for virtual directories as a means of authorizing user access to areas of the Web site. This in itself, however, does not provide detailed information on who is visiting the site.

The data that is collected through the Events and Performance Monitoring in Application Center is logged to a Microsoft SQL Server 2000 database named ACLog. Each cluster member generates its own database, so when dealing with the logged data, it is not representative of the whole cluster, but rather one member. To centralize the data so that it may be used to form a baseline or used for analyzing historical trends, each of the databases must be copied to a central server. One technique used to perform this is via the SQL Data Transformation Services (DTS). The Events and Performance Monitoring data does not provide information on who is visiting a particular Web site, and therefore does not provide a solution.

Network Monitor is used on a server to monitor traffic that comes and goes from that server. The amount of data that it captures can be controlled through the use of filters. Filters can define a particular protocol that may be the focus of concern. Network Monitor is not able to capture incoming traffic to a specific Web site. This is not the nature of its design. It is not designed to serve as a logging system, but rather to capture packets for analysis.

Question: 152.

You need to configure Health Monitor to notify you on the status of a cluster member's hard drive. If the drive free space reaches 25%, you want to be notified by e-mail. If the hard disk free space reaches a level below 5%, you want the server taken offline. Identify the steps you should take.

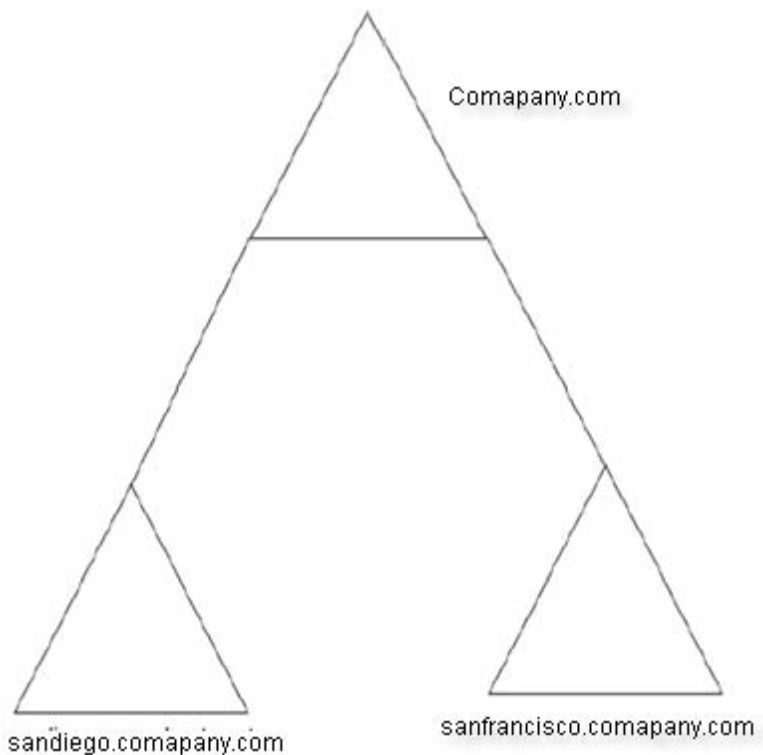
- A. Create a non-synchronized data group. Add two data collectors to the group.
- B. Create two data collectors. Associate a threshold and corresponding action with each.
- C. Create one data collector. Associate two thresholds and corresponding actions with the data collector.
- D. Create a synchronized data group. Add two data collectors to the group.

Answer: C Explanation:

You can associate more than one threshold and corresponding action with a data collector. In this example, in order to have two different actions occur when the hard disk utilization reaches two different levels, you create one data collector and associate two thresholds, 25% and 5%. You then associate two actions with the data collector, e-mail notification and server offline.

Question: 153.

You are a domain administrator of Company. Company's network consists of three domains, as shown in the exhibit.



You are responsible for the sandiego.Company.com domain. The sandiego.Company.com domain contains user accounts for 50 of the employees in the finance department. Recently, a shared folder named FinanceA was created in the sandiego.Company.com domain. FinanceA can be accessed by only those 50 employees. FinanceA contains forms that are used by the 50 employees.

You are instructed to create a group on your domain controllers that will allow finance users whose user accounts are in global groups from the other domains to access FinanceA. You must accomplish this goal while minimizing replication overhead. What should you do?

- A. Create a global group. Add the appropriate groups from the other domains to the global group. Assign the global group permissions for FinanceA.
- B. Create a domain local group. Add the appropriate groups from the other domains to the domain local group. Assign the domain local group permissions for FinanceA.
- C. Create a universal group. Add the appropriate groups from the other domains to the universal group. Assign the universal group permissions for FinanceA.
- D. Create a distribution group. Add the appropriate groups from the other domains to the distribution group. Assign the distribution group permissions for FinanceA.

Answer: B

Question: 154.

You are a network administrator for Company. Company executives plan to deploy 25 new Windows 2000 member servers and 25 new Windows 2000 domain controllers. All Active Directory server accounts are in the default locations.

You need to install 20 hot fixes as part of the operating system installation on the new computers. The hot fixes must be installed on any current Windows 2000 Server computers. You create a distribution folder for the hot fixes. What should you do next?

- A. Use Setup Manager to create an answer file that will run a script to install the hot fixes from the distribution folder during setup.

- B. Use Setup Manager to create an answer file. Add lines in the Cmdlines.txt file to install the hot fixes from the distribution folder during setup.
- C. Create a script that will install all of the hot fixes automatically. Configure a Group Policy object (GPO) and link it to the domain level to run this script on startup.
- D. Create a Group Policy object (GPO) and link it to the Domain Controllers OU and to the Computers container. Configure the GPO to assign the hot fixes as assigned applications.

Answer: B

Question: 155.

You are a domain administrator for Company. The network contains three Windows 2000 Server domain controllers and one Windows 2000 Server member server. The member server contains three hard disks, which use software RAID-5. The member server also contains an ISA card that has 12 modems attached for Routing and Remote Access dial-up access. Usage of the member server's disk subsystem is occasionally as much as 80 percent. This level of usage results in slow response times for dial-in users. You run System Monitor on the member server. The System Monitor results are shown in the following table.

Object System	Counter Processor Queue Length	Average value 1
Processor	% Processor Time	56
Processor	Interrupts/sec	320
PhysicalDisk	Disk Queue Length	1
PhysicalDisk	Disk Bytes/sec	1900 KB
PhysicalDisk	%Disk Time	74
Memory	Page Faults/sec	10
Memory	Page Reads/sec	9
Memory	Pages/sec	50

You want to maximize the performance of the member server. What should you do?

- A. Increase the number of hard disks in the RAID-5 system.
- B. Upgrade the RAM.
- C. Upgrade the processor.
- D. Upgrade the ISA card to PCI.

Answer: B Question: 156.

You are the administrator of a Windows 2000 Server computer in Company's accounting department. The server runs Terminal Services in application mode. All users in the accounting department run their business applications in Terminal Services sessions.

A manager in the accounting department runs an application on the server. The application requires three hours to process financial and accounting data. This application must be run every Friday morning so that the data will be available to the director of accounting by 5:00 P.M. Friday afternoon.

Users in the accounting department report that when this application is running, the performance of other business applications is significantly slower. You need to allow the accounting application to run with the least amount of performance impact on the other business applications. What should you do?

- A. Configure all other business applications to have High priority.
- B. Configure all other business applications to have RealTime priority.
- C. Configure the accounting application to have AboveNormal priority.
- D. Configure the accounting application to have BelowNormal priority.

Answer: D

Question: 157.

You are the administrator of a Windows NT Server computer named Company1. Company1 is the Routing and Remote Access server for your network. Company1 is connected to the Internet and is configured to provide virtual private network (VPN) connections to your intranet.

You want to prevent unauthorized users from gaining access to your network by using VPN connections on Company1. You want to ensure that only VPN connections are used on Company1. What should you do?

- A. Configure the VPN connection on computers that connect to Company1 to require data encryption.
- B. Configure the VPN connection on computers that connect to Company1 to use the Extensible Authentication Protocol (EAP).
- C. Configure Routing and Remote Access Service (RRAS) on Company1 to disable IP forwarding.
- D. Configure TCP/IP on Company1 to enable PPTP filtering for the network adapter that is connected to the Internet.

Answer: D

Question: 158.

You are the administrator of a network that consists of a single Windows NT domain. The domain contains Windows NT Server computers and Windows 2000 Professional computers. A Windows NT Server computer named Company1 provides DHCP, WINS, and DNS services. The DNS service is used to provide name resolution for access to Company's intranet Web site.

The domain also contains UNIX client computers that use a UNIX-based DNS service. The UNIX DNS server is configured to forward unresolved name resolution requests to Company1's DNS service.

You want to enable the UNIX computers to access new Windows NT Server computers when they are added to the network. You want the UNIX computers to be able to connect to the Windows NT Server computer by using host names rather than IP addresses. You want to accomplish this task by using the least amount of ongoing administrative effort. What should you do?

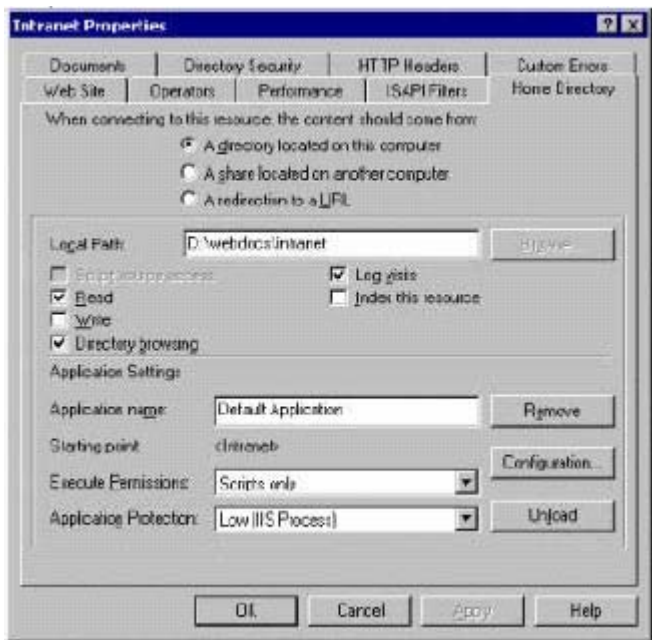
- A. Configure the WINS service to have static mapping for each UNIX client computer.
- B. Configure Company1's DNS service to use WINS name resolution.
- C. Configure Company1's WINS service to use the UNIX DNS server as a push partner.
- D. Configure a HOSTS file on Company1 that contains an entry for each Windows NT Server computer.

Answer: B

Question: 159.

You are the Webmaster of Company's intranet. The intranet is hosted by a Windows NT Server computer. You need to install a new server component that Web developers will use to create a new service. The new component is an ISAPI-based application. You install the component in a virtual directory named Apps. You define the Read permission and enable all Execute permissions.

When the developers begin to test the new service that uses the new component, they receive an error message that states that the component could not be started. You view the properties of the intranet Web site, which are shown in the exhibit.

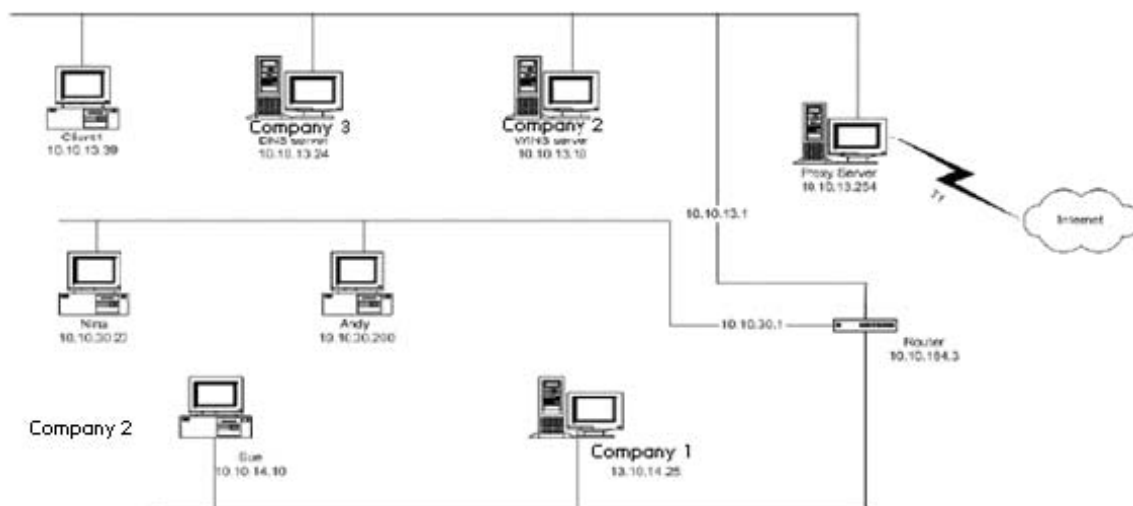


You need to ensure that developers can use the component. What should you do?

- A. Configure the Apps virtual directory to run at an Application Protection level of Medium.
- B. Configure the Apps virtual directory to run at an Application Protection level of High.
- C. Configure the Web site Application Settings to enable Scripts and Executables.
- D. Configure the Web site to remove the Default Application.

Answer: C Question: 160.

You are the administrator of a Windows NT domain. The domain contains Windows NT Server computers and Windows 2000 Professional computers. You are responsible for supporting all of the computers in the domain. Another group in Company manages the network routers. A portion of your network is shown in the exhibit.



A user named Tess is using the computer named Client1. Tess reports that she cannot access a resource on Company1. You verify that you can connect to Company1 from the computer named Nina. You want to find out whether Client1 can connect to Company1.

What should you do?

- A. On Client1, run the ping command to test the address of 10.10.30.1.
- B. On Client1, run the tracert command to test the address of 10.10.14.25.
- C. On Company1, run the ping command to test the address of 10.10.14.1.
- D. On Company1, run the tracert command to test the address of 10.10.13.1.

Answer: B

Question: 161.

You are the administrator of a Windows NT Server network that contains Windows 2000 Professional computers. The network is divided into five TCP/IP subnets, and each subnet has its own Windows NT Server computer.

You add a Windows NT Server computer named Company1 to one of the subnets, and you configure the DHCP Server on Company1. You create a DHCP scope for each of the subnets. You configure all of the client computers to use DHCP. When the client computers start, only computers on the same subnet as Company1 can obtain DHCP addresses. You want to allow all of the client computers to obtain their TCP/IP configurations from Company1. You want to accomplish this task by using the least amount of administrative effort. What should you do?

- A. Configure the DHCP Server service on each Windows NT Server computer, and assign an IP scope for each subnet.
- B. Configure the DHCP Server service on Company1 to exclude the IP addresses of the routers from the subnet scopes you have defined.
- C. Configure the DHCP Relay Agent on each Windows NT Server computer.
- D. Configure a WINS service on each Windows NT Server computer.

Answer: C

Question: 162.

You are the administrator of a Windows NT Server computer. The server runs Microsoft Internet Information Server (IIS) and hosts a Web site. The Web site is configured so that it has the default settings. Company employees access the Web site by means of Company intranet and the Internet. The first page that employees see when they access the Web site is named Default.asp. This page allows them to provide a user name and password. The page then redirects employees to a menu of available options. You want to ensure that employee user names and passwords are not transmitted over the Internet in plain text. You also want to ensure that the server's performance is minimally affected by employees who access the Web site. You install a server encryption certificate on the server. What should you do next?

- A. Configure Default.asp to disallow anonymous access.
- B. Configure Default.asp to require secure communications for all connections.
- C. Configure the Web site to require secure communications for all connections.
- D. Configure the Web site to allow Windows NT Challenge/Response authentication.

Answer: B

Question: 163.

You are the administrator of a Windows NT Server computer. The computer is used as a print server and shared 20 printers. The server contains two hard disks, which are named drive C and drive D. Drive C has a 2-GB capacity and contains all of the operating system files. Drive D has a 10-GB capacity and contains no files. During a maintenance inspection, you notice that drive C has only 3 MB of free disk space. You need to make space available on drive C and prevent the drive from filling up again. What should you do?

- A. Disable the creation of memory dump files when a STOP error occurs.
- B. Configure the server to place spooled print jobs in a folder on drive D. Stop and restart the Print

Spooler service.

C. Create a new disk quota limit on volume C to deny space to users who exceed their quota limit.

D. Pause the Print Spooler service. In the shared printer properties, use a smaller file type for the print mode. Restart the Print Spooler service.

Answer: B

Question: 164.

You are the Systems development Engineer for Company. You are currently responsible for rolling out Application Center 2000 in your organization. You are having massive problems with a member of the cluster. You need to remove it quickly and put another in its place. From the list below, what is one thing you must have to remove a member from the cluster?

A. When removing members, you must supply log-on credentials that have administrative privileges on the member.

B. You can remove members, they are part of the Cluster for good.

C. When removing members, you must supply log-on credentials that have administrative privileges on both the controller and the member.

D. When removing members, you must supply log-on credentials that have administrative privileges on the controller.

Answer: C

Question: 165.

You are an Application Center specialist. You are responsible for designing a solution that runs on the Windows 2000 platform. Your Windows 2000 system has two network adapters. The system is part of a load-balanced cluster. To allow the server to support NLB, you configure the server's IP addresses.

Which of the following is true regarding the way IP addresses can be configured if this server is a cluster member? (Choose all that apply)

A. You may have the front-end adapter configured with only one address. This address must be dynamic.

B. You may have the front-end adapter configured with only one address. This address must be static.

C. You may have the front-end adapter configured with more than one address.

D. You have the front-end adapter configured with a static or a DHCP assigned address.

Answer: C, D

Question: 166.

You are the System Engineer for Company. You are currently responsible for rolling out Application Center 2000 in your organization. You are setting up Application Center 2000 and configuring Affinity.

Which level of affinity is when NLB associates clients with particular members by using the Class C portion of the client's IP address thus, clients coming from the same Class C address range always access the same member and provides the best performance for clusters serving the Internet?

A. Single

B. None

C. Class B

D. Class C

Answer: D

Question: 167.

You are the System development Engineer for Company. You are currently responsible for rolling out Application Center 2000 in your organization. You have one Windows 2000 Server and 2 Windows 2000 Advanced Server machines. You want to install Application Center 2000 on all three and make a cluster. Is this possible?

- A. No, this is not possible because Application Center will not install on 3 Machines.
- B. No, this is not possible because Windows 2000 server does not support CLB.
- C. Yes, this is possible because Application Center will install on all three machines.
- D. No, this is not possible because Application Center 2000 will only install on Datacenter.
- E. No, this is not possible because Windows 2000 server does not support NLB.

Answer: C

Question: 168.

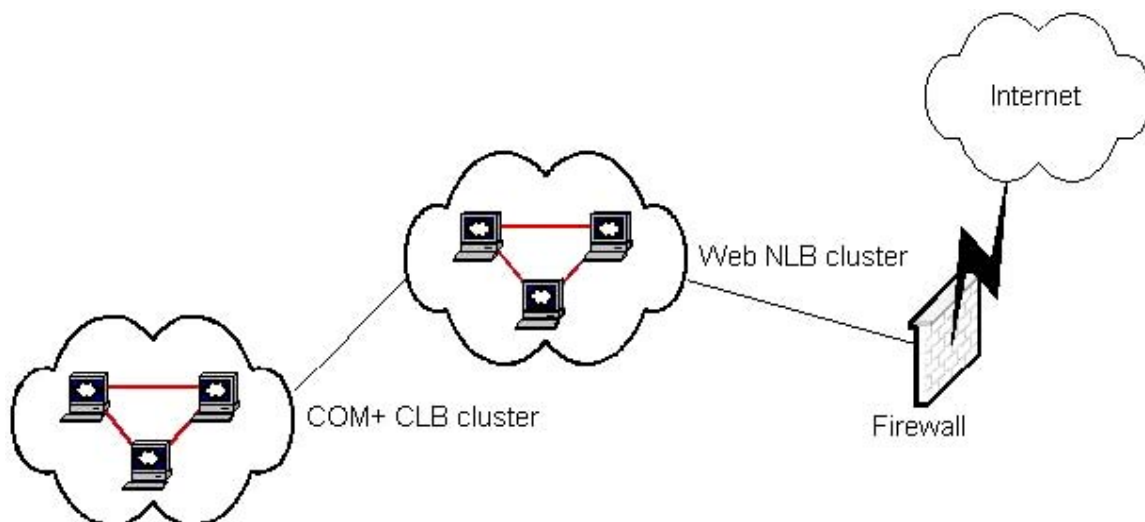
You are the administrator for an Application Center 2000 Web cluster that uses hardware-based, thirdparty load balancing and consists of six servers. The Web cluster supports six production Web sites, each for a different customer. All Web sites use the default HTTP port, and host headers are not used. A customer informs you that the name of the customer's Web site must change. You need to rename the Web site and ensure that Internet traffic will still be load balanced across the cluster. What should you do?

- A. Modify the external DNS host record for the Web site to reflect the new name.
- B. Modify the hosts file on each server in the cluster to reflect the new name.
- C. Use the Internet Information Services (IIS) snap-in to modify the name of the Web site on the cluster controller. Run **ipconfig /registerdns** from a command line.
- D. Remove each cluster member from the cluster. Use the Application Center snap-in to modify the name of the Web site on the cluster controller. Add each member back to the cluster.

Answer: A

Question: 169.

You are the Web infrastructure administrator for your company. The relevant portion of the existing Web site infrastructure is shown in the exhibit.



You configure a second COM+ Component Load Balancing (CLB) cluster that hosts components for a new Web site application.

You want the Web servers to be able to use the new COM+ cluster.

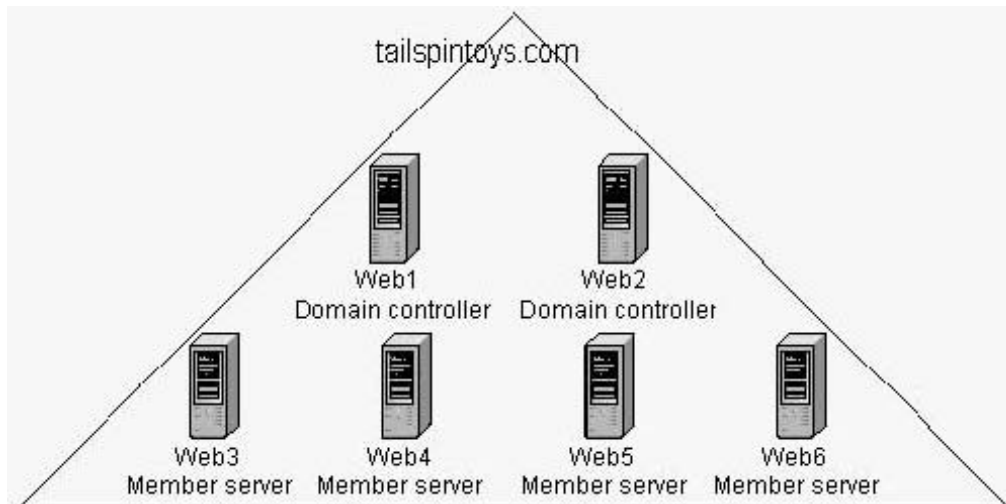
What should you do?

- A. Create a separate COM+ routing cluster. Install the new COM+ components on the routing cluster. Configure dynamic load balancing for the COM+ components. Add the names of the servers that are members of the new COM+ CLB cluster to the COM+ routing list. On the Web servers, create and install COM+ proxies that use the routing cluster address.
- B. Create a separate COM+ routing cluster. Install the new COM+ components on the routing cluster and the Web cluster. Configure dynamic load balancing for the COM+ components on the Web cluster and the routing cluster. On the routing cluster, add the names of the servers that are members of the new COM+ CLB cluster to the COM+ routing list.
- C. On the Web cluster, install the new COM+ components. Configure dynamic load balancing for the COM+ components. On the new COM+ CLB cluster, add the names of the servers that are members of the new COM+ CLB cluster to the COM+ routing list.
- D. On the new COM+ CLB cluster, configure dynamic load balancing for the COM+ components. Add the names of the servers that are members of the new COM+ CLB cluster to the COM+ routing list.
- E. On the new COM+ CLB cluster, configure dynamic load balancing for the COM+ components. On the Web cluster, add the names of the servers that are members of the new COM+ CLB cluster to the COM+ routing list.

Answer: A

Question: 170.

You are the Web infrastructure administrator for Tailspin Toys. The company has acquired six Web servers to host several different Web sites. You install Microsoft Windows 2000 Server on all of the servers and configure them in a dedicated Windows 2000 domain as shown in the exhibit.



You install Application Center 2000 on each server and select all default options. You create a Web cluster on Web6 and attempt to join the other five servers to the cluster. However, you are unable to join all of the servers to the cluster.

You must be able to create a Web cluster that includes all six servers. What should you do?

- A. Install Windows 2000 Advanced Server on all of the servers. Reinstall Application Center.
- B. Install at least one other domain controller in the domain. Run the dcpromo.exe file on Web1 and Web2. Reinstall Application Center on Web1 and Web2.
- C. Dissolve the Web cluster, and create the cluster again on Web1 or Web2.
- D. Run the dcpromo.exe file on Web3, Web4, Web5, and Web6. Join them to the tailspintoys.com domain.

Answer: B

Question: 171.

You are the network administrator for Tailspin Toys. You need to create an Application Center2000 cluster to host the company's intranet Web site. The stand-alone servers are pre-installed with Microsoft Windows 2000 Server, Service Pack 2, and security settings as mandated by the company's security policy. You log on to the first server by using your account and start the installation of Application Center. You receive the following error message.



You want to install all the components of Application Center. What should you do?

- A. Set the proper permissions on the \WINNT directory to allow the account to write to it.
- B. Create a directory for the log file and allow the account to write to it.
- C. Log on to the server by using an account that has local administrative rights.
- D. Log on to the server by using a Domain Administrator account.

Answer: C

Question: 172.

You are the network administrator for Company. You need to install Application Center 2000 on three servers. You install Application Center on two servers successfully. However, on the third server, the installation fails. During troubleshooting, you view the following entry in the ac_setup.log file: 'Internal Error 2744. register CLBSetup.exe, E:\Program Files\Microsoft Application Center\CLBSetup.exe, /i The Program experienced an internal error. If this condition persists, restart the application' You want to further troubleshoot this error. What should you do?

- A. Run the mdutil.exe file to check and repair metabase misconfigurations, and then reinstall Application Center.
- B. Stop and restart the COM+ applications by using the Component Service snap-in.
- C. Check and repair COM+ misconfigurations, and then reinstall Application Center.
- D. Log on as a member of the Local Administrators group, and then reinstall Application Center.

Answer: C

Question: 173.

You are the network administrator for Company. Company is planning the launch of a new Web site. The initial deployment of the site will contain five Application Center 2000 clusters that use Network Load Balancing (NLB), a staging server, and two management servers. You want to accomplish the following goals:

- You must be able to centrally manage the load balancing of the front-end servers from both management servers.
- You must be able to aggregate site performance data for each cluster in a central location.
- You must be able to view the performance data from both management servers.
- You must be able to deploy content from the staging server to the cluster by using either of the management servers.
- You must be able to synchronize members of a cluster from both management servers.
- You must be able to check the synchronization status of the cluster and individual members From both management servers.

Install Application Center 2000 on all the Web servers by using the typical installation.

Install Application Center 200 on one of the management servers by using the custom installation. For the installation, select only the client option.

Verify that you can connect to the cluster Web client from both management servers.

You take the following actions: Which result or results do these actions produce? (Choose all that apply)

- A. You are able to centrally manage the load balancing of the front-end servers from both management servers.
- B. You are able to aggregate site performance data for each cluster in a central location.
- C. You are able to view the performance data from both management servers.
- D. You are able to deploy content from the staging server to the cluster by using either of the management servers.
- E. You are able to synchronize members of a cluster from both management servers.
- F. You are able to check the synchronization status of the cluster and individual members from both management servers.

Answer: B, C, F

Question: 174.

You are the network administrator for Company. Company has 20 production Web servers. You need to install Application Center 2000 on these servers. You also need to set up a log file to capture any errors that might occur during installation. What are two possible ways to accomplish these goals? (Each correct answer presents a complete solution. Choose two)

- A. Use the MSIEXEC command, and include the /q and /lv* switches. Run this command on each server.
- B. Use the MSIEXEC command, and include the /q switch and the ACLogging option. Run this command on each server.
- C. On each server, run the Microsoft Application Center 2000.msi file that is included on the Application Center 2000 CD-ROM.
- D. On each server, run the setup.exe file that is included on the Application Center 2000 CD-ROM.
- E. On each server, run the setup.hta file that is included on the Application Center 2000 CD-ROM.

Answer: A, E

Question: 175.

You are planning to deploy a Web site by using Application Center 2000. The Web application uses a three-tiered architecture that has a Web interface, a COM+ application, and a clustered Microsoft SQL Server 2000 database. The Web tier has eight servers, the business-logic tier has two servers, and the data tier has two servers. You want to accomplish the following goals:

Load balance the Web site.

Load balance the COM+ application across the business-logic tier.

Provide security between the Web tier and the business-logic tier.

What are two possible ways to accomplish these goals? (Each correct answer presents a complete solution. Choose two)

- A. Use Application Center on the Web tier servers, and configure the servers as a Web cluster that uses Network Load Balancing (NLB). Use Application Center on the business-logic tier servers to load balance the COM+ application by using Component Load Balancing (NLB).
Implement a firewall between the COM+ cluster and the Web cluster.
- B. Use Application Center on the Web tier servers, and configure the servers as a Web cluster that uses a third-party load balancer. Use Application Center on the business-logic tier servers to load balance the COM+ application by using Component Load Balancing (CLB). Implement a firewall between the COM+ cluster and the Web cluster.
- C. Use Application Center on the Web tier servers, and configure the servers as a Web cluster that uses a third-party load balancer. Use Application Center on the business-logic tier servers to load balance the COM+ application by using Network Load Balancing.

(NLB). Implement a firewall between the COM+ cluster and the database cluster.

- D. Use a third-party load balancer on the Web tier servers. Use Application Center on the business-logic tier servers to load balance the COM+ application by using Component Load Balancing (CLB). Implement a firewall between the COM+ cluster and the Web cluster.
- E. Use a third-party load balancer on the Web tier servers. Use Application Center on the business-logic tier servers to load balance the COM+ application by using Network Load Balancing (NLB). Implement a firewall between the COM+ cluster and the database cluster.

Answer: A, B

Question: 176.

You are the desktop administrator for Company. Company is migrating from a Windows NT 4.0 domain to a new Windows 2000 domain. As part of the migration, you are removing Windows NT Workstation 4.0 computer accounts from the Windows NT domain and adding them to a Windows 2000 Active Directory domain. You add 10 Windows NT Workstation computer accounts to the Active Directory domain. When you attempt to add another Windows NT Workstation computer account to the Active Directory domain, you receive the following error message: "The machine account for this computer either does not exist or is unavailable." You need to be able to add Windows NT Workstation computer accounts to the Windows 2000 Active Directory domain. What should you do?

- A. Configure a DNS server for the Windows NT Workstation computers that have not been added to the Active Directory domain.
- B. Delete from the Windows NT domain the computer accounts for the Windows NT Workstation computers that have not been added to the Active Directory domain.
- C. Ask the domain administrator to assign you the Allow – Create Computer objects permission for the Computer container.
- D. Ask the domain administrator to assign you the Allow –Create Computer objects permission for the Domain Controllers container.

Answer: C

Question: 177.

You are the system administrator for Company's sales department. Maria is the administrator of the Microsoft SQL Server computers that are used in the sales department. Maria wants the servers to be as secure as possible. You need to find out whether a specific security hot fixes is installed on all the SQL Server computers in the sales department. What should you do?

- A. Run the hfnetchk command on your client computer and specify each SQL Server computer.
- B. Run the File Signature Verification tool on each SQL Server computer.
- C. Open the URL <http://windowsupdate.microsoft.com> on each SQL Server computer.
- D. Run the msixexec command on each SQL Server computer.

Answer: A

Question: 178.

You are the network administrator for Company. The network consists of a single Windows 2000 Active Directory domain. The domain contains an organizational unit (OU) named Servers. The Servers OU contains two Windows 2000 Server computers named Company1 and Company2. A user reports that it takes a long time to access applications and files from Company1 and Company2. You discover that several unnecessary services running on Company1 and Company2 are causing the servers to perform slowly. You need to disable the unnecessary services on both servers.

Your solution must ensure that these services are not reenabled. The solution must also affect all servers that are added to the Servers OU in the future. What should you do?

- A. Use Computer Management to disable the services.
- B. Use Active Directory Sites and Services to disable the services.
- C. Create a Group Policy Object (GPO) to disable the services at startup. Link the GPO to the Servers

OU.

- D. Create a Group Policy object (GPO) to restrict the access that the System account has to the Services registry key. Link the GPO to the Servers OU.

Answer: C

Question: 179.

You are the administrator of a Windows NT Server computer named Company1. Two users, who are named Exam and Sheets, report that network performance is something very slow when they access Company1. You want to be notified when network performance is slow for Exam's and Sheets's computers. Which two actions should you take? (Each correct answer presents part of the solution. (Choose two)

- A. Install the SNMP service on Exam's and Sheets's computers.
- B. Install the SNMP service on Company1.
- C. Install Network Monitor Agent on Exam's and Sheets's computers.
- D. Install Network Monitor Agent on Company1.
- E. Run Performance Monitor in Alert View on your client computer to view the Network Segment counter for Exam's and Sheets's computers.
- F. Run Performance Monitor in Log View on your client computer to log the Network Interface counter for Exam's and Sheets's computers.

Answer: C, E

Question: 180.

You are the administrator of a network that contains Windows NT Server computers and NetWare 3.x servers. A Windows NT Server computer named Company1 is the Routing and Remote Access server for your network. Company1 has a 12-port analog 56-Kbps modem card installed. Routing and Remote Access Service (RRAS) is configured to use the modem card for incoming analog connections. Users connect to Company1 by using portable computers that have PC Card modems.

A user named Marc was recently assigned dial-in permission to Company1. Tess reports that every time her computer dials in to Company1, she receives confirmation that her use name and password were verified, and then Company1 disconnects. You want to enable Tess to dial in successfully. What should you do?

- A. Configure Company1 to use DHCP leases for dial-in users, and configure the DHCP scope to use the local default gateway.
- B. Configure Company1 to use TCP/IP, NetBEUI, and NWLink IPX/SPX Compatible Transport for the dial-in ports.
- C. Configure Tess's account so that it has no restrictions for logon hours.
- D. Configure Tess's account to disable callback.

Answer: D

Question: 181.

You are the Webmaster for an Internet hosting company. Company uses Windows NT Server computers and Microsoft Internet Information Server (IIS) to host multiple Web sites on each server. Microsoft Index Server is also used to provide indexing and searching services. Each server hosts approximately 20 individual Web sites. The hosted Web sites are created by using virtual servers. You notice that when users perform searches on any of the hosted Web sites, Index Server returns results from all of the hosted Web sites. You want searches that are performed in a Web site to return results for only that Web site. What should you do?

- A. Re-create hosted Web sites by using virtual directories.
- B. Re-create Web sites by placing them under the default Web site.
- C. Create and Index Server catalog for each hosted Web site, and assign a catalog to each hosted Web site by using the

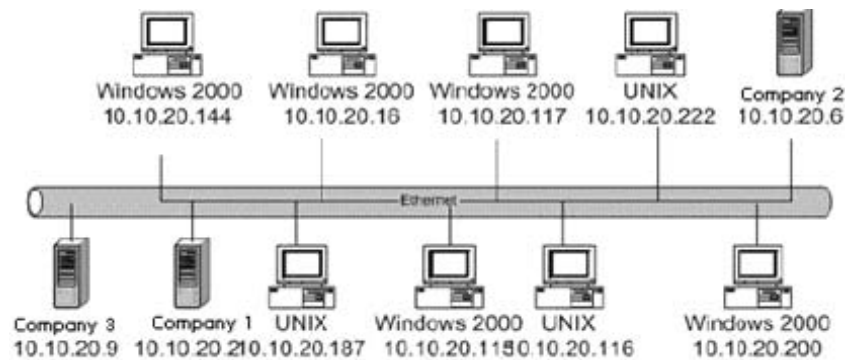
Web site's IP address.

- D. Create a single Index Server catalog for the default Web site, and add the name of each hosted Web site on the server's Noise.enu file.

Answer: C

Question: 182.

You are the administrator of a Windows NT Server network. Three of the Windows NT Server computers on the network are named Company1, Company2, and Company3. The network also contains Windows 2000 Professional client computers and UNIX servers. A portion of the network is shown in the exhibit.



Company1 is a DHCP server that is configured to use a DHCP scope of 10.10.20.10 to 10.10.20.255. All of the UNIX servers are configured to use static IP addresses, and the Windows 2000 Professional computers are configured to use DHCP. Every day, users report that they cannot connect to the network when they first start their computers. The users usually receive the following error message: The system has detected an IP address conflict with another system on the network. The local interface has been disabled. More details are available in the system event logs. Consult your network administrator to resolve the conflict. Each user can connect to the network after waiting about 30 minutes and restarting the computer. You want to enable users to connect to the network and log on successfully without having to wait and restart their computers. What should you do?

- A. Change the DHCP scope on Company1 to 10.10.20.50 to 10.10.20.255.
- B. Change the DHCP scope on Company1 to exclude the addresses of the UNIX servers.
- C. Configure the WINS server address on all of the following Windows 2000 Professional computers to 10.10.20.80.
- D. Configure the DNS server address on all of the Windows 2000 Professional computers to 10.10.20.80.

Answer: B

Question: 183.

You are the administrator of a Windows NT Server computer named Company1. Company1 runs Microsoft Internet Information Server (IIS) and hosts an intranet Web site. The Web site is configured so that it has the default settings. You add a virtual directory named Marketing to the Web site. The virtual directory points to the \\Files1\MktDocs shared folder, which contains documents that are published by Company's marketing department. You verify that users can view the documents by means of a Web browser and HTTP.

Several months later, users report that they can no longer access the documents by using HTTP. Some users can access the documents on their client computers by means of the \\Files1\MktDocs shared folder. You need to ensure that all users can access the documents by using the Web site. What should you do?

- A. Assign the Everyone group the Read permissions for the files in \\Files1\MktDocs.
- B. Assign the Everyone group the Read permission for \\Files1\Marketing.
- C. Configure the Web site to allow anonymous access and to disallow Basic authentication.
- D. Configure the user account that the virtual directory uses to access \\Files\MktDocs so that account is not locked out and so that the password never expires.

Answer: D

Question: 184.

You are the Systems development Engineer for Company. You are currently responsible for rolling out Application Center 2000 in your organization. You just brought down the cluster controller. (You did it correctly by promoting another member to the controller status). You now need to remove the content from this server. What will allow you to do that?

- A. ac cluster /clean
- B. format x: /s
- C. ac clean
- D. None of these answers are correct.
- E. fdisk /mbr
- F. fdisk

Answer: A Question: 185.

You are the Web server administrator for Company. You have just finished establishing a new Web cluster and want to verify visibility of all cluster members. What should you do to test this? (Choose all that apply)

- A. From the cluster controller, you should ping all cluster members by machine name, which should resolve into the back-end adapter IP address.
- B. From each cluster member, you should ping the proxy server by its machine name, which should resolve into the Virtual IP address.
- C. From the cluster controller, you should ping all cluster members by machine name, which should resolve into the front-end adapter IP address.
- D. From the cluster controller, you should ping all the clusters by dedicated IP addresses.
- E. From the cluster controller, you should ping the Virtual IP address.
- F. From each cluster member, you should ping the cluster controller by its dedicated IP address.
- G. From each cluster member, you should ping the cluster controller by its machine name, which should resolve into the back-end adapter IP address.

Answer: A, E, G

Question: 186.

You are the Systems development Engineer for Company. You are currently responsible for rolling out Application Center 2000 in your organization. Your project manager tasks you to implement a Network Load Balanced solution to keep Company's web site highly available. You are asked to do it in the most time effective way. If you were not going to manually perform all the tasks involved, what utility could you use to get an Application Center 2000 cluster up and running quickly?

- A. Application Center WIN2K.exe utility.
- B. Application Center clust.com.
- C. Application Center Cluster /new /p command.
- D. Application Center New Cluster Wizard.

Answer: D

Question: 187.

You are the Web server administrator for a large e-commerce company Company International. You are always on the lookout for new ways to make your job easier and improve the performance of your Web servers. The CIO asks you this question: "Does Application Center help to ensure correct configuration of network settings across all cluster members and what settings can it replicate?" What will you tell him? (Choose all that apply)

- A. Yes, Application Center will replicate the correct network settings to all cluster members automatically.
- B. The settings for the Virtual IP address, IP subnet, heartbeat adapter IP addresses, WINS servers and DNS domain will be replicated.
- C. The settings for the IP subnet, load balanced adapter IP addresses, DNS domain and DNS servers will be replicated.
- D. Yes, Application Center will replicate the correct network settings to all cluster members, but this must be configured manually during the setup of the cluster controller.
- E. No settings will be replicated.
- F. No, Application Center will not replicate the correct network settings to all cluster members automatically.
- G. The settings for the Virtual IP address, IP subnet, default gateway and metric, DNS servers, DNS domain, WINS servers and WINDS mode type will be replicated.

Answer: A, G

Question: 188.

You are the administrator for an Application Center 2000 Web cluster that uses Network Load Balancing (NLB) and consists of two servers. The Web cluster needs to support the www.fabrikam.com Web site. The servers are connected to the network as shown in the exhibit.

Network adapter	IP address	Dynamic DNS enabled
Server1 Network Adapter 1	131.107.20.21, dedicated	No
Server1 Network Adapter 2	DHCP and WINS client	Yes
Server2 Network Adapter 1	131.107.20.22, dedicated	No
Server2 Network Adapter 2	DHCP and WINS client	Yes
NLB primary IP	131.107.20.10	No

The network adapters are configured as shown in the following table.

Network adapter	IP address	Dynamic DNS enabled
Server1 Network Adapter 1	131.107.20.21, dedicated	No
Server1 Network Adapter 2	DHCP and WINS client	Yes
Server2 Network Adapter 1	131.107.20.22, dedicated	No
Server2 Network Adapter 2	DHCP and WINS client	Yes
NLB primary IP	131.107.20.10	No

The DNS server provides name resolution for the Internet. You want to configure name resolution for the Internet clients of the Web cluster by using the least amount of administrative effort. What should you do?

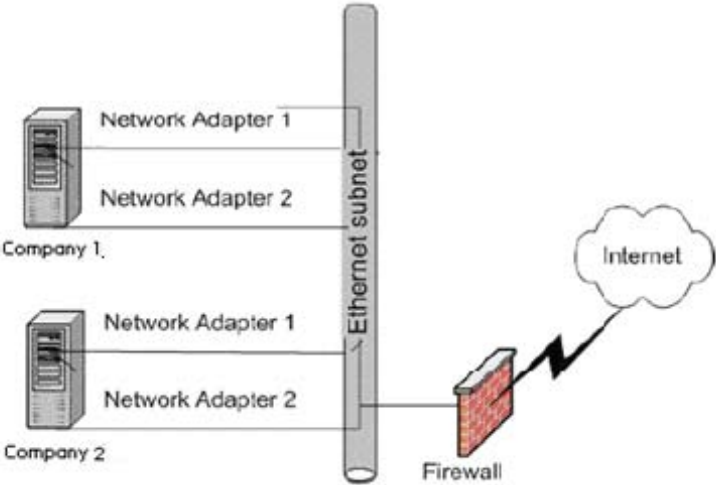
- A. Configure Network Adapter 1 on each server to use DHCP.
- B. Manually configure a host address (A) resource record for www.fabrikam.com to resolve to 131.107.20.10 in DNS.
- C. Enable dynamic DNS registrations on Network Adapter 1 on each server.

- D. Configure Network Adapter 2 on each server with a static IP address. Manually configure Network Adapter 1 and Network Adapter 2 on each server to be WINS clients.
- E. Configure Network Adapter 2 on each server with a static IP address. Manually configure a hosts file entry on Server1 for Network Adapter 2 of Server2. Manually configure a hosts file entry on Server2 for Network Adapter 2 of Server1.

Answer: B

Question: 189.

You are the Web infrastructure administrator for Company. Two Microsoft Windows 2000 Advanced Server computers are configured as Web servers in a round-robin DNS. The servers are connected to the network as shown in the exhibit.



You install Application Center 2000 on each server. You plan to use Network Load Balancing (NLB) for load balancing on Network Adapter 1 on each server. The servers are configured as shown in the following table.

	Company1	Company 2
System root path	C:\WINDOWS 2000 AS	C:\WINDOWS 2000 AS
Web site root folder	D:\website	E:\wwwroot
Network Adapter 1 Interface metric	1	1
Network Adapater 2 Interface metric	1	1
Number of hard disk partitions	2	2

You need to create a Web cluster that consists of two servers. You want Company1 to be the cluster controller. Which configuration change should you make to the servers before creating the cluster?

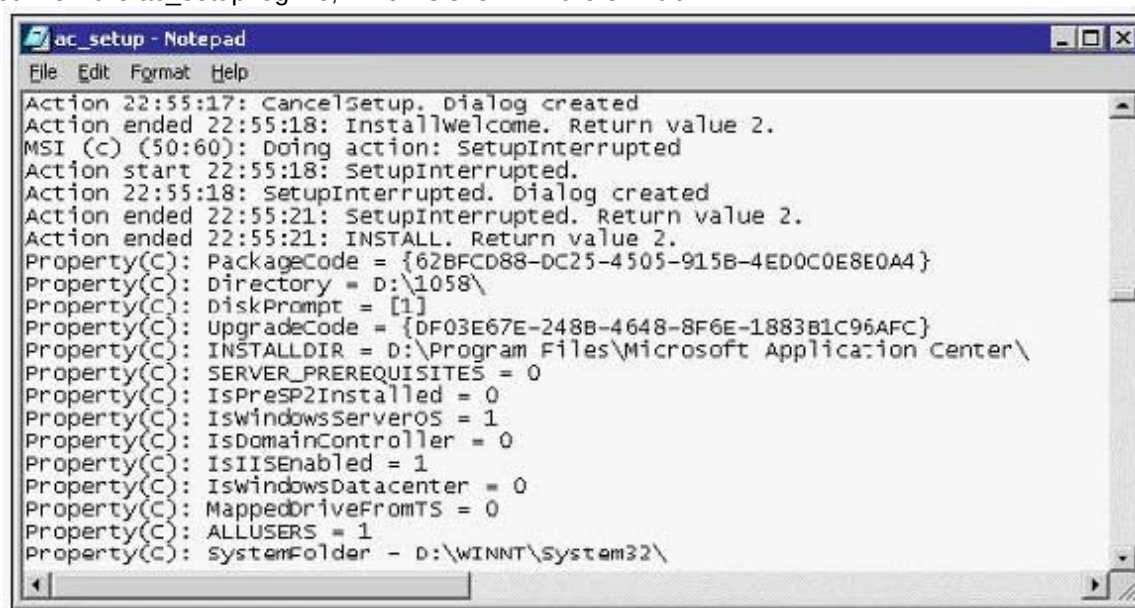
- A. Change the Interface metric for Network Adapter 1 on each server to 2.
- B. Change the Interface metric for Network Adapter 2 on each server to 2.
- C. Change the system root path on each server to C:\WINNT.
- D. Change the Web site root folder on Company1 to D:\wwwroot.
- E. Change the drive letter assignment for the current drive E to drive D on Company2.

Answer: E

Question: 190.

You are the network administrator for your company. The company's Web site has experienced a large amount of traffic, so you

decide to add another server to the cluster. You use a spare server that is configured as a file and print server. You start the installation of Application Center 2000 and receive a warning that only the Administrative client can be installed. During troubleshooting you view the ac_setup.log file, which is shown in the exhibit.



```
ac_setup - Notepad
File Edit Format Help
Action 22:55:17: CancelSetup. Dialog created
Action ended 22:55:18: InstallWelcome. Return value 2.
MSI (c) (50:60): Doing action: SetupInterrupted
Action start 22:55:18: SetupInterrupted.
Action 22:55:18: SetupInterrupted. Dialog created
Action ended 22:55:21: SetupInterrupted. Return value 2.
Action ended 22:55:21: INSTALL. Return value 2.
Property(C): PackageCode = {62BFC088-DC25-4505-915B-4ED0C0E8E0A4}
Property(C): Directory = D:\1058\
Property(C): DiskPrompt = [1]
Property(C): UpgradeCode = {DF03E67E-248B-4648-8F6E-1883B1C96AFC}
Property(C): INSTALLDIR = D:\Program Files\Microsoft Application Center\
Property(C): SERVER_PREREQUISITES = 0
Property(C): IsPreSP2Installed = 0
Property(C): IsWindowsServerOS = 1
Property(C): IsDomainController = 0
Property(C): IsIISEnabled = 1
Property(C): IsWindowsDatacenter = 0
Property(C): MappedDriveFromTS = 0
Property(C): ALLUSERS = 1
Property(C): SystemFolder = D:\WINNT\System32\
```

You want to install the server components of Application Center by using the least amount of administrative effort. What should you do?

- A. Install the post-Service Pack 1 hotfixes.
- B. Run the dcpromo.exe file.
- C. Install Internet Information Services (IIS), and enable the IIS Administration Service.
- D. Reformat the server, and install Microsoft Windows 2000 Server.

Answer: A

Question: 191.

You are the network administrator for Company. There are five servers in a Web cluster. After examining performance statistics on the site hosted on the cluster, you decide that one server can be removed from the cluster and used elsewhere.

You uninstall Application Center 2000 from this server. When you use the Application Center snap-in to view the cluster, you find that the server still appears as a member of the cluster. You need to remove the server from the cluster by using the least amount of administrative effort. What should you do?

- A. Reinstall Application Center on the server, connect to the cluster controller, remove the server from the cluster, and then uninstall Application Center.
- B. Reinstall Application Center on the server, connect to the server, remove the server from the cluster, and then uninstall Application Center.
- C. Run the Application Center snap-in, connect to the cluster controller, and then remove the server from the cluster.
- D. Run the Application Center snap-in, connect to the server, and then remove the server from the cluster.

Answer: C

Question: 192.

You are the network administrator for Company. Company is planning the launch of a new Web site. The initial deployment of the site

will contain 10 front-end Web servers and one management server. You want to accomplish the following goals:

The site must be highly available and scalable beyond 10 servers.

You must be able to synchronize all the front-end servers with content updates from the management server.

You must have consolidated logging of events for centralized monitoring of each cluster.

You must be able to centrally manage the load balancing of the front-end servers from the management server.

- You must be able to aggregate site performance data for each cluster in a central location

You take the following actions:

Install Application Center 2000 on all the servers by using the customer installation. For the installation, select only the server option and do not enable Application Center Events and Performance Logging.

Create two Application Center clusters of five servers that use Network Load Balancing (NLB) and default settings.

Load balance the clusters by using round-robin DNS.

Use the Microsoft Windows 2000 Performance tool to monitor all the servers.

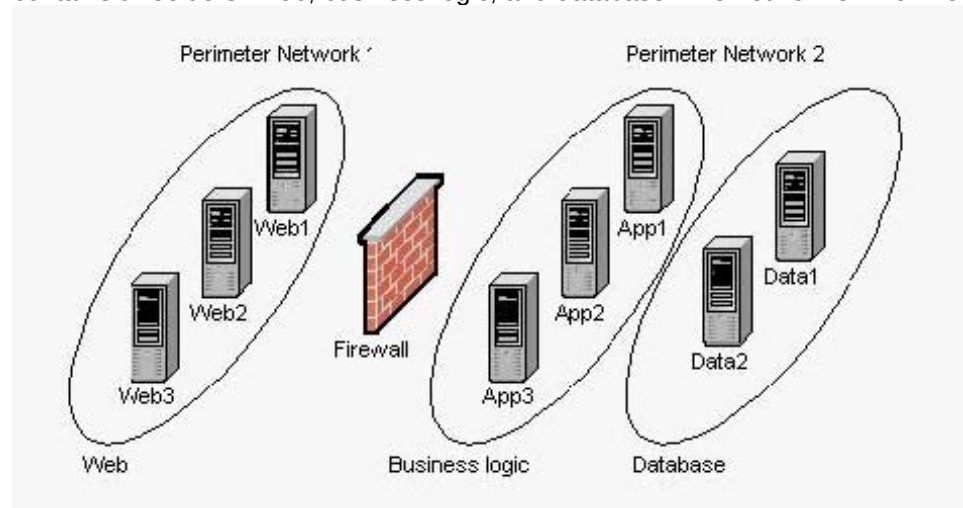
Which result or results do these actions produce? (Choose all that apply)

- A. The site is highly available and scalable beyond 10 servers.
- B. You are able to synchronize all the front-end servers with content updates from the management server.
- C. You have consolidated logging of events for centralized monitoring of each cluster.
- D. You are able to centrally manage the load balancing of the front-end servers from the management server.
- E. You are able to aggregate site performance data for each cluster in a central location.

Answer: A

Question: 193.

You are the network administrator for your company. You plan to deploy Application Center 2000 in a single-site environment, which contains three tiers: Web, business logic, and database. The network environment is shown in the exhibit.



Perimeter Network 1 is connected to the Internet. You want to provide a secure staging mechanism to deploy content. What should you do?

- A. Host a staging server in Perimeter Network 2. Configure the firewall to allow Application Center traffic from the staging server to Perimeter Network 1.
- B. Host a staging server in Perimeter Network 1. Configure the firewall to allow Application Center traffic from the staging server to Perimeter Network 2.
- C. Host a staging server in Perimeter Network 1 and Perimeter Network 2. Configure the firewall to allow Application Center traffic between the two staging servers.

D. Host a staging server in Perimeter Network 2. Configure the firewall to prevent all Application Center traffic from the staging server to Perimeter Network 1.

Answer: A

Question: 194.

You are the desktop administrator for Company. A new shipment of computers arrived recently. These new computer will replace outdated client computers. You install Windows 2000 Professional on one of the new computers. You attempt to join the computer to the domain. You receive an error message stating that access has been denied. You need to be able to add the new computers to the domain. After you install Windows 2000 Professional on all of the new computers, what should you do?

- A. Log on to each computer as local Administrator, and then join each computer to the domain.
- B. Obtain permissions to create computer objects, and then join each computer to the domain.
- C. For each computer, create a computer account in Active Directory, and then join each computer to the domain.
- D. Run the `ipconfig /registerdns` command on each computer, and then join each computer to the domain.

Answer: B

Question: 195.

You are a network administrator for Company. The network contains 2,500 Windows 2000 Professional computers, 70 Windows 2000 Server member servers, and 5 Windows 2000 Server domain controllers. All computer accounts are in their default location in Active Directory.

You need to deploy the most recent service pack to all of the computers with the least amount of administrative effort. What should you do?

- A. Create a script named `Update.bat` that runs the `Update.exe` file from a network share. Create a Group Policy object (GPO) and link it to the Computers container. Set the computer configuration to run the `Update.bat` script on startup. Restart each computer.
- B. Create a Group Policy object (GPO) and link it to the domain level. Configure the GPO to assign the `Update.msi` file under the user configuration logon script. Log on to each computer as Administrator.
- C. Create a Group Policy object (GPO) and link it to the domain level. Configure the GPO to assign the `Update.msi` file under the computer configuration. Restart each computer.
- D. Create a Group Policy object (GPO) and link it to the Computers container. Configure the GPO to assign the `Update.msi` file under the computer configuration. Restart each computer.

Answer: C

Question: 196.

You are the network administrator for Company. The network contains a Windows 2000 Server computer named Company1. Company1 runs four server applications, which are accessed by company employees. Company's software developers install a new application on Company1. Several employees now report that all the applications are responding very slowly. You notice that the hard disks on Company1 are constantly busy. You open Task Manager on Company1. The information on the Performance tab is summarized in the following table.

Performance item Performance value

Commit Charge Total	735214	Commit Charge Limit	736819	Commit Charge Peak	
736819	CPU Usage	86%	MEM Usage	734687	Physical Memory Total
130612	Physical Memory Available	65535	Physical Memory System Cache	66400	Total Processes
58					

You need to improve the performance of Company1 as much as possible. What should you do?

- A. Increase the amount of RAM installed in Company1.
- B. Install an additional processor in Company1.
- C. Install more hard disks in Company1.
- D. Increase the size of the paging file on Company1.

Answer: A

Question: 197.

You are the administrator of a Windows NT domain. The domain contains Windows NT Server computers and Windows 2000 Professional computers. The domain uses DNS and WINS for name resolution. Company1 is a Windows NT Server computer that provides a DNS service. The DNS service is used to provide name resolution for access to Company's intranet Web site and Internet Websites. You want to provide fault tolerance for the DNS service on Company1. What should you do?

- A. Configure another server as a caching-only DNS server.
- B. Configure another server as a secondary DNS server.
- C. Configure Company1's DNS service to use a WINS server as a push partner.
- D. Configure Company1's DNS service to use WINS name resolution.

Answer: B

Question: 198.

You are the Webmaster of Company's intranet. The intranet is hosted by a Windows NT Server computer named Company1. Users access the intranet by using the URL <http://intranet>. You are adding a new Web site to Company1. Company plans to use the new Web site to track details of customer projects. You want users to be able to access the site by using the URL <http://Projects>. What should you do?

- A. Add a WINS entry for Projects that includes the IP address of Company1. Configure the Projects Web site to use host headers.
- B. Add a DNS entry for Projects that includes the IP address of Company1. Configure the Projects Web site to use host headers.
- C. Create the Projects Web site as a virtual directory, and place it under the intranet Web site.
- D. Create the Projects Web site as a folder in the intranet Web site.

Answer: B

Question: 199.

You are the new administrator of Company's Windows NT Server computer. A server named Company1 hosts a Web site, which is configured to use integrated security and to disallow anonymous access. Company employees access the Web site by means of Company intranet or Internet. An employee named Marc reports that he cannot access the Web site from his home computer. You verify that Marc can log on to the Web site from the client computer in his office. You verify that Marc is using the correct browser version on his home computer. Marc's home computer connects to the Internet by using a dial-up account to an Internet Service Provider (ISP). You need to ensure that Marc can access the Web site from his home computer. What should you do?

- A. Assign the IUSR_Company1 user account and the Domain User group the Read permission for the Web site files. Remove any permission that are assigned to Marc's user account.
- B. Configure the Web site to allow anonymous access.
- C. Create a new user account. Verify that the user account can access the Web site from your home computer. Instruct Marc to use the new account when he access the Web site from his home computer.
- D. Remove any IP address restrictions from the Web site's directory security settings.

Answer: D

Question: 200.

You are the Systems development Engineer for Company. You are currently responsible for rolling out Application Center 2000 in your organization. Your application Center 2000 cluster seems to be experiencing problems with load. You monitor the cluster and see that you may need to bring down the cluster controller because it's having hard disk problems. Can you remove this server from the Cluster?

- A. You cannot remove a cluster controller. To remove a controller, you must promote another member to controller before you can remove the original controller.
- B. You cannot remove a cluster controller. To remove a controller, you must reinstall Application Center 2000 on the machine.
- C. You cannot remove a cluster controller. Once you make A Cluster Controller, you are stuck with that server. You need to setup a Controller backup server called a CCBK.
- D. You cannot remove a cluster controller. To remove a controller, you must demote the server to controller (Backup) before you can remove it.

Answer: A

Question: 201.

You are the System development Engineer for Company. You are currently responsible for rolling out Application Center 2000 in your organization. On one-tier clusters, Application Center can use NLB to distribute requests across a COM+ application cluster. On multi-tier clusters, Application Center can use CLB to load balance requests to activate COM+ applications. Why is this method more efficient than NLB for a COM+ application cluster?

- A. CLB works faster than NLB, NLB is the older version of CLB.
- B. Because CLB load balances only the activation requests.
- C. NLB is what you use, there is no such thing as CLB.
- D. CLB is only used when you use IIS.

Answer: B

Question: 202.

What is different about deploying Global ISAPI Filters than deploying other applications or COM+ applications?

- A. When deploying a COM+ application, some (maybe all) services will be restarted on the target computer. When deploying Global ISAPI Filters, IIS will be restarted on the target computer.
- B. When deploying a COM+ application, the ACC_computername account is used. When deploying Global ISAPI Filters, the IUSR_computername account is used.
- C. When deploying a COM+ application, the IUSR_computername account is used. When deploying Global ISAPI Filters, the ACC_computername account is used.
- D. When deploying a COM+ application, IIS will be restarted on the target computer. When deploying Global ISAPI Filters, some (maybe all) services will be restarted on the target computer.

Answer: A

Question: 203.

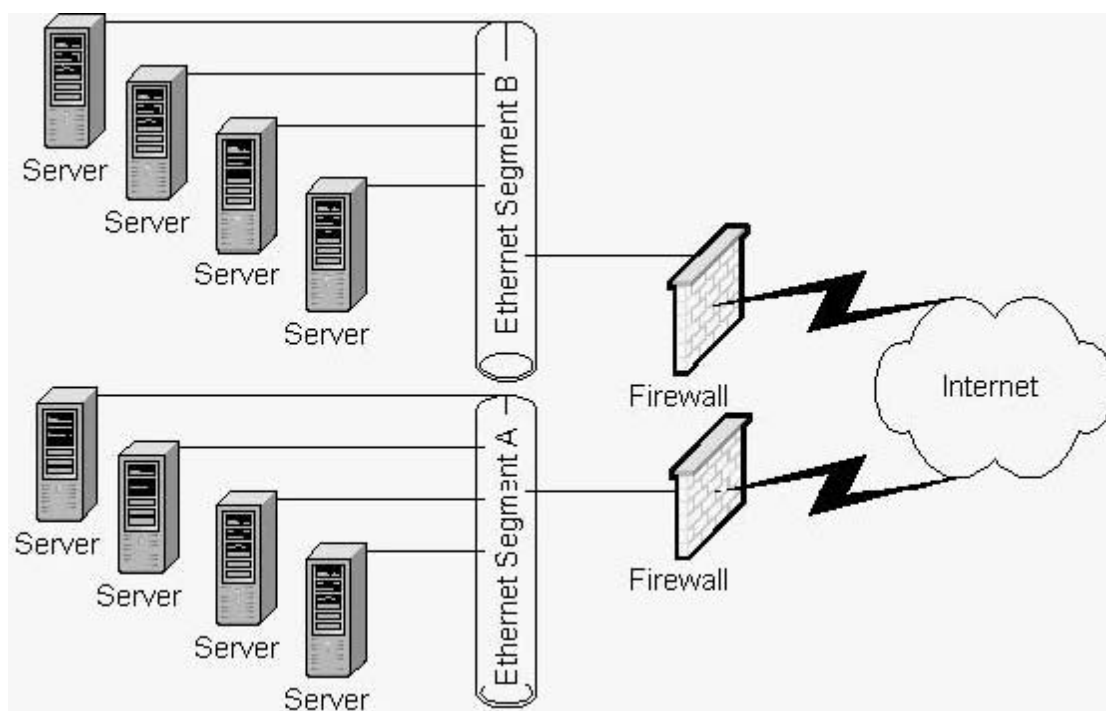
You are the administrator for an Application Center 2000 Web cluster that consists of eight servers. The Web cluster supports five production Web sites. You want to replace the cluster controller with a new server. You attempt to remove the cluster controller by using the Web-based Administrative client, but you are unable to do so. You need to remove the cluster controller from the cluster. What should you do?

- A. Use the Application Center snap-in to disband the cluster.
- B. From the command line, run the AC CLUSTER /CLEAN command on the cluster controller.
- C. Focus the Web-based Administrative client on the cluster, and remove the cluster controller from the cluster.
- D. Promote one of the other cluster members to cluster controller. Use the Application Center snap-in to remove the former cluster controller from the cluster.

Answer: D

Question: 204.

You are the Web infrastructure administrator for your company. Your company has acquired eight Web servers to host two different Web sites. The servers have been placed in a data center as shown in the exhibit.



Both Web sites must remain available in the event of server or network component failures. You install Application Center 2000 on each of the servers. How should you configure Application Center on the servers?

- A. Create a single Web cluster that consists of all eight servers. Host both Web sites on the cluster.
- B. Create two separate Web clusters, one on Segment A and one on Segment B. Host both Web sites on each cluster. Configure round-robin DNS entries for each cluster.
- C. Create two separate Web clusters, each one containing two servers from each segment. Host both Web sites on each cluster. Configure round-robin DNS entries for each cluster.
- D. Create two separate Web clusters, one on Segment A and one on Segment B. Host one Web site on each cluster.

Answer: B

Question: 205.

You are the network administrator for Company. You need to install Application Center 2000 on several servers. You want to verbosely monitor the installation of Application Center by using dbmon.exe. After installing Application Center on the first server, you view the capture file from dbmon.sex and discover there is no data. You need to be bale to see the DBMON data on future installs.

What should you do?

- A. Run the traceoutput.reg file.
- B. Run the wbemdump.exe file.
- C. Run a command line that includes the **ACLogging** option.
- D. Run the dumphm.exe file.

Answer: A

Question: 206.

You are the network administrator for your company. You installed Application Center 2000 on all Web servers by using an unattended installation. All the servers are added to the cluster and are functioning properly. However, when you try to invoke the Web monitoring of the servers from a client computer, monitoring is unavailable for the cluster. You discover that Application Center Events and Performance Logging was not installed.

You want to enable Web monitoring. What should you do?

- A. Disband the cluster. Uninstall Application Center. Install Application Center by using the unattended installation script with the ACLogging option included. Reconfigure the cluster.
- B. Disband the cluster. Uninstall Application Center. Install Application Center by using the unattended installation script without the ACLogging option included. Reconfigure the cluster.
- C. Disband the cluster. Install Application Center Events and Performance Logging by using the unattended installation script with the ACLogging option included. Reconfigure the cluster.
- D. Keep the cluster. Install Application Center Events and Performance Logging by using the unattended installation script with the ACLogging option included. Reconfigure the cluster.

Answer: A

Question: 207.

You are a network administrator for Company. You are responsible for a child domain in your enterprise. The human resources (HR) department uses this child domain. The domain contains Windows 2000 domain controllers and Windows NT 4.0 member servers.

The HR department institutes a new employee review process. Under the new process, documents that are used for performance reviews will be stored in a shared folder, and managers will be the only personnel who will have access to that shared folder. In the organizational unit (OU) named Mgr1, existing global groups for managers are the It Manages group, the HR Managers group, the Finance Managers group, and the Manufacturing Managers group. You want to add these manager groups to a new security global group named All Managers. The All Managers group is in a separate OU named AllMgr. However, when you attempt to add each of the managers groups to the All Managers group, you notice that only individual user accounts are available to be added and that the managers groups are not available to be added. What should you do?

- A. Move the All Managers global group to the Mgr1 OU.
- B. Ask the domain administrator to switch the domain to native mode.
- C. Change the All Managers group from a global group to a universal group.
- D. Ask the domain administrator to assign you the Allow – Change permission for each of the managers global groups.

Answer: B

Question: 208.

You are a network administrator for Company. The network contains 50 Windows 2000 Server computers, which are in the Server organizational unit (OU) in Active Directory. The network also contains 1,500 Windows 2000 Professional computers, which are in the

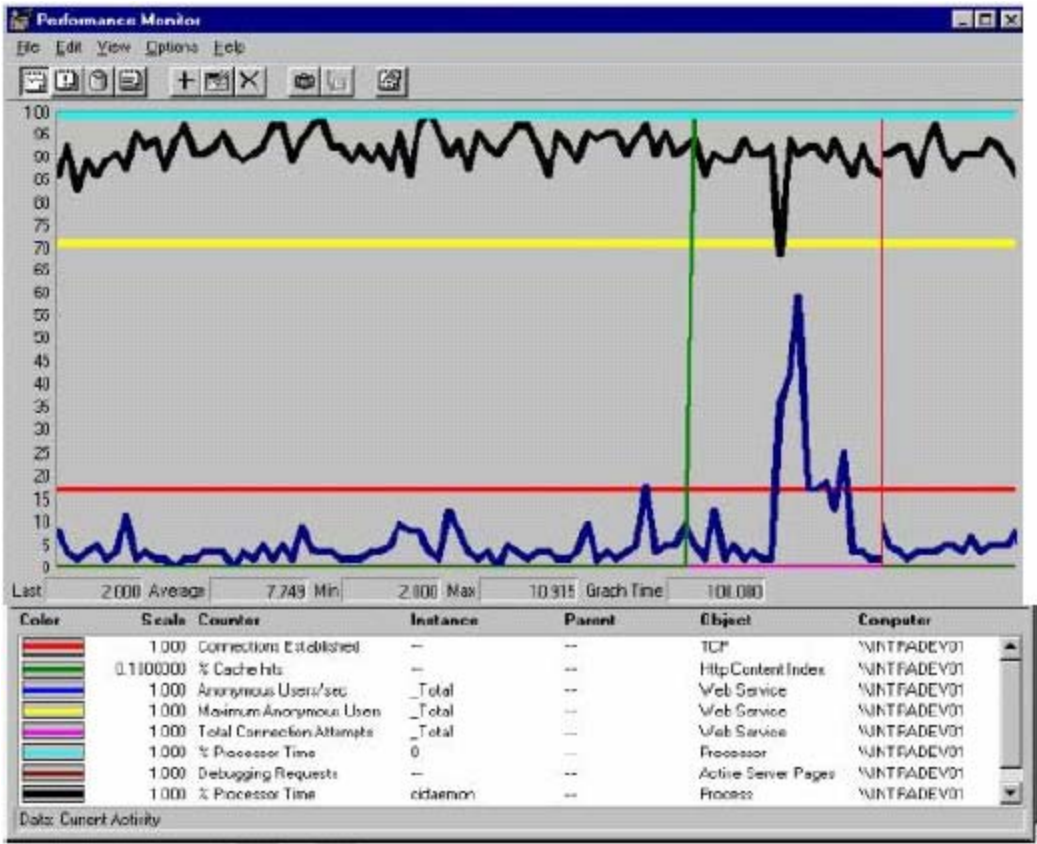
Computers container in Active Directory. You need to deploy the most recent Windows 2000 service pack. The service pack must update only the servers. You download the service pack and extract the files into a newly created shared folder named SPFiles. You need to install the service pack on all of the servers, and you want the installation to occur with no user interaction. What should you do?

- A. Create a Group Policy object (GPO) and link it to the Servers OU. Under the computer configuration, configure the GPO to assign the Update.msi file from the SPFiles folder. Restart each server.
- B. Create a Group Policy object (GPO) and link it to the domain level. Under the computer configuration startup script, configure the GPO to assign the Update.msi file from the SPFiles folder. Restart the computer.
- C. Create a Group Policy object (GPO) and link it to the domain level. Under the user configuration logon script, configure the GPO to assign the Update.msi file from the SPFiles folder. Log on to each server as Administrator,
- D. Create a script that runs the Update.exe file from the SPFiles folder. Create a Group Policy object (GPO) and link it to the Servers OU. Modify the computer configuration of the GPO to run the script on startup. Restart each server.

Answer: A

Question: 209.

You are the administrator of a Windows NT Server computer that hosts Company's Internet Web site. Your site receives approximately 100,000 hits per day. Site visitors report that they occasionally receive connection error messages when they attempt to connect to the Web site. You notice that the Web site responds very slowly every two or three hours. During one of the slowdowns, you run Performance Monitor and receive the results shown in the exhibit.



You want to eliminate the slowdowns and enable users to connect to the Web site without receiving connection error messages. What should you do?

- A. Configure Microsoft Index Server to run index catalog builds during off-peak hours.
- B. Reconfigure the Web site as a virtual directory under the default Microsoft Internet Information Server (IIS) Web site.
- C. Configure the Web site properties to run with performance settings for more than 100,000 hits per day.
- D. Configure the Web site to run at an Application Protection level of high.

Answer: A

Question: 210.

You are the administrator of a network that consists of a single Windows NT domain. The domain contains Windows NT Server computers, UNIX servers, and Windows 2000 Professional client computers. The client computers are configured to use DHCP and WINS. You are adding a new UNIX server named Company1 to the network. You want users to be able to connect to Company1 by using its name rather than its IP address. What should you do?

- A. Create an Internet Group WINS record that points to the IP address of Company1.
- B. Create a Unique WINS record that points to the IP address of Company1.
- C. Configure the network DHCP scope to include the IP address of Company1 in its range.
- D. Configure the network DHCP scope to use Company1 as a DNS server.

Answer: B

Question: 211.

You are a Webmaster for a company that provides Internet hosting services for Internet Web sites. Company is adding a new low-cost service to provide Web site hosting for low-usage sites. For this service, Company plans to use a Windows NT Server computer that has a dedicated T1 line. The server is expected to host approximately 50 Web sites. You want to ensure that the Internet connection to the server will be sufficient to handle the anticipated number of Web sites. What should you do?

- A. Configure the default Microsoft Internet Information Server (IIS) Web site to use bandwidth throttling set to 25 Kbps.
- B. Configure each Web site to use bandwidth throttling set to 25 Kbps.
- C. Configure the default Microsoft Internet Information Server (IIS) Web site to use a connection limit of 50.
- D. Configure each Web site to use a connection limit of 50.

Answer: B

Question: 212.

You are the administrator of a Windows NT Server named Public, which is a member of a Windows NT domain named CORP. Public runs Microsoft Internet Information Server (IIS) and hosts an FTP site. The FTP site is configured so that it has the default settings. The site's home directory is C:\inetpub\Ftproot. You need to use Public to allow a specific customer to upload and download files. You do not want this customer to have any other type of access. You do not want anyone else to have this type of access. You need to configure Public to support these requirements. Which three actions should you take? (Each correct answer presents part of the solution. Choose three)

- A. Create a user account named Customer on Public.
- B. Create a user account named Customer in CORP.
- C. Assign the IUSR_Public user account the appropriate NTFS permissions for C:\inetpub\Ftproot.
- D. Assign Customer the appropriate NTFS permission for C:\inetpub\Ftproot.
- E. Configure the FTP site to allow anonymous access.
- F. Configure the FTP site to disallow anonymous access.

Answer: A, D, F

Question: 213.

You are the Systems development Engineer for Company. You are currently responsible for rolling out Application Center 2000 in your organization. You are having many problems with a server and you would like to take it offline. You can also use this procedure to set a member offline or to bring a member online. When setting members offline, you can specify a period of time for the server to drain existing client connections. Why are you going to do a drain?

- A. A member that is offline is no longer receiving new requests for content, but it might still be synchronized with the controller and draining it will make it function better.
- B. This option helps prevent disruptions in client connections because it allows these connections to complete before the member is taken offline.
- C. There is no such option to drain connections off.
- D. You want to drain connections because you need to free up licenses.

Answer: B

Question: 214.

You are the Systems development Engineer for Company. You are currently responsible for rolling out Application Center 2000 in your organization. You need to configure affinity on your Application Center 2000 Cluster. Why is it not efficient for Internet clients to use Single affinity?

- A. All answer are wrong, there is no such things as Single affinity.
- B. In Single affinity, CLB load balances each client by the client's entire IP address, which can span a broad range. By using Class C affinity, NLB associates clients with only the same Class C portion of the IP address with particular members. Therefore, you essentially reduce the range of IP addresses by which NLB load balances clients.
- C. In Single affinity, NLB load balances each client by the client's entire IP address, which can span a broad range. By using Class C affinity, NLB associates clients with only the same Class C portion of the IP address with particular members. Therefore, you essentially reduce the range of IP addresses by which NLB load balances clients.
- D. In Single affinity, NLB does not load balances each client by the client's entire IP address, which can span a broad range. By using Class C affinity, NLB associates clients with only the same Class C portion of the IP address with particular members. Therefore, you essentially, reduce the range of IP addresses by which NLB load balances clients.

Answer: C

Question: 215.

You are an Application Center specialist. You are responsible for designing a solution that runs on the WINDOWS 2000 platform. When you configure the server services on the Application Center server which also has the SQL server service running, a "Misconfigured Services" error is received. Jay suspects that the SQL Server service is not properly configured. What should you do?

- A. On the Recovery tab of the MSSQLMSAC service properties, click Take No Action for each of the lists. In the Reset fail count after [x] days box, enter -1.
- B. On the General tab of the MSSQLMSAC service properties, click Hide for each of the lists.
- C. On the Recovery tab of the MSSQLMSAC service properties, click Take No Action for each of the lists. In the Rest fail count after [x] days box, enter 0.
- D. On the Recovery tab of the MSSQLMSAC service properties, click Restart for each of the lists. In the Reset fail count after [x] days box, enter 1.

Answer: C

Question: 216.

You are the Web infrastructure administrator for Company. There is a four-node Network Load Balancing (NLB) cluster consisting of

COM+ application servers. NLB is configured to use Single affinity. Each server has a single network adapter. This cluster hosts COM+ components for a frontend, four-node Application Center 2000 Web cluster that uses hardware-based, third-party load balancing. You notice that the CPU usage between the COM+ application servers differs significantly. You want to balance the load more evenly among the COM+ application servers.

Which action or actions should you take? (Choose all that apply)

- A. Reconfigure NLB on the four COM+ application servers to use Class C affinity.
- B. Disable NLB on the four COM+ application servers.
- C. Create an Application Center COM+ cluster that consists of the four COM+ application servers and that uses Component Load Balancing (CLB).
- D. On the front-end Web cluster, configure the COM+ routing list and dynamic load balancing for the COM+ components.
- E. On the COM+ cluster, configure the COM+ routing list and dynamic load balancing for the COM+ components.

Answer: B, C, D

Question: 217.

You are the Web infrastructure administrator for Company. Four computers running Microsoft Windows 2000 Server are configured as Web servers in a round-robin DNS. You install Application Center 2000 on each server. You plan to use Network Load Balancing (NLB) for load balancing. However, when you try to create the cluster, the option to use NLB is not available. You do not have access to hardware-based, third-party load balancers. You must be able to create an Application Center cluster and load balance the traffic among the servers. What should you do?

- A. Manually configure NLB on the server that will be the cluster controller. Rerun the New Cluster Wizard.
- B. Configure the cluster to use Component Load Balancing (CLB) for load balancing.
- C. Install Windows 2000 Advanced Server on the servers. Reinstall Application Center, and rerun the New Cluster Wizard.
- D. Install a second network adapter in each server. Rerun the New Cluster Wizard.

Answer: D

Question: 218.

You are the network administrator for Company. Company's Web site has experienced a large amount of traffic, so you decide to add another server to the cluster. You use a server that is configured as a file and print server. You start the installation of Application Center 200 and receive a warning that only the Administrative client can be installed. During troubleshooting, you view the ac_setup.log file and chkosreq output, which are shown in the Ac_setup.log File exhibit and the Chkosreg Output exhibit.

```
Action 22:55:17: CancelSetup. Dialog created
Action ended 22:55:18: InstallWelcome. Return value 2.
MSI (C) (59:60): doing action: SetupInterrupted
Action start 22:55:18: SetupInterrupted.
Action 22:55:18: SetupInterrupted. Dialog created
Action ended 22:55:21: SetupInterrupted. Return value 2.
Action ended 22:55:21: INSTALL. Return value 2.
Property(C): PackageCode = {62BFC088-0C25-4505-915B-4ED0C0E8E0A4}
Property(C): Directory = D:\1058\
Property(C): DiskPrompt = [1]
Property(C): UpgradeCode = {DFC3E67E-248B-4648-8F6E-1883B1C95AFC}
Property(C): INSTALLDIR = D:\Program Files\Microsoft Application Center\
Property(C): SERVER_PREREQUISITES = 0
Property(C): IsPreSP2Installed = 0
Property(C): IsWindowsServerOS = 1
Property(C): IsDomainController = 0
Property(C): IsIISEnabled = 1
Property(C): IsWindowsDatacenter = 0
Property(C): MappedDriveFromITS = 0
Property(C): ALLUSERS = 1
Property(C): SystemFolder = D:\WINNT\System32\
```

You want to install the server components of Application Center by using the least amount of administrative effort. What should you do?

- A. Install the post-Service Pack 1 hotfixes.
- B. Run the dcpromo.exe file.
- C. Install Internet Information Services (IIS), and enable the IIS Administration Service.
- D. Reformat the server, and install Microsoft Windows 2000 Server.

Answer: C

Question: 219.

You are the network administrator for Company. Company is planning the launch of a new Web site. The initial deployment of the site will contain 10 front-end Web servers and one management server. You want to accomplish the following goals:

- The site must be highly available and scalable beyond 10 servers.

- You must be able to synchronize all the front-end servers with content updates from the management server.

- You must have consolidated logging of events for centralized monitoring of each cluster.

- You must be able to centrally manage the load balancing of front-end servers from the management server.

- You must be able to aggregate site performance data for each cluster in a central location.

You take the following actions:

- Install Application Center 2000 on all the Web servers by using the customer installation. For the installation, select only the server option and do not enable Application Center Events and Performance Logging.

- Install Application Center 2000 on the management server by using the custom installation and selecting all options.

- Create two Application Center clusters of five servers that use Network Load Balancing (NLB) and default settings.

- Load balance the clusters by using round-robin DNS.

Use System Monitor to monitor all the servers. Which result or results do these actions produce? (Choose all that apply)

The site is available and scalable beyond 10 servers.

You are able to synchronize all the front-end servers with content updates from the management server.

You have consolidated logging of events for centralized monitoring of each cluster.

You are able to centrally manage the load balancing of the front-end servers from the management server.

You are able to aggregate site performance data for each cluster in a central location.

Answer: A, B, D

Question: 220.

You are the network administrator for Company. Company wants to ease the deployment of content to its Web servers. A developer wants to use Microsoft FrontPage to publish content. The developer also wants the content to be automatically synchronized across the Web servers. You want to ensure that the FrontPage requests are sent to one server and that all Web servers receive the published updates while maintaining ASP session state. You install Application Center 2000 on the Web servers and create a cluster. What should you do next?

- A. Enable Web request forwarding only.

- B. Enable the forwarding of Microsoft FrontPage publishing requests only.

- C. Enable Web requests forwarding, and enable the forwarding of Microsoft FrontPage publishing requests.

- D. Enable the forwarding of Distributed Authoring and Versioning (DAV) requests and Microsoft FrontPage publishing requests.

Answer: C

Question: 221.

You are a network administrator for Company. You create a global distribution group named ITStaff. The ITStaff group is a member of a domain local group named Public. The public group has the Read permission for a resource on the domain controller. The resource is named Res1. Ten employees in the IT department need access to Res1. You add the user accounts for the 10 employees to the ITStaff group, and you instruct the 10 employees to attempt to access Res1 immediately. They report that they

cannot access Res1. You need to ensure that 10 employees can access Res1. What should you do?

- A. Configure the ITStaff group's group scope to be a universal group, and instruct the 10 employees to log out and to log in again.
- B. Configure the Public group's group scope to be a universal group, and instruct the 10 employees to log out and to log in again.
- C. Configure the ITStaff group's group type to be a security group, and instruct the 10 employees to log out and to log in again.
- D. Move the user accounts of the 10 employees so that the accounts are in the same organizational unit (OU) as the ITStaff group, and instruct the 10 employees to log out and to log in again.

Answer: C

Question: 222.

You are the network administrator for Company. The network contains a Windows 2000 Server computer named Company1. Company1 runs three software applications that were created by Company's software developers. One of the developers reports that all the software applications running on Company1 are responding slowly. The developers suspects that one of the applications is affecting the others. However, the developers does not know which application might be causing the problem, You open Task Manager on Company1 and view the results shown in the exhibit.

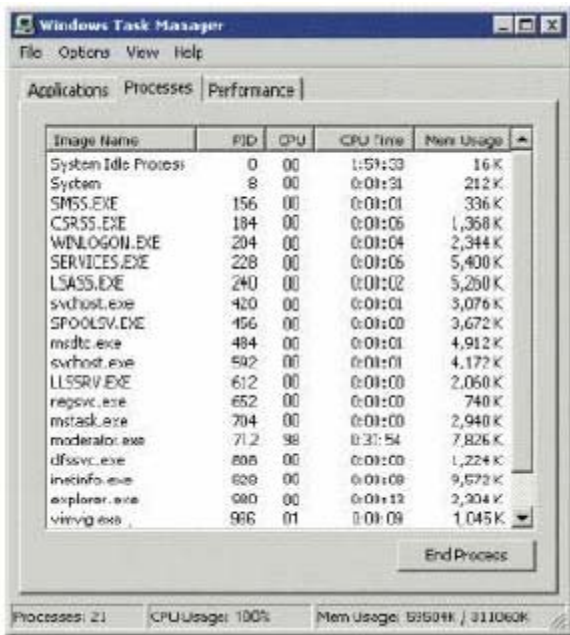


Image Name	PID	CPU	CPU Time	Mem Usage
System Idle Process	0	00	1:57:33	16 K
System	4	00	0:01:31	212 K
SMSS.EXE	156	00	0:01:01	336 K
CSRSS.EXE	184	00	0:01:06	1,368 K
WINLOGON.EXE	204	00	0:01:04	2,344 K
SERVICES.EXE	228	00	0:01:06	5,400 K
LSASS.EXE	240	00	0:01:02	5,260 K
svchost.exe	420	00	0:01:01	3,076 K
SPOOLSV.EXE	456	00	0:01:00	3,672 K
mdmfc.exe	484	00	0:01:01	4,912 K
svchost.exe	592	00	0:01:01	4,172 K
LLSSRV.EXE	612	00	0:01:00	2,060 K
regsvc.exe	652	00	0:01:00	740 K
mstask.exe	704	00	0:01:00	2,940 K
moderator.exe	712	98	0:31:54	7,826 K
dfsrmc.exe	808	00	0:01:00	1,224 K
inetinfo.exe	828	00	0:01:08	9,672 K
explorer.exe	980	00	0:01:12	2,304 K
winlogon.exe	986	01	0:01:08	1,045 K

You need to ensure that the developers can reset the application that is causing the problems. You also need to ensure that the other applications on Company1 function properly. What should you do?

- A. In Task Manager, select moderator.exe and click End Process.
- B. In Task Manager, right-click System, select Set Priority, and then select High.
- C. From the command line, run the net stop 712 command.
- D. From the command line, run the start mstask.exe /high command.

Answer: A

Question: 223.

You are the Webmaster of Company's Internet Web site. The Web site is hosted by a Windows NT Server computer. You create an FTP site to allow users to upload and download documents. You want to assign user names and passwords to each user who is authorized to access the site. You also want to hide the FTP site from users who might be randomly trying to access FTP sites on various servers. Which three actions should you take? (Each correct answer presents part of the solution. (Choose three)

- A. Configure the FTP site to use port 21.
- B. Configure the FTP site to use port 26.
- C. Configure the FTP site to disallow anonymous access.
- D. Configure the FTP site to assign the Read and Write permission for the IUSR_FTP account.
- E. Configure the FTP site to assign the Read and Write permission for each FTP user account.

Answer: B, C, F Question: 224.

You are the administrator of a Windows NT Server network. You are adding a new Windows NT Server computer named Company1 to the network. A portion of the network is shown in the Network Configuration exhibit. You install and begin to test Company1. You log on to Client1 and connect to a shared folder on Company1. You then log on locally to Company1 and attempt to connect to a shared folder on Company2 by using the path \\Company2\\Share1. You receive the following error message: "The network path \\Company2\\Share1 could not be found". You run the ipconfig command on Company1 and receive the results shown in the IP Configuration exhibit. You need to ensure that Company1 can connect to Company2 What should you do?

- A. Force Company2 to replicate Company1's [1Ch] record to all other WINS servers.
- B. Configure Company2 to use Company1 as a pull partner.
- C. Configure Company1 to use 10.10.13.10 as its primary and secondary WINS address.
- D. Configure Company1 to use 10.10.13.254 as the default gateway.

Answer: C

Question: 225.

You are an Application Center specialist, You are responsible for designing a solution that runs on the WINDOWS 2000 platform. When you configure the server services on the Application Center server, a "Misconfigured Services" error message is received. Jay suspects that the Application Center Cluster service is not properly configured. What should you do?

- A. On the Recovery tab of the Application Center Cluster service properties, click Restart for each of the lists. In the Reset fail count after [x] days box, enter 0.
- B. On the Recovery tab of the Application Center Cluster service properties, click Restart of the lists. In the Reset fail count after [x] days box, enter 0. In the Restart service after [x] minutes box, enter 1.
- C. On the Recovery tab of the Application Center Cluster service properties, click Restart for each of the lists. In the Reset fail count after [x] days box, enter 49710. In the Restart service after [x] minutes box, enter 0.
- D. On the Recovery tab of the Application Center Cluster service properties, in the Reset fail count after [x] days box, enter 10. In the Restart service after [x] minutes box, enter 1535.

Answer: C

Question: 226.

You are the Web cluster administrator for Company. While using the Application Center console to monitor synchronization, you see various states displayed. What synchronization states exist in Application Center and what do they mean? (Choose all that apply)

- A. Writing – The replicated files and configuration settings are being written to the target.
- B. Initializing – The source server is starting a replication job.
- C. Preparing – The CContent list on the target is compared to the CContent list on the source computer and used to create the Install list.
- D. Moving – The CContent list is used to move the required files to the target machine in preparation for writing.
- E. Transferring – The Update list is sent to the target and the required files are copied to a temporary directory in preparation

for writing.

F. Applying – The replicated files and configuration settings are being written to the target.

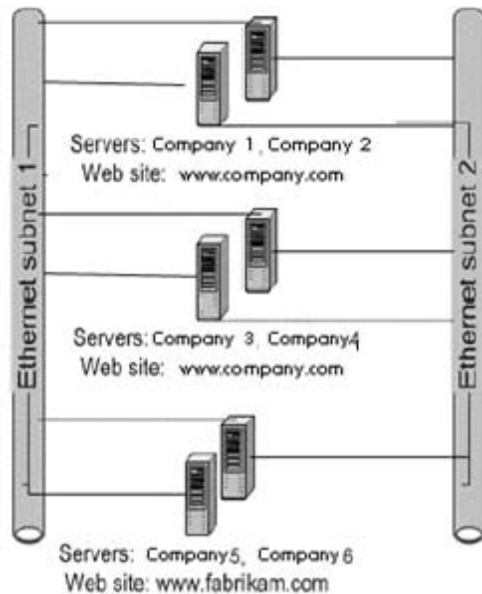
G. Preparing – The source server is starting a replication job.

H. Scanning – The IHave lists are created on both the target and source computers and the lists are compared to generate the Action list.

Answer: E, E, F, H

Question: 227.

You are the Web server infrastructure administrator for Company. There are currently three Web sites and six Web servers that use round-robin DNS for load balancing. The Web sites and Web servers are configured as shown in the exhibit.



All of the servers are configured with identical hardware. The average CPU usage during peak periods is 50 percent for both the www.adatum.com and www.fabrikam.com Web sites. The average CPU usage during peak periods is 80 percent for the www.Company.com Web site. You install Application Center 2000 on each server and plan to use Network Load Balancing (NLB) for load balancing. You want to configure Application Center to provide the maximum amount of load balancing and fault tolerance for all three Web sites. What should you do?

- A. Create a Web cluster that consists of Company1 and Company2, and host the www.adatum.com Web site on both servers. Create a Web cluster that consists of Company3 and Company4, and host the www.Company.com Web site on both servers. Create a Web cluster that consists of Company5 and Company6, and host the www.fabrikam.com Web site on both servers.
- B. Create a Web cluster that consists of Company1, Company2, Company3, Company4, Company5, and Company6, and host the www.adatum.com, www.contoso.com, and www.fabrikam.com Web sites on each server.
- C. Create a Web cluster that consists of Company1, Company2, Company3, Company4, Company5, and Company6. Host the www.adatum.com Web site on Company1 and Company2. Host the www.Company.com Web site on Company3 and Company4. Host the www.fabrikam.com Web site on Company5 and Company6.
- D. Create a Web cluster that consists of Company1, Company2, Company3, Company4, Company5, and Company6. Host the www.adatum.com Web site on Company1, Company2, and Company3. Host the www.fabrikam.com Web site on Company4, Company5, and Company6. Host the www.Company.com Web site on Company1, Company2, Company3, Company4, Company5, and Company6.

Answer: B

Question: 228.

You are the network administrator for Company. Three servers in a Web cluster were installed by using unattended installation scripts. The installation scripts include Microsoft Windows 2000 Server with default settings and Windows 2000 Service Pack 1 (SP1). You manually install Application Center 2000 on this Web cluster by using setup.exe. During the Application Center installation, the setup fails and you receive the following message: "Setup had detected this computer is configured to work with the Administrative client only." You need to resolve this problem. What should you do?

- A. Apply only the post-SP1 security hotfixes.
- B. Apply all the post-SP1 hotfixes.
- C. Reapply SP1.
- D. Install Internet Information Services (IIS).

Answer: B

Question: 229.

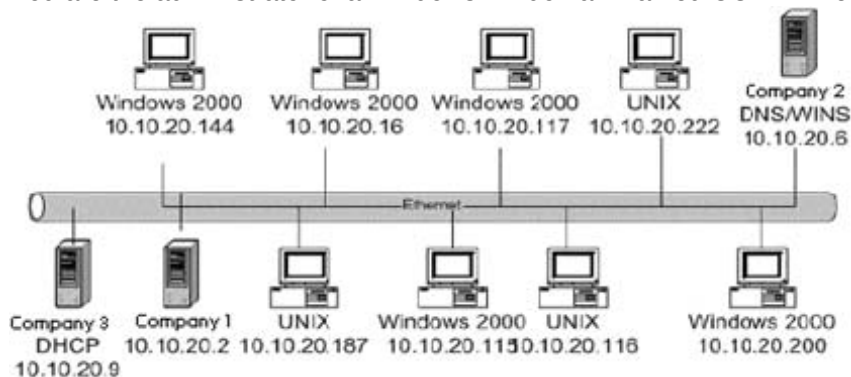
You are a network administrator for Company. A new company policy requires that new server installations include the most recent service pack. Company executives plan 100 new server installations during the next three months. You need to deploy the new servers with the least amount of administrative effort. What should you do?

- A. When each new computer is delivered, install Windows 2000 Server on it. Then run the update.exe command from the service pack CD-ROM.
- B. When each new computer is delivered, install Windows 2000 Server on it. Then run the setup.exe command from the service pack CD-ROM.
- C. When the first new computer is delivered, install Windows 2000 Server on it. On drive C, create a folder named Win2000 and copy the contents of the Windows 2000 Server CDROM into this folder. Run the update.exe -s:c:\Win2000 command from the service pack CD-ROM. Create a new installation CD-ROM that contains the contents of the Win2000 folder, and use this CDROM for all subsequent new server installations.
- D. Install Windows 2000 Server on an existing server. On drive C, create a folder named i386 and copy the contents of the Windows 2000 Server CD-ROM into this folder. Run the setup.exe -s:c:\i386 command from the service pack CD-ROM. Create a new installation CD-ROM that contains the contents of this folder, and use this CD-ROM for all subsequent new server installations.

Answer: C

Question: 230.

You are the administrator of a Windows NT domain named CORP. The CORP domain is configured as shown in the exhibit.



Company1 is a new Windows NT Server computer. You are installing Routing and Remote Access Service (RRAS) on Company1.

You also install a 12-port analog 56-Kbps modem card and configure RRAS to use the modem card for incoming analog connections. You configure RRAS to use a static pool of IP addresses for client computers when they use a dial-up connection. The static pool uses the IP address range of 10.11.10.201 to 10.11.10.220. The network subnet mask is 255.255.0.0 Remote users report that they cannot access shared resources when they dial in to the network. You want remote users to be able to access all shared resources when they dial into the network. What should you do?

- A. Configure RRAS on Company1 to use DHCP to obtain IP addresses for remote users.
- B. Configure TCP/IP on Company1 to use DHCP for its Ethernet network adapter.
- C. Create a computer account in the CORP domain for all computers that are used by remote users.
- D. Configure the computers that connect to Company1 to use 10.10.20.9 as the default gateway.

Answer: A

Question: 231.

You are the administrator of Company's Internet Web server. The Web server is a Windows NT Server computer that hosts five public Web sites. One of these five sites is Company's public Web site. You want to allow employees to download company documents from the Web server when the employees are away from the office. You want to protect the security of each employee's user name and password when employees are accessing the documents. You also want to ensure that only employees can access the documents. What should you do?

- A. Create a FTP site, and configure it to allow only Windows NT user connections.
- B. Create a FTP site, and configure it to allow only anonymous user connections.
- C. Create a new Web site, configure it to use Windows NT Challenge/Response authentication, and enable directory browsing.
- D. Configure Company's Web site to use Windows NT Challenge/Response authentication, and enable directory browsing.

Answer: C

Question: 232.

You are the administrator of a Windows NT Server computer. The computer is used as a file and print server and shared four printers. The printers are shared as Printer1, Printer2, Printer3, and Printer4. A user reports that a document has been first in the Printer2 print queue for several hours and that nothing is printing on the print device. You examine the print queue and discover that the first job is spooling. Several other print jobs are waiting in the print queue. You verify that the print device is functioning correctly. You attempt to cancel spooling print job, but its status remains unchanged. You need to remove the spooling print job, and you want to minimize downtime for other users. What should you do?

- A. Restart the computer. Reset the Printer2 print device while the computer is restarting.
- B. Stop the Print Spooler service, and then delete the files in the folder that contains spooled print jobs. Start the Print Spooler service.
- C. Reset the Printer2 print device. Stop and restart the Server service.
- D. Stop the Print Spooler service and the Server service. Reset the Printer2 print device, and then restart both services.
- E. Delete any zero-byte files from the print spool folder.

Answer: B

Question: 233.

You are the System development Engineer for Company. You are currently responsible for rolling out Application Center 2000 in your organization. You are setting up a NLB and CLB based solution. You look on one of the nodes to see if there is a replication directory. From the list below, which one is the correct directory for replication?

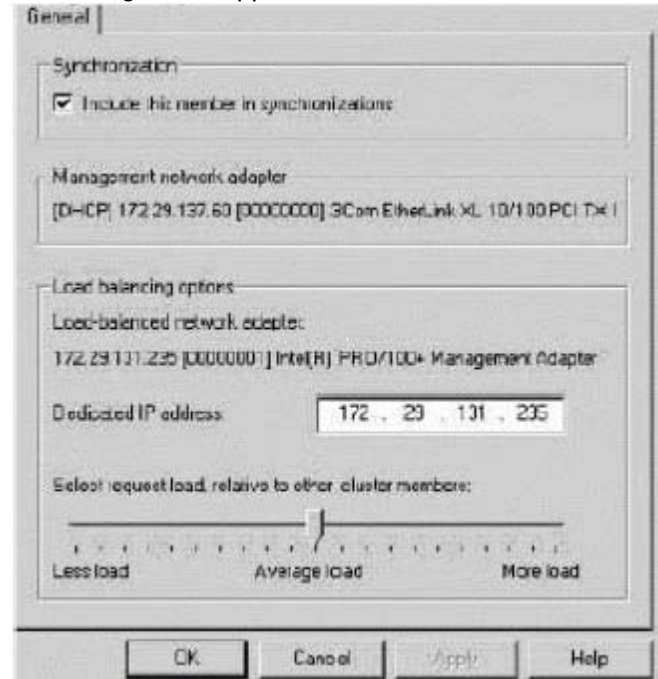
- A. \$ACSRPLS
- B. \$ACSRPRS
- C. \$ATSRPLS

D. \$ACSLPLS

Answer: A

Question: 234.

You are an Application Center specialist. You are responsible for designing a solution that runs on the WINDOWS 2000 platform. You configure an Application Center cluster. Refer to the exhibit.



Under which of the following conditions should you consider making changes to the settings in this exhibit? (Choose all that apply)

- A. In your cluster, there are members that are also handling e-mail traffic.
- B. There are hardware-based performance differences between the cluster members.
- C. In your cluster, there are members that are also handling FTP traffic.
- D. In your cluster, updates to the Web server occur frequently.
- E. In your cluster, a large volume of data is replicated throughout the day.

Answer: A, B, C, D, E

Question: 235.

You are the Web infrastructure administrator for Company. You configure an Application Center 2000 Web cluster that consists of five servers. In addition, there is a single staging server running Microsoft Windows 2000 Advanced Server. Any changes to the Web site must be fully tested before being deployed. You want to configure the staging server so that Application Center can be used to deploy content from the staging server to the Web cluster. What should you do?

- A. Install Application Center on the staging server. Join the server to the Web cluster, and make the server the cluster controller.
- B. Install Application Center on the staging server. Join the server to the Web cluster, and make the server a member of the cluster.
- C. Install Application Center cluster that consists of only the staging server. Configure an Application Center cluster that consists of only the staging server.
- D. Install the Client tools only for Application Center on the staging server. Use the Application Center snap-in to deploy content

from the staging server to the Web cluster.

Answer: C Question: 236.

You are the network administrator for Company. There are five Web servers that are load balanced by using round-robin DNS. All the servers are running Microsoft Windows 2000 Server, Windows 2000 Service Pack 1, and the post-Service Pack 1 (SP1) hotfixes required for Application Center 2000. Each server has two network adapters. You want to install Application Center on these Web servers and Use Network Load Balancing (NLB) for load balancing. You want to accomplish this by using the least amount of administrative effort. What should you do?

- A. Install Application Center on the servers. Add all the servers to single Application Center cluster that uses NLB.
- B. Install Application Center on the servers. Add each server to its own Application Center cluster that use NLB.
- C. Reformat the servers. Install Windows 2000 Advanced Server, Windows 2000 Service Pack 1, the post-SP1 hotfixes, and Application Center on the servers. Add the servers to a single Application Center cluster that uses NLB.
- D. Reformat the servers. Install Windows 2000 Adapter Server, Windows 2000 Service Pack 1, the post-SP1 hotfixes, and Application Center on the servers. Add each server to its own Application Center cluster that uses NLB.

Answer: A

Question: 237.

You are a domain administrator for Company. The network contains a Windows 2000 Server computer that is configured as a member server. You use a Windows 2000 Professional computer named Desktop1. You run Performance Monitor on the member server and configure an alert to notify you at Desktop1 when CPU usage is more than 90 percent. You want to ensure that you receive alerts on Desktop1. Which two actions should you take? (Each correct answer presents part of the solution. (Choose two)

- A. Ensure that the Alerter service is running on the member server.
- B. Ensure that the Server service is running on the member server.
- C. Ensure that the Messenger service is running on the member server.
- D. Ensure that the Alerter service is running on Desktop1.
- E. Ensure that the Messenger service is running on Desktop1.
- F. Ensure that the Workstation service is running on Desktop1.

Answer: A, E

Question: 238.

You are the administrator of a Windows NT Server computer named Company1. Company1 is the Routing and Remote Access server for your network. The server has a 12-port analog 56-Kbps modem card installed. Routing and Remote Access Service (RRAS) is configured to use the modem card for incoming analog connections. You create a new user account for a consultant named Jenny. Jenny is using a UNIX computer to work on a database project for Company. Jenny reports that she cannot connect to Company1 by using her UNIX-based SLIP client software.

When you dial in to Company1 from your Windows 2000 Professional computer, you can connect by using Jenny's account. You need to resolve this problem. What should you do?

- A. Configure Jenny's account to disable callback.
- B. Configure Jenny's account to include the MAC address of her UNIX computer in the list of authorized logon workstations.
- C. Configure Jenny's computer to use UNIX-based PPP client software.
- D. Configure Jenny's computer to disable data encryption in her dial-up connection properties.

Answer: C

Question: 239.

You are the administrator of a network that consists of a single Windows NT domain. The domain contains Windows NT Server computers, UNIX computers, and Windows 2000 Professional computers. The domain also contains a DHCP server and a WINS server. The UNIX computers use a DNS service on a computer named UNIX1 that is managed by an offsite contractor. The contractor usually takes three to five days to respond to requests. Users of the Windows 2000 Professional computers are required to use IP addresses to access the UNIX computers. You want to configure the network to make it easier for these users to access the UNIX computers. You also want to eliminate the need for a contractor to manage the name resolution for the UNIX computers. Which two actions should you take? (Each correct answer presents part of the solution. Choose two)

- A. Configure the network DHCP scope to include the IP addresses of the UNIX computers in its range.
- B. Configure the network DHCP scope to use UNIX1 as a DNS server.
- C. Configure the network DHCP scope to use a Windows NT Server computer as a DNS server.
- D. Install the DNS Server service on a Windows NT Server computer, and configure the UNIX computers to use the new DNS Server service.
- E. Install an additional WINS server, and create WINS records for each UNIX computer.

Answer: C, D

Question: 240.

You are the administrator of Company's network. The network includes two identical print devices and a Windows NT Server computer. The printers for these print devices are shared as Printer1 and Printer2. The server is used as a print server. Users can print to both shared printers. However, most of the client computers are configured to use only one printer or the other. Client computers in the accounting department are configured to use Printer1.

Client computers in the operations department are also configured to use Printer1. Users in the operations department report that the users in the accounting department often print large reports. The users in the operations department must wait for their documents to be printed even though few or no documents are being printed on Printer2. You want to configure the printers so that the printing load from both departments is evenly distributed. What should you do?

- A. Create a new shared printer named Printer3. Configure Printer3 to use both print devices in a printer pool. Configure all user accounts to print to Printer3.
- B. Configure Printer1 to print to the same port as Printer2. Set the priority on Printer1 to 50 and the priority on Printer2 to 75.
- C. Configure Printer2 to print to the same port as Printer1. Set the priority on Printer1 and Printer2 to 50.
- D. Modify the registry so that Printer1 and Printer2 use the same folder to store spooled print jobs.

Answer: A

Question: 241.

You are an Application Center specialist. You are responsible for designing a solution that runs on the WINDOWS 2000 platform. You are removing a cluster member from a cluster which serves web requests. This member is found to be unstable for a while. What should you do?

- A. First remove it from the cluster, then run `CLUSTER /REGCLEAN` to clean up all the cluster configuration settings.
- B. First remove it from the cluster, then run `CLUSTER /CLEAR` to clean up the cluster configuration settings.
- C. First remove it from the cluster, then run `CLUSTER /CLEAN` to clean up all the cluster configuration settings.
- D. First remove it from the cluster, then run `CLUSTER /REMOVE` to clean up all the cluster configuration settings.

Answer: C

Question: 242.

You are the administrator for an Application Center 2000 Web cluster that uses Network Load Balancing (NLB) and consists of five servers. The Web cluster uses host headers to host several Web sites. Company is changing its Internet service provide, so you need to change all Internet IP addresses. You appropriately configure the new dedicated IP addresses on each server in the cluster. You need to configure NLB to work with the new IP address range. What should you do?

- A. Using the network adapter properties dialog box, modify the primary NLB IP address on the cluster controller and on each member of the cluster. Manually synchronize the cluster.
- B. Using the NLB properties dialog box, modify the primary NLB IP address on the cluster controller. Manually synchronize the cluster. Bring each server online.
- C. Using the NLB properties dialog box, modify the primary IP address on the cluster controller. Using the network adapter properties dialog box, modify the primary IP address on the cluster controller. Bring each server online.
- D. Using the NLB properties dialog box, modify the primary IP address on each member of the cluster. Using the network adapter properties dialog box, change the primary NLB IP address on the cluster controller. Bring each server online.

Answer: C

Question: 243.

You are the network administrator for Company. Company's Web site has experienced a large amount of traffic, so you decide to add another server to the cluster. You use a spare production server. You start the installation of Application Center 2000 and receive a warning that only the Administrative client can be installed. During troubleshooting, you view the ac_setup.log file and chkosreq output, which are shown in the Ac_setup.log File exhibit and the Chkosreq Output exhibit.

```

Action 23:16:30: CancelSetup, Dialog created
Action ended 23:16:32: InstallWelcome. Return value 2.
MSI (<)> (40:64): Doing action: SetupInterrupted
Action start 23:16:32: SetupInterrupted.
Action 23:16:32: SetupInterrupted, Dialog created
Action ended 23:16:34: SetupInterrupted. Return value 2.
Action ended 23:16:34: INSTALL. Return value 2.
Property(C): PackageCode = {62BFCDB8-DC25-4505-9158-4ED6C0E8E0A4}
Property(C): Directory = D:\1058\
Property(C): DiskPrompt = [1]
Property(C): UpgradeCode = {0F03E67E-248B-4648-8F6E-1883B1C96AFC}
Property(C): INSTALLDIR = D:\Program Files\Microsoft Application Center\
Property(C): SERVER_PREREQUISITES = 0
Property(C): IsPreSP2Installed = 1
Property(C): IsWindowsServer05 = 1
Property(C): IsDomainController = 1
Property(C): IsIISEnabled = 1
Property(C): IsWindowsDatacenter = 0
Property(C): MappeddriveFromTS = 0
Property(C): ALLUSERS = 1
Property(C): SystemFolder = D:\WINNT\System32\

```

```

D:\WINNT\System32\cmd.exe - chkdsk /v
Chkdsk: Req.vbs
MSRCZK - Microsoft Windows 2000 Advanced Server
OS Version:      5.0.2195
Build Number:    2195
Build Type:      Uniprocessor Free
Service Pack:    Service Pack 1
SP Version:      1.0
System Drive:    D:
Windows Dir:     D:\WINNT
System Device:   \Device\Harddisk0\Partition2
File System:     NTFS

SP2 Hotfix check:

Notes (these are not errors, they can be related to services that are not currently installed):

Files that do not exist(6):
D:\WINNT\system32\inetres\ntspvc.dll <0274591>
D:\WINNT\system32\inetres\ntspfc.dll <0274591>
D:\WINNT\system32\inetres\FTPVC2.DLL <0274591>
D:\WINNT\system32\inetres\ftplib.dll <0274591>
D:\WINNT\system32\inetres\ddrop.dll <0274591>
D:\WINNT\system32\ftpvc2.dll <0274591>
6 notes, 0 errors.

```

You want to install the server components of Application Center by using the least amount of administrative effort. What should you do?

- A. Install the post-Service Pack 1 hotfixes.
- B. Run the dcpromo.exe file.
- C. Install Internet Information Services (IIS), and enable the IIS Administration Service.
- D. Reformat the server, and install Microsoft Windows 2000 Server.

Answer: B

Question: 244.

You are the network administrator for your company. Your company is planning the launch of a new Web site. The initial deployment of the site will contain 10 front-end Web servers and onemanagement server. You want to accomplish the following goals:The site must be highly available and scalable beyond 10 servers.

You must be able to synchronize all the front-end servers with content updates from the management server. You must have

consolidated logging of events for centralized monitoring of each cluster. You must be able to centrally manage the load balancing of front-end servers from the management server. You must be able to aggregate site performance data for each cluster in a central location. You take the following actions: Install Application Center 2000 on all the Web servers by using the custom installation. For the installation, select only the server option and do not enable Application Center Events and Performance Logging. Install Application Center 2000 on the management server by using the custom installation and selecting all options. Create two Application Center clusters of five servers that use Network Load Balancing (NLB) and default settings.

Load balance the clusters by using round-robin DNS. Use System Monitor to monitor all the servers.

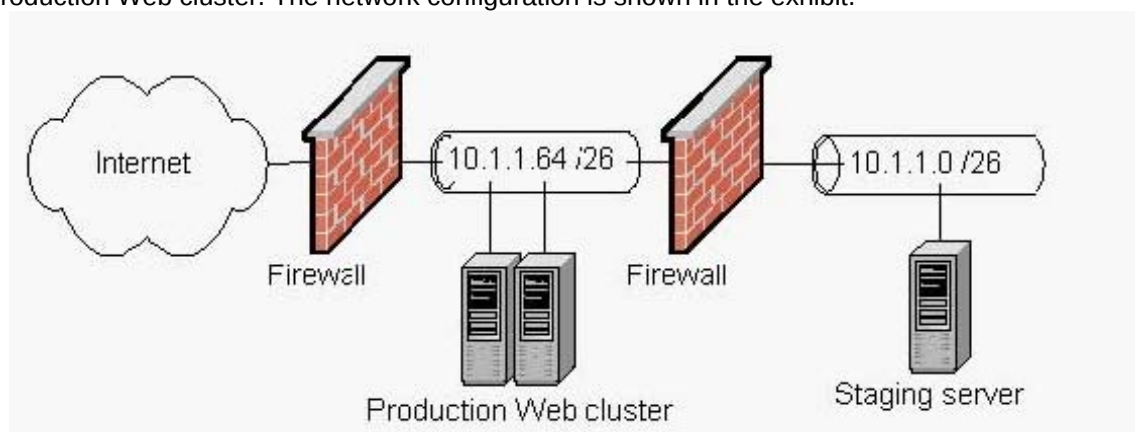
Which result or results do these actions produce? (Choose all that apply.)

- A. The site is highly available and scalable beyond 10 servers.
- B. You are able to synchronize all the front-end servers with content updates from the management server.
- C. You have consolidated logging of events for centralized monitoring of each cluster.
- D. You are able to centrally manage the load balancing of the front-end servers from the management server.
- E. You are able to aggregate site performance data for each cluster in a central location.

Answer: A, B, D

Question: 245.

You are the Application Center 2000 administrator for your company. You are responsible for deploying applications from an Application Center staging server to an Application Center production Web cluster that uses Network Load Balancing (NLB). For testing purposes, you assign only 10.1.1.17 to the new Web site in Internet Information Services (IIS). You successfully test www.tailspintoys.com on the staging server. You then create an application named Tailspin, which only contains the www.tailspintoys.com Web site. You deploy Tailspin to the production Web cluster. After the deployment, you cannot access the new Web site on the production Web cluster. The network configuration is shown in the exhibit.



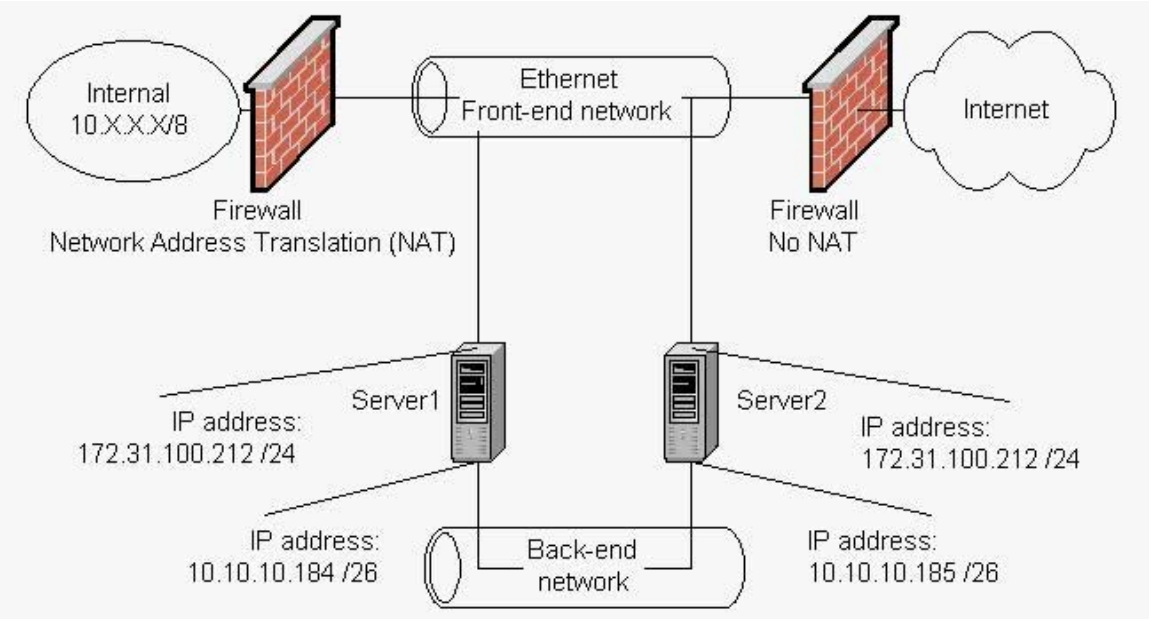
You need to enable users to access www.tailspintoys.com, and you need to prevent similar problems with future deployments. What should you do?

- A. Remove the 10.1.1.17 IP address binding to www.tailspintoys.com in IIS on the staging server, and then redeploy Tailspin.
- B. Remove the 10.1.1.17 IP address binding from the network adapter on the staging server, and then redeploy Tailspin.
- C. Add the 10.1.1.17 IP address binding to www.tailspintoys.com in IIS on the production Web cluster, and then redeploy Tailspin.
- D. Add the 10.1.1.17 IP address binding to the front-end network adapter on the production Web cluster, and then redeploy Tailspin.

Answer: A

Question: 246.

You are the Application Center 2000 administrator for your company. You are setting up an Application Center cluster that initially contains only two servers. The Application Center cluster uses Network Load Balancing (NLB) and uses the same IP address across the front-end network. The network configuration is shown in the exhibit.



After you successfully install Application Center, you test the Web site that the Application Center application is managing. From the internal network, the Web site responds properly. From the Internet, you receive the following error message: "The page cannot be displayed." You need to make the Web site functional from the Internet. What should you do?

- A. Change the IP address of the front-end network adapters of Server1 and Server2 to a valid Internet-routable address.
- B. Change the IP address of the back-end network adapters of Server1 and Server2 to a valid Internet-routable address.
- C. Change the IP subnet of the front-end network adapter of Server1 to equal the IP subnet of the back-end network adapter on Server2.
- D. Change the IP subnet of the front-end network adapter of Server1 to equal the IP subnet of the front-end network adapter of Server2.

Answer: A

Question: 247.

You are the Web site administrator for your company. Your Web site uses a Network Load Balancing (NLB) cluster to load balance Web requests across the cluster. Your NLB cluster consists of three servers named Server1, Server2, and Server3. After reviewing the Internet Information Services (IIS) logs on the three servers, you realize that only Server2 is receiving network requests. You examine the NLB parameters on the port rules of the three servers. The port rules are defined on the servers as shown in the following table.

Server	Start	End	Protocol	Mode	Priority	Load	Affinity
Server1	80	80	Both	Single	16	N/A	N/A
Server2	80	80	Both	Single	8	N/A	N/A
Server3	80	80	Both	Single	24	N/A	N/A

You need to load balance the Web request traffic equally across the three servers. Session state information does not need to be

maintained. Which three actions should you take? (Each correct answer presents part of the solution. Choose three.)

- A. Change the mode on all the servers to Disabled.
- B. Change the mode on all the servers to Multiple.
- C. Set the load to 50 on all the servers.
- D. Set the load to 0 on all the servers.
- E. Change the affinity on all the servers to Single.
- F. Change the affinity on all the servers to None.
- G. Change the affinity on all the servers to Class C.

Answer: B, C, F

Question: 248.

You are the network administrator for your company. There is a new NLB cluster in production that is used to load balance FTP (ports 20 and 21) services. The help desk reports that users are experiencing random session disconnect. The users use a normal (non-passive) FTP client. A port rule is defined on the NLB cluster as shown in the following table.

Start	End	Protocol	Mode	Load	Affinity
21	21	Both	Multiple	Equal	Single
20	20	Both	Multiple	Equal	Single

You need to resolve the problems with random session disconnects. What should you do?

- A. Change the affinity for port rules 20 and 21 to None.
- B. Change the affinity for port rules 20 and 21 to Class C.
- C. Combine the two port rules into a single port rule that starts at 20 and ends at 21, and keep all other parameters the same.
- D. Add a new port rule that includes the response port that starts at 1024 and ends at 65536, and keep all other parameters the same.

Answer: C

Question: 249.

You are the Application Center 2000 administrator for your company. You are responsible for deploying a new intranet Web site, www.tailspintoys.com, on the Application Center cluster. You are currently using Network Load Balancing (NLB) on the Application Center cluster. The client affinity is currently set to None. The Web site needs to maintain client session state. After the Web site goes live, the help desk informs you that users are losing their session state. You want to optimize performance for users and to enable users to maintain their personalized information throughout their visit to the Web site. What should you do?

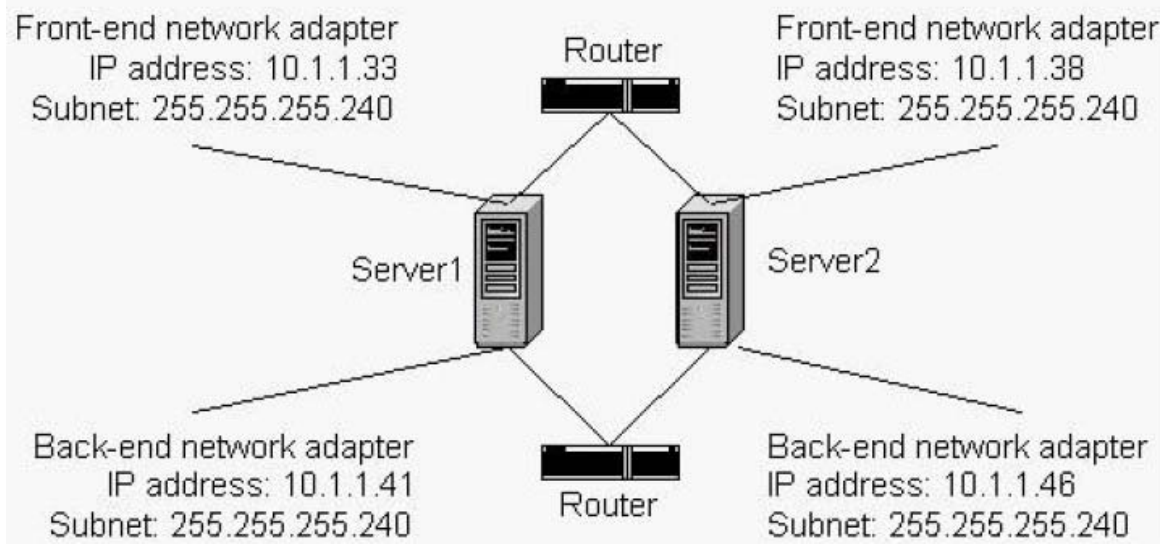
- A. Set the client affinity to Single.
- B. Set the client affinity to Class C.
- C. Enable request forwarding for all Web sites in the Application Center cluster.
- D. Enable request forwarding only for Web sites that use ASP session state.

Answer: A

Question: 250.

You are the Application Center 2000 administrator for your company. You are setting up an Application Center cluster that initially contains only two servers. The network administrator has given you four IP addresses to use on the cluster. The proposed IP

addressing configuration for the cluster is shown in the exhibit.



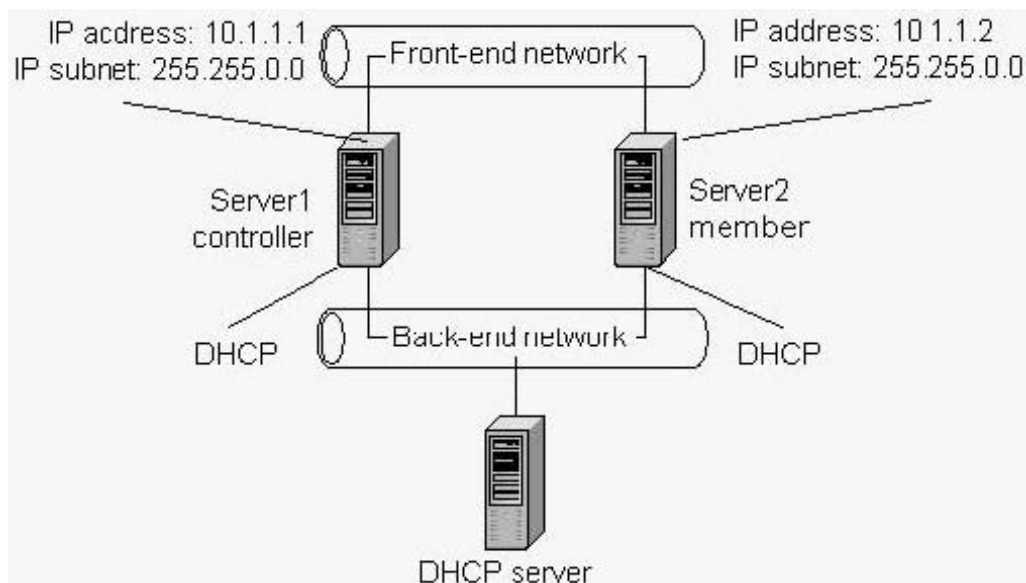
After reviewing the proposed configuration, you realize that the planned IP addressing configuration will not work properly with Application Center. There are no new IP addresses available for you to use. What should you do?

- A. Change the subnet on all four network adapters to 255.255.255.0.
- B. Change the subnet on all four network adapters to 255.255.255.224.
- C. Change the subnet on all four network adapters to 255.255.255.248.
- D. Change the subnet on all four network adapters to 255.255.255.252.

Answer: C

Question: 251.

You are the Application Center 2000 administrator for your network. The IP addressing for the Application Center cluster is configured as shown in the exhibit.



The back-end network adapter fails on Server2. You shut down Server2 and replace the back-end network adapter. When you restart Server2, synchronization from Server1 to Server2 fails. Later, you notice that Server2 is synchronized correctly with Server1. You want to ensure that synchronization occurs immediately. What should you do?

- A. Add a DHCP server to the back-end network.
- B. Remove the DHCP server from the back-end network.
- C. Use DHCP addresses for the front-end network adapters on Server1 and Server2.
- D. Use static addresses for the back-end network adapters on Server1 and Server2.

Answer: D

Question: 252.

You are the Application Center 2000 administrator for your company. You currently have a single Application Center cluster that is using Network Load Balancing (NLB). The cluster is not using dedicated IP addresses. The network administrator has decided to implement a standard third-party load balancer for your company to ease administration overhead. You need to configure the Application Center cluster to support the third-party load balancer. You need to accomplish this without affecting user access to the Web application that resides on the cluster. What should you do?

- A. Change the client affinity of the cluster to None.
- B. Change the client affinity of the cluster to Single.
- C. Change the client affinity of the cluster to Class C.
- D. Disband the current production Application Center cluster, and then create a new cluster that uses third-party load balancing and that contains the Web site.
- E. Create a new cluster that uses third-party load balancing and that contains the Web site, and then disband the current production Application Center cluster.

Answer: E

Question: 253.

You are the administrator for an Application Center 2000 Web cluster that consists of eight servers. The cluster hosts 20 production Web sites for various customers. During peak usage, the average CPU usage on each Web server is 75 percent. Your company has agreed to host a Web site for a not-for-profit organization at no charge. You want the new Web site application to use less than 12 percent of the total processing power of the cluster. You create the Web site and name it NFP. You configure process throttling at 12 percent on the cluster controller for the NFP site. Subsequent review of the application event log on the cluster controller reveals that the process threshold for the NFP site has been exceeded on several occasions. When you review the performance logs on several of the cluster members, you discover that CPU usage for the NFP site often exceeds 12 percent for sustained periods of time.

You want to ensure that the new Web application uses less than 12 percent of the cluster's processing power. What should you do?

- A. Dedicate one of the cluster members to run the new NFP site.
- B. Manually configure process throttling at 12 percent on each cluster member for the NFP site.
- C. On the cluster controller, configure Internet Information Services (IIS) to enforce limits on the NFP site.
- D. Configure bandwidth throttling for the NFP site to be 12 percent of the total available bandwidth.

Answer: C

Question: 254.

You are the administrator for an Application Center 2000 Web cluster that consists of four stand-alone servers named LabA, LabB, LabC, and LabD. The cluster hosts a Web site in a test lab environment. LabA is the cluster controller. You previously removed LabD from the cluster. You need to add LabD back to the cluster. When you attempt to join LabD to the cluster, you receive an error message stating that the server cannot be joined to the cluster because it is already a member of the cluster. However, LabD does

not appear as a member of the cluster in the Application Center snap-in.

You need to bring LabD back into service in the cluster. What should you do?

- A. From LabA, use the Application Center snap-in to bring LabD online.
- B. From LabA, use the Application Center snap-in to remove LabD from the cluster. Join LabD back to the cluster.
- C. Log on to LabD by using the local ACL_LabD credentials, and run the AC CLUSTER /CLEAN command. Join LabD to the cluster.
- D. Log on to LabD by using the local ACC_LabD credentials, and run the AC CLUSTER /CLEAN command. Join LabD to the cluster.
- E. Log on to LabD by using local administrative credentials, and run the AC CLUSTER /CLEAN command. Join LabD to the cluster.

Answer: E

Question: 255.

You are the administrator for an Application Center 2000 Web cluster that consists of four servers. The Web cluster supports the www.contoso.com Web site. Each Web server is a member of a Microsoft Windows 2000 domain named dmz.local. The servers are in a highly secure environment, and steps have been taken to secure the servers. You need to configure the anonymous user account for the Web site to use a user account from the dmz.local domain. You modify the Internet Information Services (IIS) settings on the cluster controller to use an account named WebUser in the dmz.local domain. WebUser is a member of both the Guests built-in domain local group and the Domain Users built-in global group. Shortly after you make the change, the entire Web site becomes unavailable to customers. You need to enable anonymous access to the Web site by using the new account.

What should you do?

- A. Add WebUser to the local Guests group on each Web server.
- B. Enable the built-in Guest account on each Web server.
- C. Grant WebUser the right to log on locally to each Web server.
- D. Rename the default Internet Guest account on each Web server to WebUser.

Answer: C

Question: 256.

You are the administrator for an Application Center 2000 Web cluster that consists of three servers named Server1, Server2, and Server3. Server1 is the current cluster controller. The cluster is configured for automatic updates by using the default time interval. The most recent changes to Web site content occurred four hours ago. The most recent backup of the cluster controller occurred two days ago. You need to rebuild Server1.

You drain the current connections to the server and take the server offline. You initiate a manual synchronization of the entire cluster. You designate Server2 as the cluster controller, and Server1 experiences a hardware failure immediately afterward. You repair the hardware on Server1 and format all of the drives. You reinstall Microsoft Windows 2000 Server and Application Center. However, when you attempt to join Server1 back to the cluster, you are unable to do so.

You want to join Server1 back to the cluster while minimizing the impact to users. What should you do?

- A. Use the Application Center snap-in to connect to the cluster, and designate Server2 as the cluster controller. Join Server1 to the cluster.
- B. Use the Application Center snap-in to connect to Server2 by using the Manage this server only option, and designate Server2 as the cluster controller. Join Server1 to the cluster.
- C. Create a new cluster, and designate Server1 as the cluster controller. Join Server2 and Server3 to the new cluster.
- D. Restore Server1 from backup. Take Server1 offline, and synchronize Server1 with Server2. Bring Server1 online.

Answer: B

Question: 257.

You are the administrator for an Application Center 2000 Web cluster that consists of four servers. The Web cluster supports one large production Web site that contains HTML and ASP pages, COM+ components, and global ISAPI filters. You want to add a new server to the cluster to begin servicing Web site requests as quickly as possible.

What should you do?

- A. Join the new server to the cluster, and clear the default synchronization and deployment options. Use the New Deployment Wizard to deploy the Web site applications from the cluster controller to the new server with no drain time. Bring the server online.
- B. Join the new server to the cluster, and select the default synchronization and deployment options.
- C. Join the new server to the cluster, and clear the default synchronization and deployment options. Manually synchronize the new server.
- D. Manually synchronize the new server with the cluster controller. Join the new server to the cluster, and clear the default synchronization and deployment options.

Answer: A

Question: 258.

You are the administrator for an Application Center 2000 Web cluster named WebStage that consists of two stand-alone servers named WebA and WebB. WebA is the cluster controller for WebStage. The WebStage cluster functions as a staging area for the production Web cluster named WebProd. WebProd consists of eight Web servers that are members of a Microsoft Windows 2000 domain named web.local.

You need to temporarily remove WebB from the cluster. You log on to WebA and attempt to remove WebB from the cluster by using the Application Center snap-in. You use the same credentials that you used to log on to WebA. However, you are unable to remove WebB from the cluster.

You need to remove WebB from the cluster. What should you do?

- A. Use local Administrator credentials on WebB to remove WebB from the cluster.
- B. Use local Administrator credentials on WebA to remove WebB from the cluster.
- C. Use the Enterprise Administrator credentials of web.local to remove WebB from the cluster.
- D. Use the ACC_WebB account credentials to remove WebB from the cluster.
- E. Use the ACC_WebA account credentials to remove WebB from the cluster.

Answer: A

Question: 259.

You are the administrator for an Application Center 2000 Web cluster that uses hardware-based, third-party load balancing and consists of five servers. The Web cluster supports 10 production Web sites. Host headers are not used, and each Web site uses the standard HTTP port. Each Web server has a single network adapter.

Because of a seasonal increase in Web traffic, you add another server to the cluster and configure appropriate static IP addresses for the server. You want to configure the IP address bindings for the Web sites for the new server.

What should you do?

- A. Bind each unique Web site IP address to the Internet Information Services (IIS) settings for each respective Web site on the new server.

- B. Bind each unique Web site IP address to the network adapter settings on the new server.
- C. Bind the new server's IP addresses to the Internet Information Services (IIS) settings for each Web site on the cluster controller.
- D. Bind the new server's IP addresses to the network adapter on the cluster controller.

Answer: C

Question: 260.

You are the administrator for your company's Application Center 2000 cluster. You are deploying an application that includes a number of classic COM components that need to be registered on each server after they are installed.

You need to deploy the classic COM components to all cluster members by using the least amount of administrative effort. What should you do? (Each correct answer presents part of the solution. Choose two.)

- A. Deploy the classic COM components.
- B. Deploy a batch file that runs the mofcomp.exe file against the classic COM components.
- C. Deploy a batch file that runs the regsvr32 command against the classic COM components.
- D. Create a Synchronized Monitors data collector and threshold, and configure the data collector and threshold to run the regsvr32 command against the classic COM components when the deployment is successful.
- E. Create a Synchronized Monitors data collector and threshold, and configure the data collector and threshold to run the mofcomp.exe file against the classic COM components when the deployment is successful.

Answer: A, D

Question: 261.

You are the administrator for your company's Application Center 2000 cluster. Developers found a memory leak on one of the global ISAPI filters on the servers. The developers are currently working on the problem, but it will be at least one month before the filters can be upgraded. As a temporary solution, you need to prevent the memory leak from decreasing the responsiveness of the cluster and you need to minimize the impact of this solution on the cluster.

What should you do? (Each correct answer presents part of the solution. Choose two.)

- A. Create a data collector and threshold to monitor the processor utilization of the cluster members.
- B. Create a data collector and threshold to monitor the memory usage on the Inetinfo process.
- C. Create an action that runs IISReset.exe. Associate the action with the data collector.
- D. Create an action that reboots the server. Associate the action with the data collector.
- E. Create an action that uses the net stop and net start commands to restart the WWW Service. Associate the action with the data collector.

Answer: B, C

Question: 262.

You are the administrator for your company's Application Center 2000 cluster. The Application Center cluster hosts multiple Web sites. Occasionally, one of the Web sites fails. You want to be informed when a particular Web site fails so that you can troubleshoot the Web site.

What should you do?

- A. Build a data collector and a threshold that monitor whether a cluster member has gone offline. Configure the data collector to send you a network message.
- B. Build a data collector and a threshold that monitor the WWW Service. Configure the data collector to send you an e-mail message.

- C. Build a data collector and a threshold that monitor HTTP Monitor events. Configure the data collector to send you an e-mail message.
- D. Build a data collector and a threshold that monitor Ping (ICMP) Monitor events. Configure the data collector to send you a network message.

Answer: C

Question: 263.

You are the administrator for your company's Application Center 2000 cluster. You are responsible for monitoring the cluster. You need to be able to monitor the performance of the disk subsystem on all servers in the cluster. However, you want to be notified only if there is continuous heavy use of the disk subsystem. What should you do to accomplish these goals?

- A. Configure a set of real-time performance counters in System Monitor to monitor the % Disk Time and Current Disk Queue Length counters on each computer.
- B. Configure a Non-Synchronized Monitors data collector to collect % Disk Time and Current Disk Queue Length statistics. Configure this collector to notify you.
- C. Configure a Performance alert to monitor the % Disk Time and Current Disk Queue Length counters on each server. Configure this alert to notify you.
- D. Configure a Synchronized Monitors data collector to collect % Disk Time and Current Disk Queue Length statistics. Configure this collector to notify you.

Answer: D Question: 264.

You are the administrator for your company's Application Center 2000 cluster. The servers in the cluster have two processors and 512 MB of RAM. Recently, the traffic to the cluster has increased. Therefore, you add a temporary server to the cluster. The temporary server has 512 MB of RAM, but it has only one processor. Because the server has only one processor, you are concerned about performance on this server. You need to configure Health Monitor to notify you only if the performance of the temporary server is starting to decrease. What should you do?

- A. Configure a monitor in a Non-Synchronized Monitors data group on the temporary server. Configure the data collector to send you an alert.
- B. Configure a monitor in a Synchronized Monitors data group on the temporary server. Configure the data collector to send you an alert.
- C. Configure a monitor in a Non-Synchronized Monitors data group on the cluster controller. Configure the data collector to send you an alert.
- D. Configure a monitor in a Synchronized Monitors data group on the cluster controller. Configure the data collector to send you an alert.

Answer: A

Question: 265.

You are the administrator for your company's Application Center 2000 cluster. You have a third-party management application that monitors the Windows Event Log for errors. The application is configured to notify appropriate staff members about heavy utilization and errors on the network. You have created a monitor to watch for the errors you want tracked. You want to send an event to the Windows Event Log when these errors occur on the server so that the application can capture the event.

What should you do?

- A. Create a Text Log action that writes to AppEvent.evt.
- B. Create a Text Log action that writes to SysEvent.evt.
- C. Create a Windows Event Log action.
- D. Create a Windows Event Log monitor.

Answer: C

Question: 266.

You are the administrator for your company's Application Center 2000 cluster. For redundancy, another set of Web servers is being brought online at another location. The configuration of both clusters needs to be as similar as possible, including all data collectors and data groups. You need to configure monitoring on the redundant Application Center cluster to match the existing cluster. Which two actions should you take? (Each correct answer presents part of the solution. Choose two.)

- A. Export the Performance Logs and Alerts settings from the Microsoft Windows 2000 Performance tool.
- B. Copy the system32\wbem\Repository subdirectory from the existing cluster to the redundant cluster.
- C. Export the WBEM registry key settings from HKEY_LOCAL_MACHINE.
- D. Export the settings by using dumphm.exe.
- E. Import the settings by using regedt32.exe on the target.
- F. Compile the Managed Object Format (MOF) file by using mofcomp.exe on the target.

Answer: D, F Question: 267.

You are the administrator for your company's Application Center 2000 cluster. You have configured a number of data collectors that are grouped under two data groups. The Critical data group is used to notify an on-call administrator via pager. The Notification data group is used to send e-mail to administrative staff if a data collector becomes critical. However, the on-call administrator is being notified if any of the thresholds in either data collector become critical. The data groups and data collectors are shown in the exhibit.

The screenshot shows the Application Center 2000 console. The left pane, titled 'Tree', displays a hierarchy of monitored computers. Under 'All Monitored Computers', there is a computer named 'AC2K2'. Under 'AC2K2', there are several folders: 'Actions', 'Non-Synchronized Monitor', 'Sample Monitors', 'Synchronized Monitors (Ap...', 'Application Center Mor...', 'Critical Data Group', 'Notification Data G...', 'Online/Offline Monitors', and 'System Monitors'. The 'Critical Data Group' is selected. The right pane, titled 'Details', shows the 'Details of Critical Data Group'. It contains a table with the following data:

Name	Sta...	Type	GUID
Memory	Ok	Performance Monitor	7D1B9604...
Notification D...	Ok	Data Group	F61A130...
Processor	Ok	Performance Monitor	D819CA4...
Windows Eve...	Ok	Windows Event M...	0857EDE1...

At the bottom of the details pane, it says '4 Items'.

You must prevent the on-call administrator from being notified unnecessarily. What should you do?

- A. Move the Notification data group to the same level in the hierarchy as the Critical data group.
- B. Configure all of the data collectors in the Critical data group to reset manually.
- C. Increase the threshold limits on all data collectors configured within the Critical data group.
- D. Increase the threshold limits on all data collectors configured within the Notification data group.

Answer:

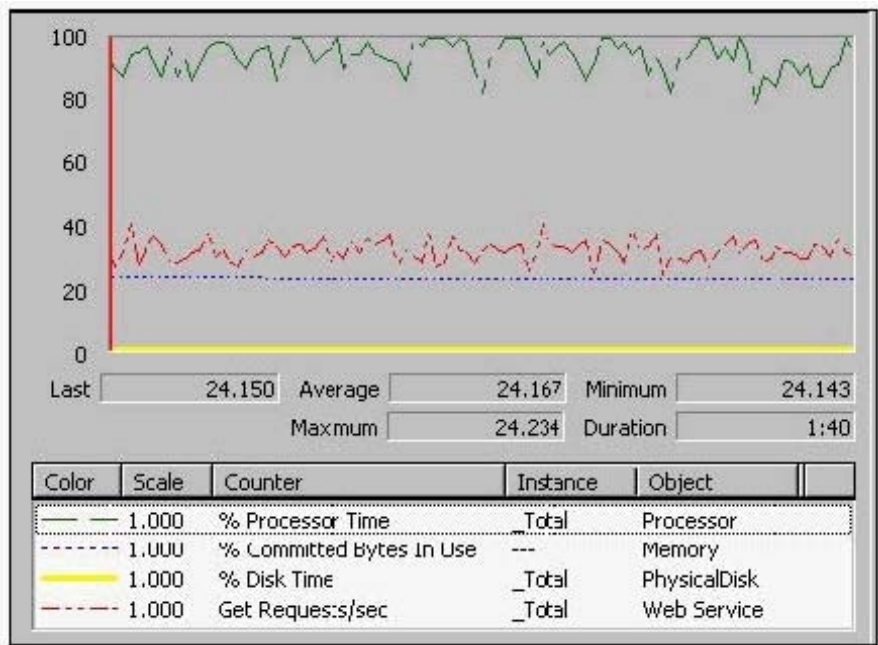
Question: 268.

You are the administrator for your company's Application Center 2000 cluster. The cluster is part of an n-tier solution. This solution includes a number of back-end Microsoft SQL Server 2000 computers. These computers are crucial to the Web site. You need to be notified if the SQL Server services go offline. What should you do?

- A. Create data collectors to monitor processor utilization on the SQL Server computers. Configure the monitor to notify you if utilization exceeds 85 percent.
- B. Create data collectors to monitor the Application Center cluster. Configure the monitor to notify you if any of the cluster members go offline.
- C. Create data collectors to monitor the MSSQLServer port. Configure the monitor to notify you if the port goes offline.
- D. Create data collectors to ping the SQL Server computers. Configure the monitor to notify you if the computers go offline.

Answer: C Question: 269.

You are the administrator for your company's Application Center 2000 cluster. You are testing the configuration of your pre-production Web cluster. The Web site will be used to send product and inventory information to salespeople. This information must be kept secure. The site will include a series of COM+ components in a separate tier and a back-end Microsoft SQL Server 2000 database. You begin testing your Web cluster. You collect the results shown in the exhibit.



These results are consistent across the cluster. You need to fix the problem. What should you do?

- A. Add more servers to the SQL Server cluster.
- B. Move the COM+ components to the Web cluster.
- C. Increase timeout for SSL sessions.
- D. Increase the amount of memory used for the Web cache.

Answer: C

Question: 270.

You are the administrator for your company's Application Center 2000 cluster. The cluster runs a Web site that provides custom information to customers. During the day, the Web site sometimes becomes very busy. A spare server is available for use during busy times to help reduce load across the cluster. This server is also used for other networking services.

You want to configure the spare server to come online when cluster utilization is high and to go offline when utilization returns to normal. You want to accomplish this without disrupting user connections.

What should you do?

- A. Configure a Performance alert to monitor the cluster. Configure the Performance alert to bring the spare server online when performance thresholds are exceeded. Configure the Performance alert to take the spare server offline with the drain option when utilization returns to normal.
- B. Configure a Performance alert to monitor the cluster. Configure the Performance alert to bring the spare server online when performance thresholds are exceeded. Configure the Performance alert to take the spare server offline when utilization returns to normal.
- C. Configure a set of data collectors to monitor the cluster. Configure the data collector to bring the spare server online when performance thresholds are exceeded. Configure the data collector to take the server offline with the drain option when utilization returns to normal.
- D. Configure a set of data collectors to monitor the cluster. Configure the data collector to bring the spare server online when performance thresholds are exceeded. Configure the data collector to take the server offline when utilization returns to normal.

Answer: C

Question: 271.

You are the administrator for your company's Application Center 2000 cluster. For security reasons, the cluster is configured to use encryption when communicating with client computers. You are concerned about the additional load this is placing on the Application Center cluster. You need to monitor the additional load on the servers since encryption was enabled. What should you do?

- A. Use System Monitor to monitor the Get Requests/sec counter.
- B. Use System Monitor to monitor the % Processor Time counter.
- C. Use the Application Center snap-in to monitor the Get Requests/sec counter.
- D. Use the Application Center snap-in to monitor the % Processor Time counter.

Answer: D

Question: 272.

You are the administrator for an Application Center 2000 Web cluster that consists of eight servers. The Web cluster supports 20 production Web sites. The servers in the Web cluster are all members of a Microsoft Windows 2000 domain named fabrikam.com. The average CPU usage on each server is 60 percent. You need to deploy a new Web site application that includes COM+ components. The application is on a stand-alone staging server. You run the New Deployment Wizard on the staging server and are asked to enter a list of targets for the deployment. You want to deploy the application to the Web cluster while minimizing client disruption. What should you do?

- A. Enter the name of the cluster controller for the Web cluster as the only target for deployment. Configure a drain time of 20 minutes. Synchronize the entire Web cluster.
- B. Enter the name of the Web cluster as the only target for deployment. Configure a drain time of 20 minutes. Restart Internet Information Services (IIS) on each server in the cluster one at a time.
- C. Enter the names of two servers in the Web cluster as the only targets for deployment. Configure a drain time of 20 minutes. Run the New Deployment Wizard three more times with two different targets each time.
- D. Enter the names of four servers in the Web cluster as the only targets for deployment. Configure a drain time of 20 minutes. Run the New Deployment Wizard one more time with four different targets.

Answer: C

Question: 273.

You are the Application Center 2000 administrator for your company. Your environment consists of a staging server named StageSrv, an Application Center Web cluster named ProdCluster, and a COM+ cluster named COMCluster. ProdCluster already contains two Web sites that use ProdCluster for Component Load Balancing (CLB). ProdCluster contains four servers named WebSrv01, WebSrv02, WebSrv03, and WebSrv04. WebSrv01 is the Web cluster controller. COMCluster consists of two servers named COMSrv01 and COMSrv02. COMSrv01 is the COM+ cluster controller. You are working with your co-workers to define a deployment process for an application named WebApp. You do not want this process to affect any current production Web sites that are being accessed on ProdCluster. WebApp is designed as a two-tier Web application. WebApp uses a COM+ component, a system Data Source Name (DSN) that is used by the COM+ component, and a Web site that is defined in Internet Information Services (IIS). One of your co-workers suggests the following process: On StageSrv, create an application named COMApp that contains the COM+ component and the system DSN. Deploy COMApp from StageSrv to COMSrv01 and COMSrv02 at the same time. Take WebSrv01 and WebSrv02 offline. On StageSrv, create an application named WebApp that contains the COM+ component and the Web site. Enable dynamic load balancing on the COM+ component. Deploy WebApp from StageSrv to WebSrv01 and WebSrv02. Set WebSrv01 and WebSrv02 online. Take WebSrv03 and WebSrv04 offline. Deploy WebApp from StageSrv to WebSrv03 and WebSrv04. Set WebSrv03 and WebSrv04 online. You need to modify the proposed process so that the deployment will not affect any current production Web sites that are being accessed on ProdCluster.

Which change should you make?

- A. Deploy COMApp to COMSrv01, and then deploy COMApp to COMSrv02.
- B. Deploy WebApp to WebSrv01, and then deploy WebApp to WebSrv02.
- C. Deploy WebApp to WebSrv03, and then deploy WebApp to WebSrv04.
- D. Deploy WebApp to WebSrv01, WebSrv02, WebSrv03, and WebSrv04 at the same time.
- E. Deploy WebApp to COMSrv01 and COMSrv02 at the same time.

Answer: A

Question: 274.

You are the Application Center 2000 administrator for your company. The Application Center cluster consists of two servers named Server1 and Server2. You will create a new application on the Application Center cluster. You are working with a co-worker to identify resources that will be used by the new application. Your co-worker states that the application needs to contain a COM+ component, a user Data Source Name (DSN), a Web site that is defined in Internet Information Services (IIS), and a directory that is located at C:\website\webdev.

You need to ensure that the new application can be deployed successfully across the entire cluster with all of its components. Which change should you suggest to your co-worker?

- A. Change the user DSN to a system DSN.
- B. Change the Web site in IIS to be a virtual directory.
- C. Add scriptlet components to the COM+ component.
- D. Copy the files located at C:\website\webdev to the www root directory.

Answer: A

Question: 275.

You are the Web site infrastructure administrator for your company. The Web site infrastructure includes a COM+ application cluster that consists of four servers. You need to deploy an application to the cluster that consists of both COM+ and classic COM components. The COM+ components use the classic COM components. You create an application named COMApp that includes COM+ application resources.

You want to be able to make updates to the application by using the least amount of administrative effort. Which two actions should you take to deploy the entire application? (Each correct answer presents part of the solution. Choose two.)

- A. Place the classic COM components in a folder. Add the folder to COMApp as a file system path resource. Synchronize the application.
- B. Copy the classic COM components to a folder on the cluster controller only.
- C. Copy the classic COM components to a folder on all four servers in the cluster.
- D. Register the classic COM components by using the regsvr32 command on the cluster controller only.
- E. Register the classic COM components by using the regsvr32 command on all four servers in the cluster.

Answer: A, E

Question: 276.

You are the administrator for an Application Center 2000 Web cluster that consists of eight servers and hosts a large, new Internet Web site. Automatic updates are enabled for the cluster by using the default time interval. You plan to make the Web site available to Internet users in one week. You successfully test the functionality of the Web site and automatic synchronization within the cluster. You decide to increase the security on the servers before exposing them to the Internet. You disable the SMTP, FTP, and RPC services.

You restart each server. After the servers restart, you update an HTML page on the Web site. After waiting two hours, you examine the file on the cluster members and notice that the files have not been updated.

You want to ensure that content updates are automatically synchronized. What should you do?

- A. Use Regedt32 to configure the RPC service for automatic startup on each server.
- B. Use Regedt32 to configure the RPC service for automatic startup on the cluster controller only.
- C. Use the Computer Management administrative tool to configure the SMTP service for automatic startup on each server.
- D. Use the Computer Management administrative tool to configure the SMTP service for automatic startup on the cluster controller only.
- E. Use the Computer Management administrative tool to configure the FTP service for automatic startup on each server.
- F. Use the Computer Management administrative tool to configure the FTP service for automatic startup on the cluster controller only.

Answer: A

Question: 277.

You are the Application Center 2000 administrator for your company. Your environment consists of an Application Center Web cluster named ProdCluster. ProdCluster contains the production environment that supports a single Web application. ProdCluster contains four servers named WebSrv01, WebSrv02, WebSrv03, and WebSrv04. WebSrv01 is the cluster controller. You are working with your co-workers to define a version-control recovery process in case an upgrade deployment fails or errors are found at a later time. The application that you are upgrading, named WebApp, contains a virtual directory that is defined in Internet Information Services (IIS) and a system Data Source Name (DSN). You have made changes to the ASP pages contained in the virtual directory. One of your co-workers suggests the following process: Make changes to the ASP pages on WebSrv01. Take WebSrv04 offline. Remove WebSrv04 from the synchronization loop. Create a new application named WebApp1 that contains the virtual directory and the system DSN. Synchronize the cluster. Test the application on ProdCluster. If there are any problems with the application, roll back the application by setting WebSrv04 online, setting WebSrv04 as the new cluster controller, and synchronizing the cluster. If there are no problems with the application, start synchronization and set WebSrv04 online before making any new changes to the application. You need to modify the proposed process so that ProdCluster can always recover from an unsuccessful deployment.

Which change should you make?

- A. Deploy WebApp1 with only the virtual directory.
- B. Deploy WebApp instead of creating a new application.
- C. Take WebSrv04 offline before making changes to the ASP pages.

D. Remove WebSrv04 from the synchronization loop before making changes to the ASP pages.

Answer: D

Question: 278.

You are the administrator for an Application Center 2000 Web cluster that consists of three stand-alone servers. The cluster supports a single Web site. Server1 is the cluster controller. You need to add 3 GB of new content to the Web site. Before the new content is added, the servers are configured as shown in the following table.

Item	Server1	Server2	Server3
Operating system partition size	4 GB	4 GB	2 GB
Operating system partition percent used	40%	40%	80%
Operating system partition file system	NTFS	NTFS	FAT32
Data partition size	20 GB	20 GB	10 GB
Total size of Web content files	5 GB	5 GB	5 GB
Data partition file system	NTFS	NTFS	FAT32

After deploying the content to Server1, you discover that synchronization failed on Server3. You want to successfully deploy the content to Server3. What should you do?

A. Convert the data partition on Server3 to NTFS.

B. Convert the operating system partition on Server3 to NTFS.

C. Increase the data partition size on Server3 to 20 GB.

D. Increase the operating system partition size on Server3 to 4 GB.

E. Use the New Deployment Wizard to deploy the new content from Server1 to Server 3.

Answer: C

Question: 279.

You are the administrator for an Application Center 2000 Web cluster that consists of six servers and hosts a large production Web site. The Web site receives tens of thousands of hits per day. Internet Information Services (IIS) log information for the Web site is critical for reporting and planning purposes. You plan to extract the log files daily from each server at 11:55 P.M. You enable logging for the Web site on the cluster controller. The next day when you examine the log files, you notice that they are identical on each server.

You want to ensure that you have accurate log data for each server in the cluster. What should you do?

A. Configure an exclusion for *.log files in the cluster's synchronization properties.

B. Individually configure IIS logging for the Web site on each server in the cluster.

C. Configure the automatic update interval to be 24 hours in the cluster general properties.

D. On each server, modify NTFS permissions for the directory containing the log files so that only the Creator/Owner group has write permissions.

Answer: A

Question: 280.

You are the administrator for an Application Center 2000 Web cluster that consists of five servers. The Web cluster supports one large production Web site. Automatic updates are enabled for the cluster. You need to test extensive content updates to the Web site. You place one of the cluster members, ServerA, offline and out of the synchronization loop. You deploy the changes to ServerA and complete a successful series of tests. You want to deploy the content changes to the entire Web cluster automatically. What should you do?

- A. Place ServerA online and into the synchronization loop.
- B. From ServerA, initiate a full synchronization.
- C. From the cluster controller, initiate a synchronization with ServerA.
- D. Designate ServerA as the cluster controller.

Answer: D

Question: 281.

You are the administrator for an Application Center 2000 Web cluster that consists of four servers. The cluster supports 20 Web sites for various customers. The cluster controller is named WebSrvA. You need to add a new Web site to the cluster. The Web site consists of static content, ASP pages, and a custom ISAPI filter. You create the Web site on WebSrvA and appropriately configure the directories. You add the ISAPI filter in the master properties pages for the WWW Service on WebSrvA. When you test the new Web site, you notice that the ISAPI filter is not being processed. You want the ISAPI filter to apply to all users of the new Web site. You also want to deploy updates to the ISAPI filter by using the least amount of administrative effort. What should you do?

- A. Remove the ISAPI filter from the master properties for the WWW Service on the cluster controller. Add the ISAPI filter to the new Web site's properties on the cluster controller.
- B. Synchronize the entire cluster. Restart Internet Information Services (IIS) on each server in the cluster.
- C. Use the New Deployment Wizard to deploy the ISAPI filter from the cluster controller to each cluster member.
- D. Add the ISAPI filter to the master properties for the WWW Service to each cluster member. Restart Internet Information Services (IIS) on each server in the cluster.

Answer: A

Question: 282.

You are the administrator for an Application Center 2000 Web cluster that consists of two servers named StageNew and StageOld. The cluster functions as a staging area for a production Web cluster. StageNew is the cluster controller. Automatic synchronization of updates is disabled for the cluster. You deploy several content updates to StageNew. You want to test the new content for 24 hours before updating the content on StageOld. StageOld has an unidentified problem that requires the server to be restarted occasionally. Four hours into testing, you restart StageOld. After the server restarts, you discover that the Web site content updates have been deployed to StageOld. You want StageOld to remain at the previous content revision while the new content is being tested on StageNew. How can you prevent the content from being updated?

- A. Use the Application Center snap-in to enable automatic updates. Configure the interval for 24 hours.
- B. Use the Application Center snap-in to enable automatic updates. Designate StageOld as the cluster controller.
- C. Use the Application Center snap-in to remove StageOld from the synchronization loop.
- D. Use the Application Center snap-in to take StageOld offline.

Answer: C

Question: 283.

You are the Application Center 2000 administrator for your company. Your environment consists of a single Application Center staging server named StageServer01 and an Application Center production Web cluster named WebCluster. WebCluster consists of two servers named WebServer1 and WebServer2. Both WebServer1 and WebServer2 are running Network Load Balancing (NLB).

WebServer1 is the cluster controller. You have an application named WebApp that contains a COM+ component. This COM+ component is updated once a week and needs to be redeployed to WebCluster. You have a maintenance window for the deployment, so a one-hour cluster downtime is acceptable. One of your co-workers creates the following script to automate the deployment: AC LOADBALANCE /OFFLINE /MEMBER:WebServer1 /DRAIN:20 AC DEPLOY /START /SOURCE:StageServer01 /TARGETS:WebServer1 /DEPNAME:WeeklyDeploy /COMPLUS /WAIT /SOURCEUSER:DeployAdmin /SOURCEPASSWORD:DeployAdmin /TARGETUSER:DeployAdmin /TARGETPASSWORD:DeployAdmin AC LOADBALANCE /ONLINE /MEMBER:WebServer1

Your co-worker mentions that the script is not deploying the application across the cluster. The script is being run on WebServer1. You have verified that the user name and passwords are correct. You need to resolve the deployment problem. What should you do?

- A. Run the script on StageServer01.
- B. Run the script on WebServer2.
- C. Add WebServer2 to the /TARGETS parameter.
- D. Add the /NOACL parameter to the AC DEPLOY command.

Answer: C

Question: 284.

You are the administrator for an Application Center 2000 Web cluster that consists of four servers named Prod1, Prod2, Prod3, and Prod4. The cluster hosts 10 production Web sites. Prod1 is the cluster controller. Automatic updates have been disabled on the cluster. You need to enable one of the Web sites to use SSL for user connections. You install an exportable server certificate on Prod1 and properly configure the Web site to use the certificate. You need to enable the other servers in the cluster to support SSL connections to the Web site as quickly as possible.

What should you do?

- A. Add a file system path resource to the Web site application that points to the server certificate on Prod1. Deploy the application to each member one at a time.
- B. Manually synchronize cluster members with Prod1.
- C. Manually install the server certificate on each cluster member, and configure the Web site to use the certificate.
- D. Deploy the application to each member one at a time.

Answer: B

Question: 285.

You are the administrator for an Application Center 2000 Web cluster that consists of eight servers. Third-party load balancing is used to distribute the load among the servers. Four of the servers are located in a data center in Los Angeles, and the other four servers are located in a data center in San Francisco. The cluster controller is in the Los Angeles data center. The communications link between the two data centers has recently been switched to a new carrier with a lower bandwidth, less reliable connection. Since the switch, synchronization to the cluster members in the San Francisco data center fails more often than it succeeds. You need a more reliable method of deploying content changes to the servers in San Francisco while minimizing bandwidth consumed by replication.

What should you do?

- A. Remove the San Francisco servers from the synchronization loop. Use the New Deployment Wizard to deploy content changes from the cluster controller to the San Francisco servers simultaneously.
- B. Remove the San Francisco servers from the synchronization loop. Use the Content Deployment Service to deploy content changes from the cluster controller to the San Francisco servers.
- C. Create a new Web cluster that consists of all four San Francisco servers. Use the New Deployment Wizard to deploy content changes from the Los Angeles cluster controller to the San Francisco cluster controller.

D. Create a new Web cluster that consists of all four San Francisco servers. Use the Content Deployment Service to deploy content changes from the Los Angeles cluster controller to the San Francisco cluster controller.

Answer: D

Question: 286.

You are the administrator for a new Application Center 2000 Web cluster that consists of four servers named Server1, Server2, Server3, and Server4. The cluster supports three Web sites with frequently updated content. During peak periods, the CPU usage on each server averages 80 percent. You want to host an FTP posting site on Server4 for Microsoft Word files. Files in the FTP drop directory, I:\ftproot, will remain there for up to three days before being transferred. You properly configure FTP services on Server4. You confirm that users can use FTP to transfer their files to Server4. However, you notice that the files are being deleted approximately every hour.

You need to prevent the FTP files from being deleted before they are transferred without adversely affecting the overall performance of the three Web sites. What should you do?

- A. Exclude the I:\ftproot folder from synchronization.
- B. Exclude files with a .doc extension from synchronization.
- C. Create a separate single server cluster for Server4.
- D. Set the periodic full synchronization interval to the maximum setting.

Answer: A

Question: 287.

You are the administrator for a new Application Center 2000 Web cluster that consists of three stand-alone servers named Server A, ServerB, and ServerC. You create the cluster on ServerA and successfully join ServerB and ServerC to the cluster. You properly configure Web site content and file permissions on ServerA to grant members of the WebSiteUsers group read access. However, when you run a Web stress test, approximately two-thirds of the requests for Web pages receive an access denied response. You want to be able to manage file permissions for the cluster by using the least amount of administrative effort.

What should you do?

- A. Join all three servers to a domain. On ServerA, apply file permissions to a domain local group.
- B. Convert the file system for the data partitions on both ServerB and ServerC to NTFS. Apply file permissions to each local group.
- C. Create a local group named WebSiteUsers on both ServerB and ServerC.
- D. Allow anonymous access to the Web site on both ServerB and ServerC.

Answer: A

Question: 288.

You are the Application Center 2000 administrator for your company. Your environment consists of an Application Center Web cluster named ProdCluster. ProdCluster contains the production environment that supports a single Web application. ProdCluster contains four servers named WebSrv01, WebSrv02, WebSrv03, and WebSrv04. WebSrv01 is the cluster controller. You are working with your co-workers to define a version-control recovery process in case an upgrade deployment fails or errors are found at a later time. The application that you are upgrading, named WebApp, contains a Web site that is defined in Internet Information Services (IIS), a system Data Source Name (DSN), and a COM+ component. You have added functionality to the COM+ component. One of your co-workers suggests the following process: Take WebSrv01 offline. Make the changes necessary to the COM+ application to use the new component. Set WebSrv01 online. Take WebSrv04 offline. Disable synchronization on WebSrv04. Deploy WebApp to WebSrv02 and WebSrv03.

Test the application on ProdCluster. If there are any problems, roll back the application by setting WebSrv04 online,

making WebSrv04 the new cluster controller, and then synchronizing the cluster. If there are no problems, set WebSrv04 online and deploy WebApp to it before making any new changes to the application. You realize that the proposed process will not work correctly if there are any problems. You need to modify the proposed process so that ProdCluster can recover as quickly as possible from an unsuccessful deployment.

Which change should you make?

- A. If there are any problems, do not set WebSrv04 online.
- B. If there are any problems, do not enable synchronization on WebSrv04.
- C. If there are any problems, do not make WebSrv04 the cluster controller.
- D. If there are any problems, additionally deploy WebApp from WebSrv04 to WebSrv01.
- E. If there are any problems, additionally deploy WebApp from WebSrv04 to WebSrv01, WebSrv02, and WebSrv03.

Answer: E

Question: 289.

You are the Application Center 2000 administrator for your company. Your environment consists of an Application Center staging server named StageServer01 and an Application Center Web cluster named ProdCluster. ProdCluster consists of two servers named ProdSvr1 and ProdSvr2. ProdSvr1 is the cluster controller for ProdCluster. You have an application that consists of a single Web site and a global ISAPI filter. You are working with your co-workers to develop a process for deploying this application. One of your co-workers suggests the following process: Create an application named WebApp on StageServer01 that contains the Web site that you are deploying. Deploy WebApp from StageServer01 to ProdSvr1 with the following options selected: Deploy global ISAPI filters, Deploy folder and file permissions, Yes, drain connections before resetting IIS. You need to modify the proposed process so that the entire application will be deployed to all the servers in ProdCluster.

Which change should you make?

- A. Take ProdSvr1 offline before the deployment and set it online after the deployment.
- B. Take ProdSvr2 offline before the deployment and set it online after the deployment.
- C. Deploy WebApp to ProdSvr2 and select the same options that are used in the deployment to ProdSvr1.
- D. Deploy WebApp to ProdSvr1 without selecting the Deploy folder and file permissions option.
- E. Deploy WebApp to ProdSvr1 without selecting the Yes, drain connections before resetting IIS option.

Answer: C

Question: 290.

You are the administrator for an Application Center 2000 Web cluster that consists of four servers. The cluster supports a single Web site that consists of HTML and ASP pages, COM+ components, and graphics files. There is also a staging server that is the only member of an Application Center cluster.

On the staging server, you have properly created an application named COMapp that includes all of the Web site resources. You anticipate that the HTML files and graphics files will be updated frequently. The ASP pages and COM+ components will be updated rarely. You want to be able to deploy changes to the Web site with as little disruption to users as possible. What should you do?

- A. Disable automatic updates. Use the New Deployment Wizard to deploy updates to COMapp to all servers in the Web cluster at once, and use a drain time of 20 minutes.
- B. Disable automatic updates. Use the New Deployment Wizard to deploy updates to COMapp to one server at a time, and use a drain time of 20 minutes.
- C. Use the Application Center snap-in to create a new application that consists of the HTML and graphics files.
- D. Use the Application Center snap-in to remove the ASP pages and COM+ components from COMapp.

Answer: C

Question: 291.

You are the Web infrastructure administrator for your company. The infrastructure includes a staging server and a Web cluster that uses hardware-based, third-party load balancing. The cluster consists of four servers.

You want to use Application Center 2000 to manage the cluster and application deployment. The Web site hosted on the cluster consists of HTML pages, images, and ASP pages.

You create an Application Center Web cluster that consists of the four Web servers. A month later, you need to deploy updates to the Web site content and increase the capacity of the cluster. You make the changes to the staging server and join the staging server to the Web cluster. When you attempt to deploy the content updates, you notice that the staging server no longer contains the content updates.

You want to accomplish the following goals: Deploy application updates to the Web cluster by using Application Center. Maximize the use of server resources for processing customer requests.

What should you do?

- A. Remove the staging server from the synchronization loop. Update the content on the staging server. Designate the staging server as the cluster controller.
- B. Remove the staging server from the synchronization loop. Update the content on the staging server. Manually synchronize the staging server with the cluster controller.
- C. Remove the staging server from the cluster. Update the content on the staging server. Create an Application Center cluster that contains the staging server. Use the New Deployment Wizard to deploy content updates to the Web cluster controller.
- D. Remove the staging server from the cluster. Update the content on the staging server. Use the Content Deployment Service to deploy content updates to the cluster controller.

Answer: A

Question: 292.

You are the administrator for your company's Application Center 2000 cluster. One of the applications on the cluster requires an updated version of a standard DLL in order to function correctly. Occasionally, a new server will be built that needs to be added to the cluster and does not have this updated DLL. You need to automatically update the DLL if it is the incorrect version. What should you do? (Each correct answer presents part of the solution. Choose two.)

- A. Create a Synchronized Monitors data collector based on a WMI Instance event.
- B. Create a Synchronized Monitors data collector based on a Process Monitor event.
- C. Create a Non-Synchronized Monitors data collector based on a WMI Instance event.
- D. Create a Non-Synchronized Monitors data collector based on a Process Monitor event.
- E. Create a threshold based on the last modified date of the DLL, and associate the threshold with an action that replaces the DLL.
- F. Create a threshold based on the Process ID, and associate the threshold with an action that replaces the DLL.

Answer: A, E

Question: 293.

You are the administrator for your company's Application Center 2000 cluster. You have finished creating the cluster that will be the company's e-commerce Web site. You configure a data collector on the servers. A portion of this data collector is shown in the Data Collector exhibit.

General Details Actions **Schedule** Message

Specify when, and how often, to collect data. You can also specify how many data samples are used to calculate the average value.

Collection days

☒ Sunday ☒ Monday ☒ Tuesday ☒ Wednesday

☒ Thursday ☒ Friday ☒ Saturday

Collection times

☒ All day

☐ Only from: 10:43 AM to 10:43 AM

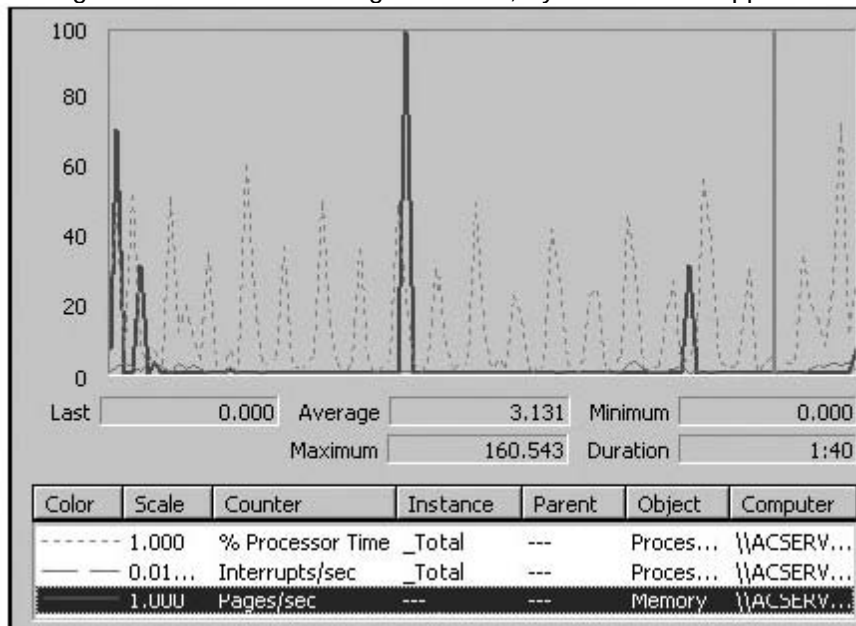
☐ All day except: 10:43 AM to 10:43 AM

Collection interval

Collect every: 5 Second(s)

Total samples for average calculation: 6

Although no users are accessing the server, System Monitor appears as shown in the System Monitor exhibit.



You need to fix the problem. What should you do?

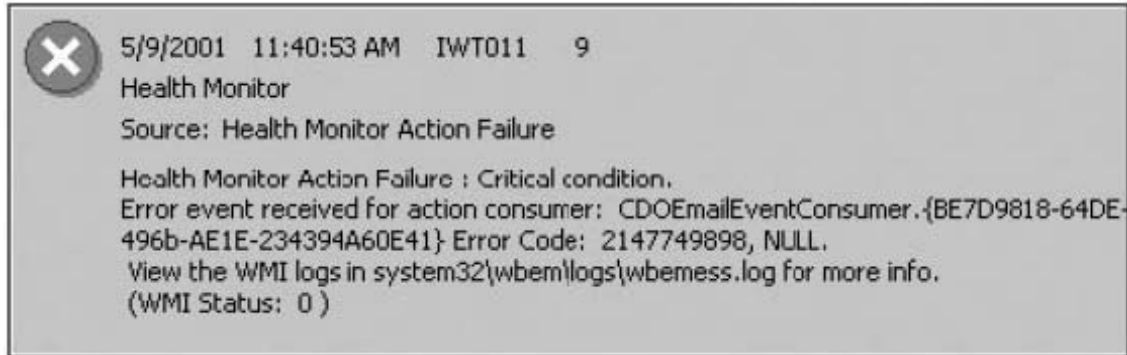
- A. Increase the time period between data collections.
- B. Decrease the time period between data collections.
- C. Increase the number of samples averaged in the data collector.

D. Decrease the number of samples averaged in the data collector.

Answer: A

Question: 294.

You are the network administrator for your company. You are responsible for your company's Application Center 2000 deployment. You are creating a staging server. After you create this staging server, you find that the staging server has the critical condition error shown in the Critical Condition exhibit.



You view the log file referenced in the error. This log file is shown in the Log File exhibit.



You need to correct this error. What should you do?

- A. Configure a mail exchanger (MX) record in DNS for the staging server.
- B. Start the WMI service.
- C. Configure the SMTP service to start as a member of the ACA_computername group.

D. Configure the Email Administrator action properties for the staging server.

Answer: D

Question: 295.

You are the administrator for an Application Center 2000 Web cluster that consists of eight servers with identical hardware configurations. The Web cluster supports 100 production Web sites. There are frequent and extensive content updates to many of the Web sites. The cluster uses Network Load Balancing (NLB) with the default client affinity setting for Internet Web clusters. You notice that the CPU usage on one of the servers in the cluster frequently exceeds 90 percent for sustained periods of time. You discover that the number of connections per server is approximately equal.

You want to minimize the risk of dropped connections for the cluster. What should you do?

- A. Split the cluster into two clusters with 50 Web sites on each cluster.
- B. Create an active/passive Cluster service cluster that consists of the Application Center cluster controller and one other cluster member.
- C. Adjust the NLB weighting for the cluster controller to be one-half of the other cluster members.
- D. Change the client affinity setting to None on the cluster controller.

Answer: C Question: 296.

You are the administrator for an Application Center 2000 Web cluster named CorpSite that consists of four servers. The cluster supports the www.tailspintoys.com Web site. Each server is a member of a Microsoft Windows 2000 domain named tailspintoys.com. ServerA has always been the cluster controller. The Web site is configured to use a domain user account named ANONUSER for anonymous user access. Your company's security group informs you that a group policy object will be applied to every server in the domain. The purpose of the policy is to limit the rights of non-administrative users to log on to servers.

Immediately after the policy takes effect, users can no longer connect to www.tailspintoys.com. You need to allow Internet users to connect to the Web site. What should you do?

- A. On each server, use the Local Security Policy administrative tool to grant the ANONUSER user account the right to log on locally.
- B. On each server, use the Local Security Policy administrative tool to grant the IUSR_ServerA user account the right to log on locally.
- C. Create an organizational unit (OU) that includes the servers in the Web cluster. Create a new group policy object that grants the ANONUSER user account the right to log on locally.
- D. Create an organizational unit (OU) that includes the servers in the Web cluster. Create a new group policy object that grants the IUSR_ServerA user account the right to log on locally.

Answer: C

Question: 297.

You are the Web infrastructure administrator for your company. You configure an Application Center 2000 Web cluster that consists of five servers. In addition, there is a single staging server running Microsoft Windows 2000 Advanced Server. Any changes to the Web site must be fully tested before being deployed. You want to configure the staging server so that Application Center can be used to deploy content from the staging server to the Web cluster.

What should you do?

- A. Install Application Center on the staging server. Join the server to the Web cluster, and make the server the cluster controller.
- B. Install Application Center on the staging server. Join the server to the Web cluster, and make the server a member of the cluster.
- C. Install Application Center on the staging server. Configure an Application Center cluster that consists of only the staging server.

D. Install the Client tools only for Application Center on the staging server. Use the Application Center snap-in to deploy content from the staging server to the Web cluster.

Answer: C

Question: 298.

You are the administrator for an Application Center 2000 Web cluster that uses Network Load Balancing (NLB) and consists of four servers. One of the Web servers has run out of space on the hard disk that contains only volume C. This volume hosts the \WINNT system root directory. The server will no longer boot to the operating system. The Web cluster supports two production Web sites. The content for the Web sites is hosted on a hard disk that contains only volume E on each server. There is 5 GB of free space on volume E on each server.

You need to bring the server back into service as quickly as possible. What should you do?

- A. Replace the hard disk for volume C with a larger disk. Reinstall the operating system and Application Center to volume C. Give the server a new name and join it to the cluster.
- B. Use a third-party tool to move the \WINNT directory to volume E. Modify the boot.ini file to point to the new location.
- C. Reinstall the operating system and Application Center to volume E. Give the server the same name as before and join it to the cluster.
- D. Reinstall the operating system and Application Center to volume E. Give the server a new name and join it to the cluster.

Answer: A

Question: 299.

You are the administrator for an Application Center 2000 Web cluster that consists of five servers. The Web cluster supports several production Web sites. The cluster controller, ServerA, experiences an unexpected power supply failure. You designate ServerB as the cluster controller while ServerA is down. After the server has been down for five days, you replace the failed power supply on ServerA. There were no configuration changes made to the cluster while ServerA was down. You want to return ServerA to service as the cluster controller by using the least amount of administrative effort while minimizing disruptions to Web site customers.

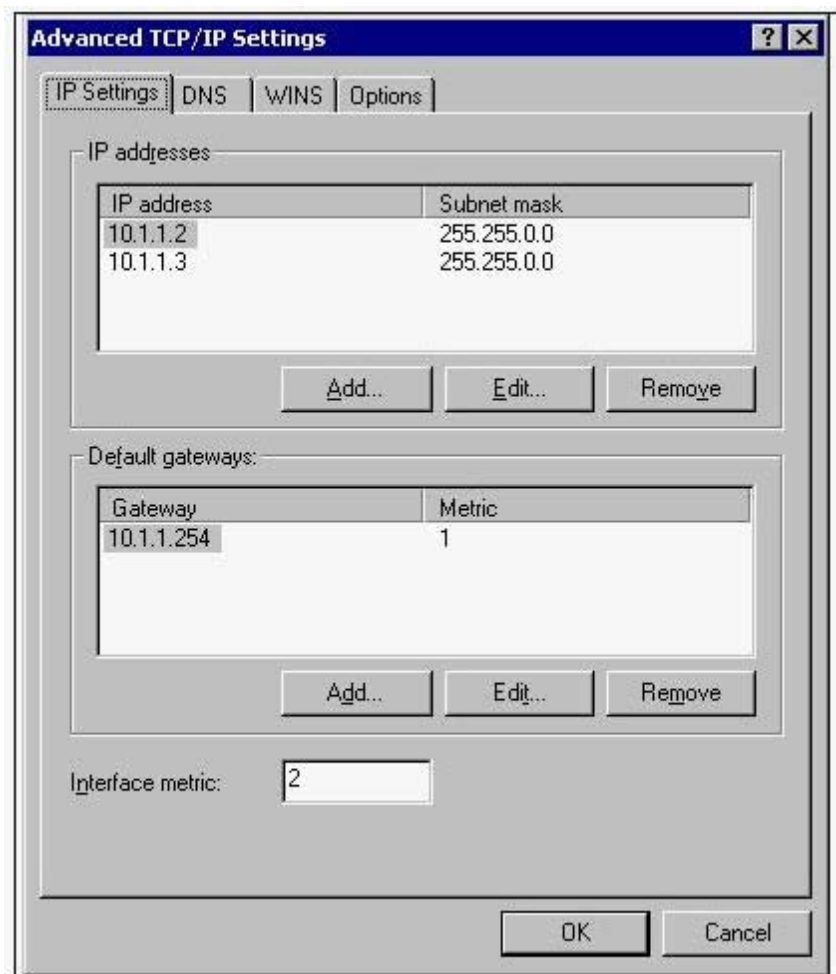
What should you do?

- A. Turn on ServerA. Designate ServerA as the cluster controller.
- B. Remove ServerB from the cluster. Turn on ServerA. Join ServerB back to the cluster as a member.
- C. Disconnect ServerA from the network. Turn on ServerA. Run the AC CLUSTER /CLEAN command on ServerA. Install Application Center, and rejoin the cluster. Designate ServerA as the cluster controller.
- D. Disconnect ServerB from the network. Turn on ServerA. Run the AC CLUSTER /CLEAN command on ServerB. Install Application Center, and rejoin the cluster.

Answer: A

Question: 300.

You are the Application Center 2000 administrator for your company. You currently have an Application Center cluster that contains two servers named Server1 and Server2. These servers use Network Load Balancing (NLB) and use a virtual IP address of 10.1.1.10. You are adding a third server named Server 3 to the cluster. The front-end network adapter of Server3 is configured as shown in the exhibit.



Your company uses an enterprise-standard network-monitoring tool that pings 10.1.1.3 to test for system availability. After Server3 is added to the Application Center cluster, the network-monitoring tool can no longer ping 10.1.1.3. You need to allow the network-monitoring tool to specifically test Server3 for network availability. What should you do?

- A. Edit the network-monitoring tool to ping 10.1.1.10.
- B. Edit the network-monitoring tool to ping 10.1.1.2.
- C. Change the Interface metric to 1.
- D. Change the default gateway metric to 2.

Answer: B

Question: 301.

You are the Application Center 2000 administrator for your company. You are adding a new Web site to your company's Application Center cluster. This cluster already contains multiple Web sites. Your company uses ASP pages in its Web site design. The cluster uses a third-party load balancer. The third-party load balancer uses round-robin load balancing across the cluster member servers. Currently no other Web site on the Application Center cluster needs to maintain session state information.

You need to configure the infrastructure to enable the ASP pages of the new Web site to maintain session state information on the cluster without affecting the performance of the current Web sites on the cluster. You cannot change the configuration of the client computers. Which two actions should you take? (Each correct answer presents part of the solution. Choose two.)

- A. Enable session state for the new Web site.
- B. Disable session state for the new Web site.
- C. Enable server-side script debugging in Internet Information Services (IIS).
- D. Enable request forwarding for all Web sites.
- E. Enable the forwarding of Microsoft FrontPage publishing requests.
- F. Enable request forwarding only for Web sites that use ASP session state.

Answer: A, F

Question: 302.

You are the Application Center 2000 administrator for your company. You have an Application Center cluster that consists of three servers named Server1, Server2, and Server3. Server1 is the cluster controller. The Application Center cluster uses a third-party load balancer. The help desk notifies you that performance problems are occurring on the Application Center cluster.

	Server1	Server2	Server3
IP address on network adapter	10.1.1.1	10.1.1.2	10.1.1.3
IP address of Web site under Internet Information Services (IIS)	10.1.1.1	10.1.1.1	10.1.1.1

You analyze the network traffic on the cluster and realize that Server1 is servicing all client requests. During troubleshooting, you gather the information shown in the following table. You need to improve the performance of the Application Center cluster. What should you do?

- A. Add the IP addresses of Server2 and Server3 to the IP address of the network adapter on Server1.
- B. Add the IP addresses of Server2 and Server3 to the IP address of the Web site under IIS on Server1.
- C. Change the IP address of the network adapter on Server2 and Server3 to be the same as the IP address of the network adapter on Server1.
- D. Change the IP address of the Web site under IIS on Server2 and Server3 to be the same as the IP address of the network adapter for each respective server.

Answer: B

Question: 303.

You are the Application Center 2000 administrator for your company. You have three servers in your Application Center cluster. Because of a sudden increase of users to your Web site, the Web site performance is rapidly decreasing. You have two additional servers that are available to add to your cluster. The processors used in the servers are identical. The hardware for the existing and new servers is shown in the following table.

	Processor	RAM	Hard disk space
Existing servers	Dual processor	1 GB	8 GB
New servers	Single processor	512 MB	8 GB

You want to add the servers to the cluster without decreasing the performance of any individual connections. What should you do?

- A. On the two new servers, select Less Load under Request Load properties.
- B. On the two new servers, select More Load under Request Load properties.
- C. On the three existing servers, select Less Load under Request Load properties.
- D. On the three existing servers, select Average Load under Request Load properties.

Answer: A