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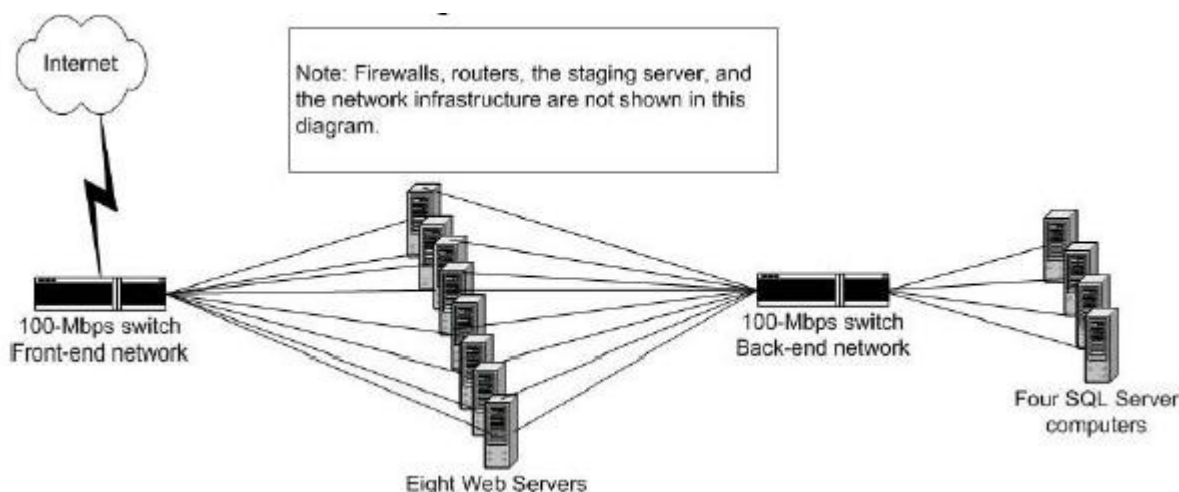
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Exam : **070-226**

Title : MCSE Designing Highly
Available Web Solutions
with Microsoft Windows
2000 Server Technologies

Version : Demo

1. Background Northwind Traders has been one of the top three Internet florist Web sites for the past three years. During an average day, the company processes 50,000 orders. However, during the week before Mother's Day (the second Sunday in May), the order volume goes up dramatically. Last year, the company processed 1 million orders during this week. However, the Web site did not perform well. Northwind Traders estimates that it lost as many as 1 million additional orders. This year, the company expects traffic on the Web site to be double that of last year. Northwind Traders wants to make sure that the Web site infrastructure is prepared to handle as many as 4 million orders during the week proceeding this year's Mother's Day. Performance data gathered during the Mother's Day period last year shows that the following areas were significant bottlenecks: Access to the product catalog database The network connection from the Internet data center to the Internet SSL Session initialization Existing Environment The company's Web site is currently located in one Internet data center in San Francisco, as shown in the data center diagram.



Answer:

2. You need to design a rollback and recovery strategy for content changes to the Web servers. Which element or elements should you include in your design? (Choose all that apply.)

- A. Create an Application Center Web cluster that includes the two staging servers.
- B. Add a second staging server on one of the new Internet data centers.
- C. Create an Application Center COM+ cluster that includes the two staging servers.
- D. Take one of the staging servers offline until it is verified that the newly deployed content is error free.
- E. Add a second staging server in the west Internet data center
- F. Remove one of the staging servers from the synchronization loop until it is verified that the newly deployed content is error free.

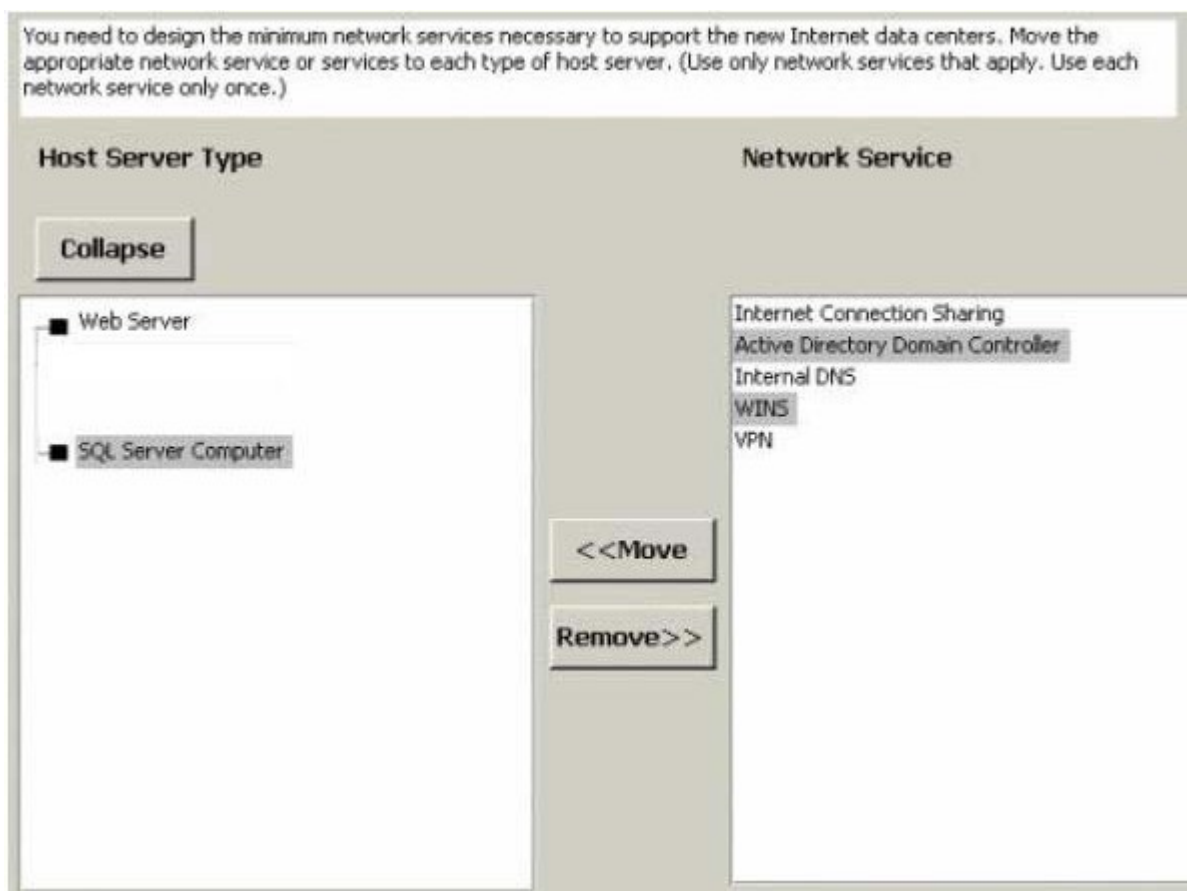
Answer: A E F

3. You want to optimize the SSL initialization for the Web site. Which two actions should you take? (Each correct answer presents part of the solution. Choose two.)

- A. Design NLB clusters to use the affinity setting of None for the Web servers.
- B. Replace SSL encryption with IPSec.
- C. Use HTTP for all Web site traffic
- D. Add SSL hardware accelerator cards to all of SQL Server computers.
- E. Add SSL hardware accelerator cards to two Web servers in each NLB cluster. Filter all SSL traffic to those two servers.
- F. Design NLB clusters to use the affinity setting of Single for the Web servers.

Answer:E F

4.Drop



Answer:

Green choice3---->Yellow Choice1

Green choice2---->Yellow Choice2

Green choice5---->Yellow Choice3

Green choice4---->Yellow Choice4

5.You need to design a method for the company's server administrators to manage all their servers at the Internet data centers. Which method should you include in your design?

- A.Initiate a direct Telnet connection to each server over the Internet as needed.
- B.Initiate an HTTPS connection over the Internet to each server as needed.
- C.Initiate a VPN connection to a VPN server in each Internet data center over the Internet. Then make a Terminal Services connection to each server as needed.
- D.Initiate an encrypted Terminal Services connection over the Internet to each server as needed.
- E.Include a VPN connection to the Internet data center over the Internet. Then make a Telnet connection to each server as needed.

Answer:C

6.You need to design a scalable architecture for the SQL Server clusters to support the expected increase in volume before Mother's Day. You need to design database integration to support the temporary Web sites at the new Internet data centers. Which three actions should you take? (Each correct action presents part of the solution. Choose three.)

- A.Design a partitioning strategy for the customer profile and login database based on geographic location.

- B.Design a partitioning strategy for the customer profile and login database based on alphabetical order.
- C.Design a partitioning strategy for the product catalog database based on alphabetical order.
- D.Design the Web sites to point back to the existing Web site for all database activity.
- E.Design a replication strategy for the customer profile and login database for all Web sites.
- F.Design a replication strategy for the shopping cart state database within each Web site.
- G.Design a replication strategy for the product catalog database for all Web sites.

Answer:A E G

7.You need to design the server infrastructure for the Internet data centers. How should the leased SQL Server computers be deployed? (Choose all that apply.)

- A.Install the leased SQL Server computers in the existing Internet data center. Create four 4-node Cluster service clusters for all databases.
- B.Install the leased SQL Server computers in the existing Internet data center. Combine them with the existing SQL Server computers in a 16-node NLB cluster for all databases.
- C.In each new Internet data center, create a 2-node Cluster service cluster for Customer profile and shopping cart databases.
- D.In each new Internet data center, create a 2-node NLB cluster for the product catalog database.
- E.In each new Internet data center, create a 4-node Cluster service cluster for all databases.
- F.In each new Internet data center, create a 4-node NLB cluster for all databases.

Answer:C D

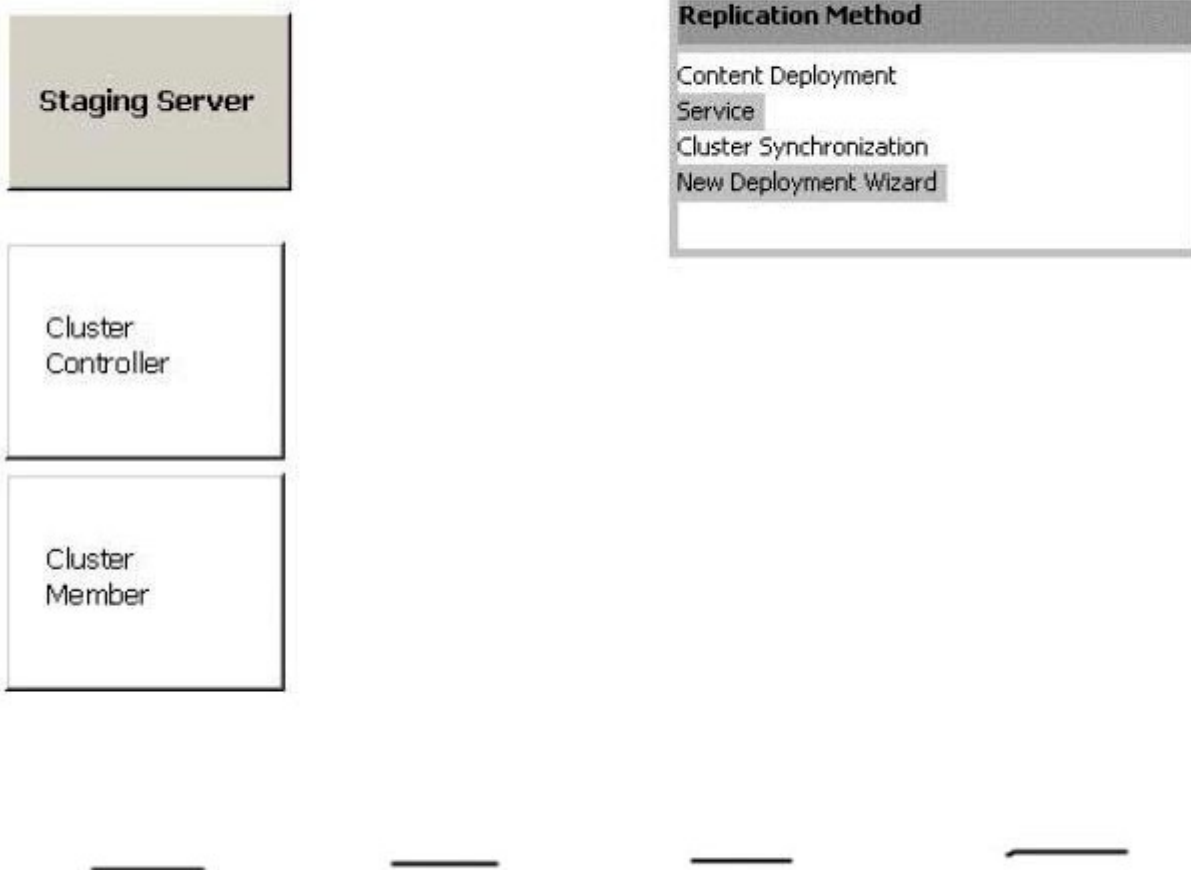
8.You want to reduce the risk of a network bottleneck between the Web servers and the SQL Server computers. Which two actions can you take? (Each correct answer presents a complete solution. Choose two.)

- A.Configure all NLB and Cluster service traffic to occur on a private network.
- B.Place each SQL Server cluster on a separate network segment.
- C.Upgrade the SQL Server computer network adapters and switches to Gigabit Ethernet.
- D.Place each SQL Server node on a separate network segment.
- E.Add an additional 100-Mbps network adapter to each SQL Server computer on the existing network segment.
- F.Configure the SQL Server computers to use a storage area network.

Answer:C F

9.Drop

Create a diagram that shows how to replicate Web server content within each Web site. Use the appropriate replication method to connect the appropriate sources and targets for replication. (Use only replication methods that apply).



Answer:

Green choice1---->Yellow Choice1

Green choice4---->Yellow Choice2

Green choice2---->Yellow Choice3

Green choice3---->Yellow Choice5

Green choice6---->Yellow Choice4

10.Drop

You need to design clustering solutions for the different databases. Move the appropriate cluster method to each database. (Use both cluster methods. You will need to reuse cluster methods.)

| Database | Cluster Method |
|---|--|
| <p><input type="button" value="Collapse"/></p> <ul style="list-style-type: none">■ Customer Profile and Login■ Product Catalog■ Shopping Cart State | <ul style="list-style-type: none">Cluster Service ClusterNLB Cluster <p><input type="button" value=" <<Move"/></p> <p><input type="button" value=" Remove >>"/></p> |

Answer:

Green choice1---->Yellow Choice1

Green choice2---->Yellow Choice2

Green choice1---->Yellow Choice3

11.Drop

You need to design an Internet DNS naming strategy for customers in all the regions to connect to the appropriate Web site. Move the appropriate DNS name to each customer location. (Use only DNS names that apply. You might need to reuse DNS names.)

| Customer Location | DNS Name |
|---|---|
| <p><input type="button" value="Collapse"/></p> <ul style="list-style-type: none"><input type="checkbox"/> Northeast<input checked="" type="checkbox"/> Southeast<input type="checkbox"/> Midwest<input checked="" type="checkbox"/> West | <ul style="list-style-type: none">www.northwindtraders.comwww.northeast.northwindtraders.comwww.southeast.northwindtraders.comswww.west.northwindtraders.comwww.midwest.northwindtraders.com <p><input type="button" value=" <<Move"/></p> <p><input type="button" value=" Remove >>"/></p> |

Answer:

Green choice2---->Yellow Choice1

Green choice3---->Yellow Choice2

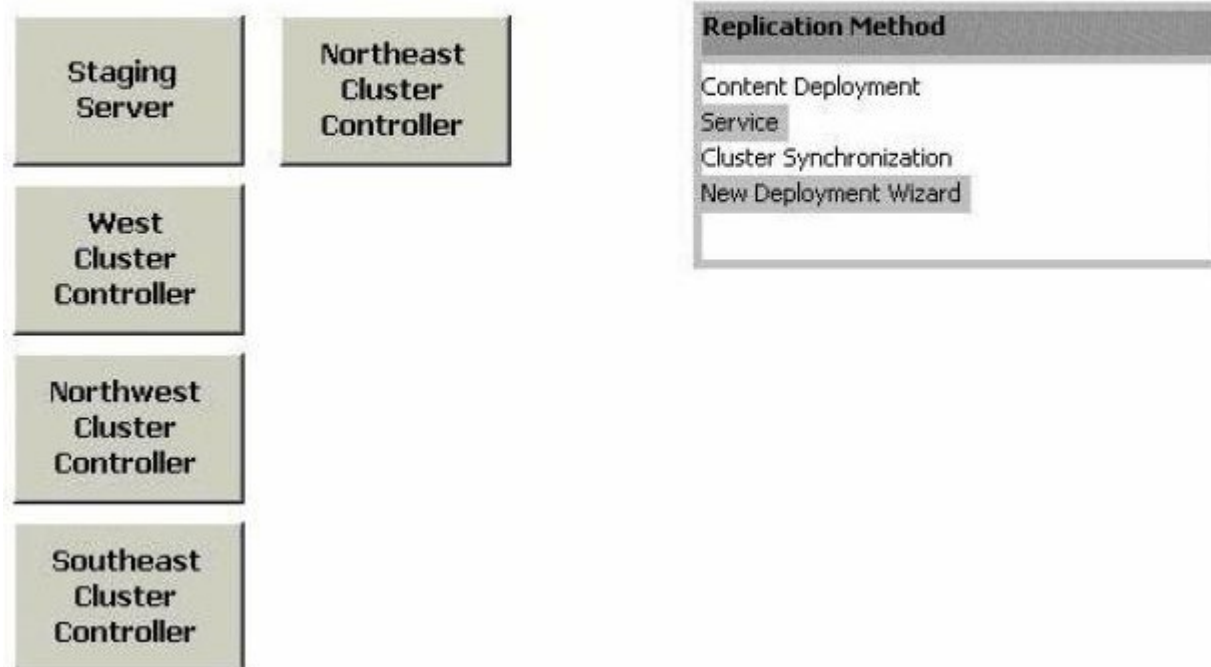
Green choice5---->Yellow Choice3

Green choice4---->Yellow Choice4

Green choice1---->Yellow Choice5

12. Correct

Use the replication sources, targets, and methods provided to create a diagram that shows how to replicate Web server content to the Internet data centers. (Use only replication sources, targets, and methods that apply.)



A. Staging Server -> Content Deployment -> West Cluster Controller Staging Server -> Content Deployment -> Midwest Cluster Controller Staging Server -> Content Deployment -> Southeast Cluster Controller Staging Server -> Content Deployment -> Northeast Cluster Controller

Answer:A

13. You need to design the server infrastructure for the Internet data centers. How should the leased Web servers be deployed?

A. Install 8 of the leased Web servers in each new Internet data center. Create one 8-node NLB cluster in each new data center. Create round-robin DNS entries for each NLB cluster.

B. Install 8 of the leased Web servers in each new Internet data center. Create round-robin DNS entries for all 32 Web Servers.

C. Install all the leased Web servers in the existing Internet data center. Combine the leased Web servers with the existing Web servers in a 32-node NLB cluster.

D. Install 8 of the leased Web servers in each new Internet data center. Create two 4-node NLB cluster in each new data center. Create round-robin DNS entries for each NLB cluster.

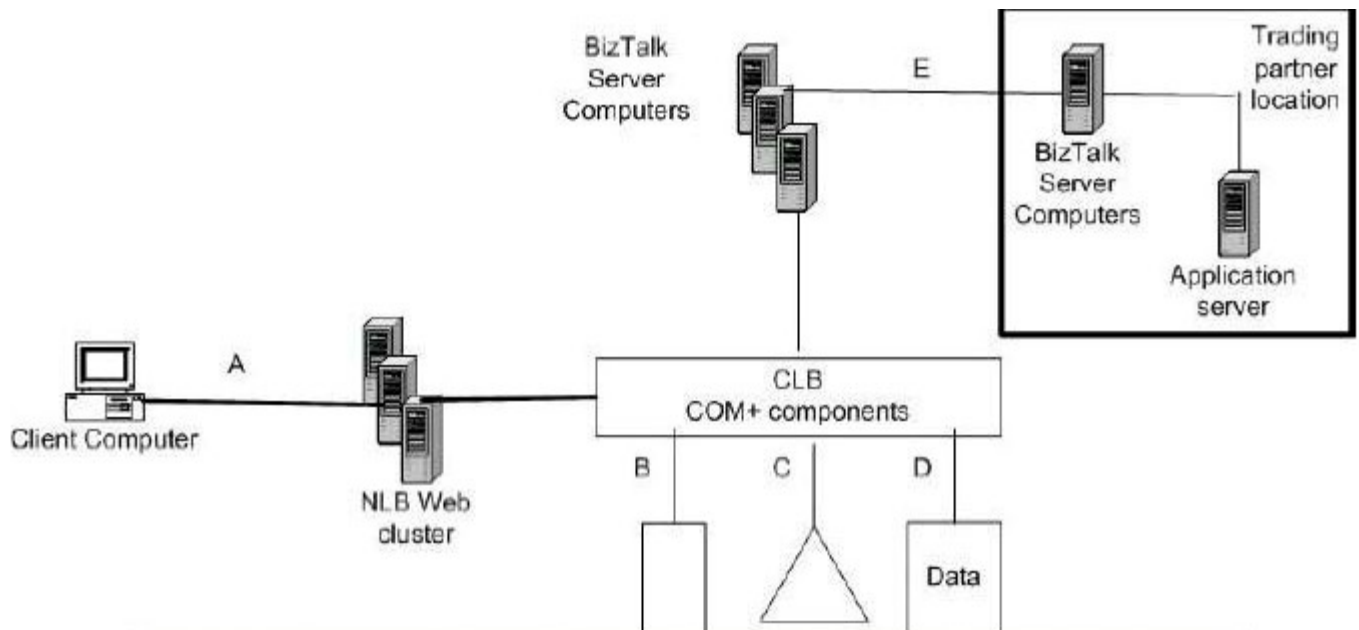
Answer:A

14. The company has a testing lab that contains eight computers. When these computers were used to stress test the four-member NLB cluster, all connections went to one server. Business Requirements Coho Vineyard's strategy is to provide relationship services to four communities of interest. These communities are vineyards, retailers, restaurants, and individual consumers. The following Web features will be included: Chat and discussion forums must allow people in the same community to meet and interact. Efficient navigation must allow users to find items and accomplish tasks quickly. Profiles that can be customized will allow users to focus on what interests them. Security of transactions that include purchasing external products and services must be provided. Safeguards will protect the privacy of

individuals. Users must be able to control which information can be passed to others. The initial membership within the four communities must support 20,000 members and 5,000 concurrent users. All servers must be highly available. The Web site cluster can be managed from a single console. When a purchase request is made Coho Vineyard will route the request to the appropriate destination for fulfillment. A small fee will be assessed to the seller. All steps of the purchase transactions will be recorded. Users will be able to find and compare wine and vineyard suppliers ranging from grapes and crates to a specific wine in the store closest to them. Technical Requirements The following internal systems will be included. Collaboration: Coho Vineyard plans to use Microsoft Outlook Web Access and Microsoft Exchange 2000 Server as its collaboration infrastructure. Load testing shows that a four-processor server that has 5,000 concurrent users runs at 60 percent utilization. Accounting: All transaction details will be recorded on the company's mainframe computer at headquarters. Wine Market: User requests will be queried against production, inventory, and scheduled services. Provisions need to be made to support transaction requests even when all services are not available online. Partners: A Microsoft BizTalk Server computer will be installed at each trading partner's location. Microsoft Application Center 2000 will be used to manage the NLB cluster. All servers will run Windows 2000 Advanced Server. The following additional design requirements must be met: Only the firewall will have publicly accessible IP addresses. It must be possible to ping the front-end adapters of all NLB servers. Overhead traffic on the production network must be minimized Changes to external firewall configuration of the IPP must be minimized. The problem with NLB testing must be resolved.

[Answer:](#)

15.Drop



The architecture diagram is shown in the exhibit. You need to decide which primary data interchange technologies should be used to connect the services and devices. Move each technology to the appropriate connection (Use all technologies. Use each technology only once.)

| Connection | Technology |
|--|---|
| <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E | HTML over HTTP ADO XML over HTTP CDO LDAP |

Answer:

Green choice1---->Yellow Choice1

Green choice4---->Yellow Choice2

Green choice5---->Yellow Choice3

Green choice2---->Yellow Choice4

Green choice3---->Yellow Choice5

16.What is the most likely cause of the NLB testing problem?

- A.There must be at least 16 devices accessing NLB to properly balance the load.
- B.The affinity setting was set to Class C.
- C.The affinity setting was set to None.
- D.The round-robin DNS server was not configured properly.

Answer:B

17.The front-end network is currently configured as shown in the network diagram. You want to improve performance of the front-end systems. Which action or actions should you take? (Choose all that apply.)

- A.Maintain client state in the NLB cluster.
- B.Redirect the NLB cluster heartbeat to the internal network adapters.
- C.Maintain client state across sessions by using cookies or URLs or both.
- D.Apply a user authentication ISAPI filter to cache the current user token.

Answer:B D

18.You need to design an infrastructure for Outlook Web Access and Exchange 2000 Server. Which element or elements should you include in your design? (Choose all that apply.)

- A.Install Exchange 2000 Server on a four-node Cluster service cluster.
- B.Install Exchange 2000 Server on a two-node active/active Cluster service cluster.
- C.Create a single partition for all users.
- D.Create two partitions for all users.
- E.Install Exchange 2000 Server on a four-member NLB cluster that will not store user account data.

Answer:B D

19.Which data should you store in Active Directory? (Choose all that apply.)

- A.accounting transactions
- B.partner X.509 certificates
- C.security groups
- D.event logs
- E.Web SSL keys
- F.wine inventory

Answer:B C E

20.You need to ensure user privacy for Coho Vineyard customers. What should you do? (Choose all that apply.)

- A.Configure Microsoft SQL Server Mixed Authentication Mode for client access.
- B.Require IPSec for all traffic between client computers and areas of the Web site that contain user information.
- C.Index all Active Directory attributes.
- D.Encrypt sensate information stored in the cookies
- E.Restrict access to attributes in Active Directory.
- F.Require HTTPS for all traffic between client computers and areas of the Web site that contain user information.

Answer:D E F

21.You need to design a remote management and monitoring strategy for Coho Vineyard. Which four elements should you include in your design? (Each correct answer presents part of the solution. Choose four.)

- A.Enable IP forwarding on the Web servers.

- B.Install Application Center on a management server at headquarters.
- C.Install the Application Center Administrative client on a computer at headquarters.
- D.Request the Internet Presence Provider (IPP) to provide an IPSec VPN router connection to the perimeter network (also known as the DMZ) of your Web site.
- E.Add an additional network adapter to all servers on the perimeter network (also know as the DMZ), and create a separate network.
- F.Install Application Center at all trading partner locations.
- G.Request the Internet Presence Provider (IPP) to open ports on the public firewall to support Terminal Services connectivity.
- H.Configure IPSec and network address translation (NAT).
- I.Install Application Center on the Web servers.

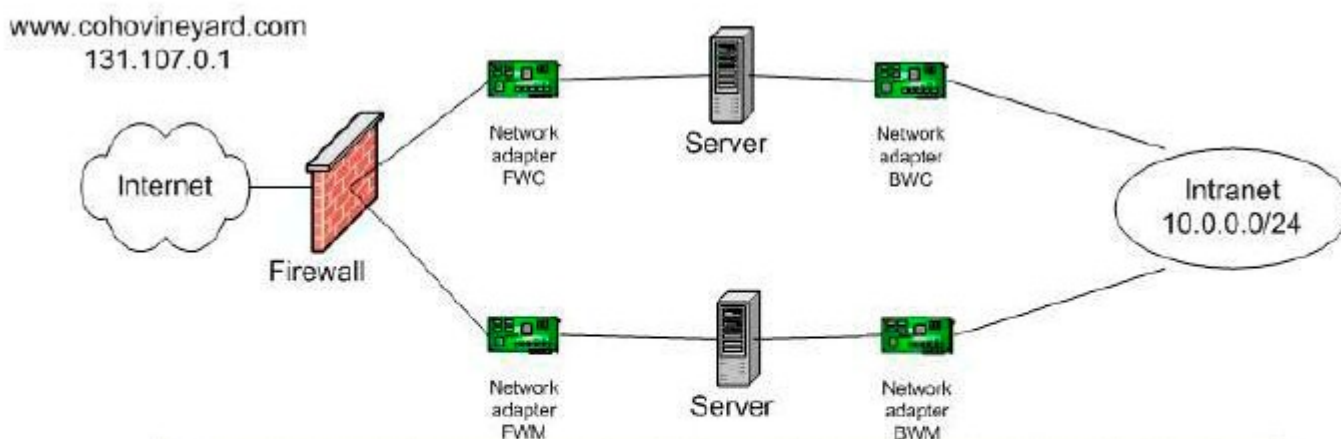
Answer:C G H I

22.What should you use to improve availability of the Wine Market service?

- A.cookies
- B.SMTP
- C.message queuing
- D.TCP session time-out variables

Answer:C

23.Drop



The network adapters are shown in the NLB cluster diagram. Move the appropriate IP address or addresses to each network adapter. (Use only IP addresses that apply. You might need to reuse IP addresses.)

| Network Adapter | IP Address |
|------------------------------|---------------------------------|
| <input type="checkbox"/> FWC | 10.0.0.100 and 192.168.0.2 |
| <input type="checkbox"/> BWC | 10.0.0.100 |
| <input type="checkbox"/> FWM | 10.0.0.101 |
| <input type="checkbox"/> BWM | 10.0.0.100 and 192.168.0.1 |
| | 192.168.0.100 and 192.168.0.101 |
| | 131.107.0.1 and 192.168.0.101 |
| | 131.107.0.1 and 192.168.0.102 |
| | 131.137.0.1 |
| | 192.168.0.100 |
| | 192.168.0.100 and 192.168.0.102 |

Answer:

Green choice5---->Yellow Choice1

Green choice2---->Yellow Choice2

Green choice10---->Yellow Choice3

Green choice3---->Yellow Choice4

24. Background Contoso, Ltd., provides commercial and noncommercial real estate buying, selling, and leasing services to a densely populated region. It has more than 100,000 listings and employs approximately 3,000 agents in 120 offices. The company's Web site provides free and unrestricted access to a complete listing of all real estate properties except properties listed within the previous 24 hours. Those who pay a membership fee gain access to the most current listings. Brokers in the branch offices

are responsible for adding new listings, but they often delay adding the new listings. The company's marketing department recently entered into a contract with another company to add more details to the listing information and to expedite entry of records. A new multimedia service is being introduced. It includes narration and allows users to navigate panoramic views of selected properties. An advertisement of the new features significantly increased the popularity of the Web site. The number of page views per day increased from 10,000 to 100,000. This activity is anticipated to continue to increase as more listings are enhanced. Recently, an update to a mortgage calculator program on the Web server created a conflict with the database hosting the user table. The anonymous access to the Web site was unaffected. However, paid member could not access the new listings. The failed service was not discovered for three days, causing embarrassment to the company.

Existing Environment The company's Internet Web site is hosted at an Internet Presence Provider (IPP) that has redundant 100-Mbps connections to the Internet. The Web site is located on a single network subnet and is contained on a two-node Cluster service cluster. Each server is an active/passive configuration and has fiber connectivity to RAID 5 storage. Each server is a domain controller and runs Microsoft Internet Information Server 4.0. Microsoft SQL Server 6.5 is used for the membership database. The company's headquarters is connected to the Internet by a T1 line. A staging server at headquarters is used to update content to the production Web site. Membership updates are made directly on the Web site's production server. Direct 56-Kbps frame-relay lines connect to all branch offices. The connections have a committed information rate of 32 Kbps. Tax and title information is hosted on the company's mainframe computer and is updated daily from external sources.

Business Requirements The company has established an aggressive schedule to enhance the Web site's content and to add features. The following features must be added: Web site: Using a method similar to that of a shopping cart, members must be able to accumulate portfolios for properties, and use online tools to explore and analyze the properties. Popular listings will include multimedia files. After users specify a connection speed, all subsequent content during that session will be delivered at the specified bandwidth. Information that highlights regional attractions and services must be available to all users. Tax and title information must be available to members. Content management New listings must be processed on the same day they are received. Content and configuration update procedures must be established, and extensive monitoring must be enforced. Security The Web site must include methods for secure payments. Office employees and the mobile sales force must have secure Internet access to information. Security, availability, and membership privacy must have the highest priority. Buyers of homes must have secure access to their loan and purchase documents.

Technical Requirements The company has established the following technical requirements: Web sites: All server must run Windows 2000 No single point of failure will be tolerated. However, short delays due to cluster transitions are acceptable. Membership records need to maintain a change history. The membership database must be updated in real time. Changes to customer portfolios need to be maintained even if a Web server fails. All external confidential communication must be encrypted. Employee services must be hosted on intranet Web servers. Buyers, tax, and title documents will be stored on the mainframe computer. The connection between the mainframe computer and the Web site must be redundant. All communications must be encrypted. The services supporting the connection must have certificate-based authentication and support immediate changes to the network. The headquarters must have redundant connections to the Internet. The only publicly available IP address will be the firewall. Microsoft Application Center 2000 will be used for health monitoring. Multimedia The multimedia feature will use non-streaming Macromedia Shockwave files. The average size of each file is 2 MB. Currently, only 5 percent of the listings have this feature. The design needs to accommodate the fact that 50 percent of the listings will use multimedia

feature. Fault tolerance is required. Components that support the multimedia and regional attractions features will perform read-only operations on the multimedia files. Lab testing A lab was set up and preliminary testing indicated that more than eight NLB servers running at capacity will saturate a 100-Mbps Ethernet segment. NLB clusters must not contain more than eight servers. Load testing of 5,000 users indicated that each connection will use an average of 1 Kbps, not including multimedia downloads.

Answer:

25. You want to plan for deployment of the company's frequently used Web pages. Which three elements should you include in your plan? (Each correct answer presents part of the solution. Choose three.)

- A. Set up six Cluster service clusters that have 2 servers in each subnet and a shared SCSI bus.
- B. Set up and test round-robin DNS to forward to each server.
- C. Set up two NLB clusters that have 6 servers in each subnet.
- D. Set up one Cluster service cluster that has 4 servers and shared nothing storage.
- E. Install the servers at the company's network.
- F. Set up and test round-robin DNS to forward to each cluster.
- G. Set up one NLB cluster that has 12 servers.
- H. Install the servers at the Internet Presence Provider's (IPP) network.

Answer: C F H

26. What is the minimum configuration necessary to support the storage requirements for the multimedia features?

- A. four 18-GB hard disks in a RAID 0 configuration.
- B. four 18-GB hard disks in a RAID 0 plus 1 configuration.
- C. six 18-GB hard disks in a RAID 0 configuration.
- D. four 18-GB hard disks in a RAID 5 configuration.
- E. seven 18-GB hard disks in a RAID 0 configuration.
- F. seven 18-GB hard disks in a RAID 5 configuration.

Answer: F

27. You need to design a solution to host the membership records. Which element should you include in your design?

- A. Install Active Directory domain controllers. Install a two-server NLB cluster that has SQL Server on each server. Relocate the existing SQL Server computer to the company intranet. Schedule nightly log shipping to each server.
- B. Reconstruct the membership database on an LDAP server.
- C. Install Active Directory domain controllers. Install a two-server Cluster service cluster. Install a SQL Server in an active/passive configuration to host the membership records.
- D. Install Active Directory domain controllers. Reconstruct the membership database in the Active Directory domain.

Answer: C

28. You want to design an appropriate end-to-end encryption strategy for Contoso, Ltd. Create a diagram that shows the appropriate encryption type between end points. (Use all end points. Use only encryption types that apply) Block: Internet Presence Provider (IIP) Headquarters Member User Mobile Worker Regional Office E-mail Client Encryption Type: SSL IPSec PPTP S/MIME EFS

A. Member User -> SSL -> Internet Presence Provider (IPP) Mobile Worker -> PPTP -> Internet Presence Provider (IIP) Internet Presence Provider (IIP) -> IPSec -> Headquarters Regional Office E-mail Client ->

S/MIME -> Headquarters

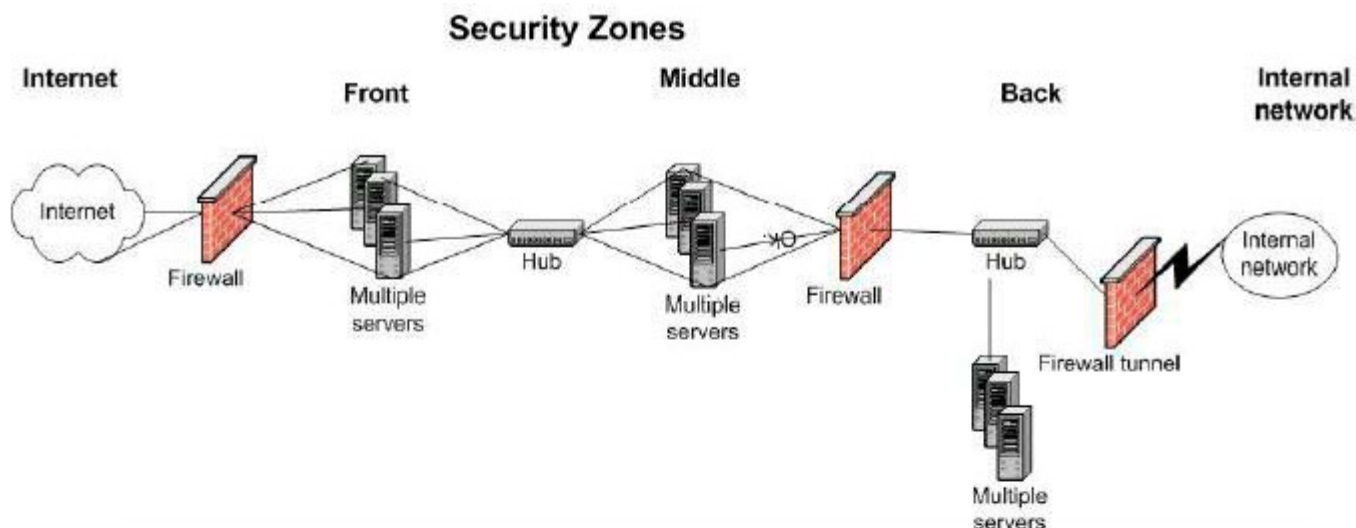
[Answer:A](#)

29.You divide your Web servers into two NLB clusters. You want to use Application Center to add new member servers and deploy content changes from a single staging Web server. How should you design name resolution?

- A.Assign the public IP address to the stager Web site.
- B.Assign the common virtual IP address to the stager Web site.
- C.Assign the All Unassigned property to the IP address of the stager Web site.
- D.Assign the Web cluster controller name to the stager Web site.

[Answer:D](#)

30.The security zones are shown in the security zones diagram exhibit.



You need to select the appropriate security zone locations for services. Move the appropriate services to the appropriate security domains. Use all services. Use each service only one).

| Zone locations | Services |
|---|---|
| <p>Collapse</p> <ul style="list-style-type: none"> <input type="checkbox"/> Internet <input checked="" type="checkbox"/> Front <input type="checkbox"/> Middle <input checked="" type="checkbox"/> Back <input type="checkbox"/> Internal Network | <ul style="list-style-type: none"> Database that stores user session data Mainframe computer Microsoft Management Console Components that perform update operations on confidential records in a database Staging server Multimedia files Round-robin DNS server <p style="text-align: center;"> <input type="button" value=" <<Move"/> <input type="button" value=" Remove >>"/> </p> |

Answer:

- Green choice7---->Yellow Choice1
- Green choice6---->Yellow Choice2
- Green choice1---->Yellow Choice3
- Green choice4---->Yellow Choice4
- Green choice3---->Yellow Choice5

Green choice2---->Yellow Choice6

Green choice5---->Yellow Choice7