

The following ten case studies are included:

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Case Study #1, Contoso, Ltd

Introduction:

You are hired by Contoso, Ltd., to upgrade its existing Exchange Server environment to Exchange 2000 server.

Background:

History:

Contoso, Ltd., is an agricultural research company. The company's headquarters is located in Bismarck. The company has hundreds of offices and research factories, which are located all over the world. The company employs approximately 10,000 computers.

A large company named Enchantment Lakes Corporation owns Contoso, Ltd. The headquarters Enchantment Lakes Corporation is located in New York. Contoso, Ltd., exercises complete control of over its own business.

Contoso, Ltd., recently acquired a small agricultural research company that has offices in Calcutta, Milan and Tripoli.

Company Profile:

Contoso, Ltd., specializes in crop development, generic manipulation and the sale of seeds. The company's primary customers are farmers and government agencies. The company has approximately 10,000 Exchange Server mailboxes.

Bismarck headquarters employs approximately 5,000 people. Each of the other regional offices in the following cities employs 750 and 1,000 people.

- Bonn
- Cairo
- Hong Kong
- Rio de Janeiro

The other company locations each employ between 5 and 100 people.

Network planning is preferred in Bismarck. Each regional office has an IT staff that is responsible for the day-to-day operations of the servers and network connections in that office.

Factors that influence Business Strategies:

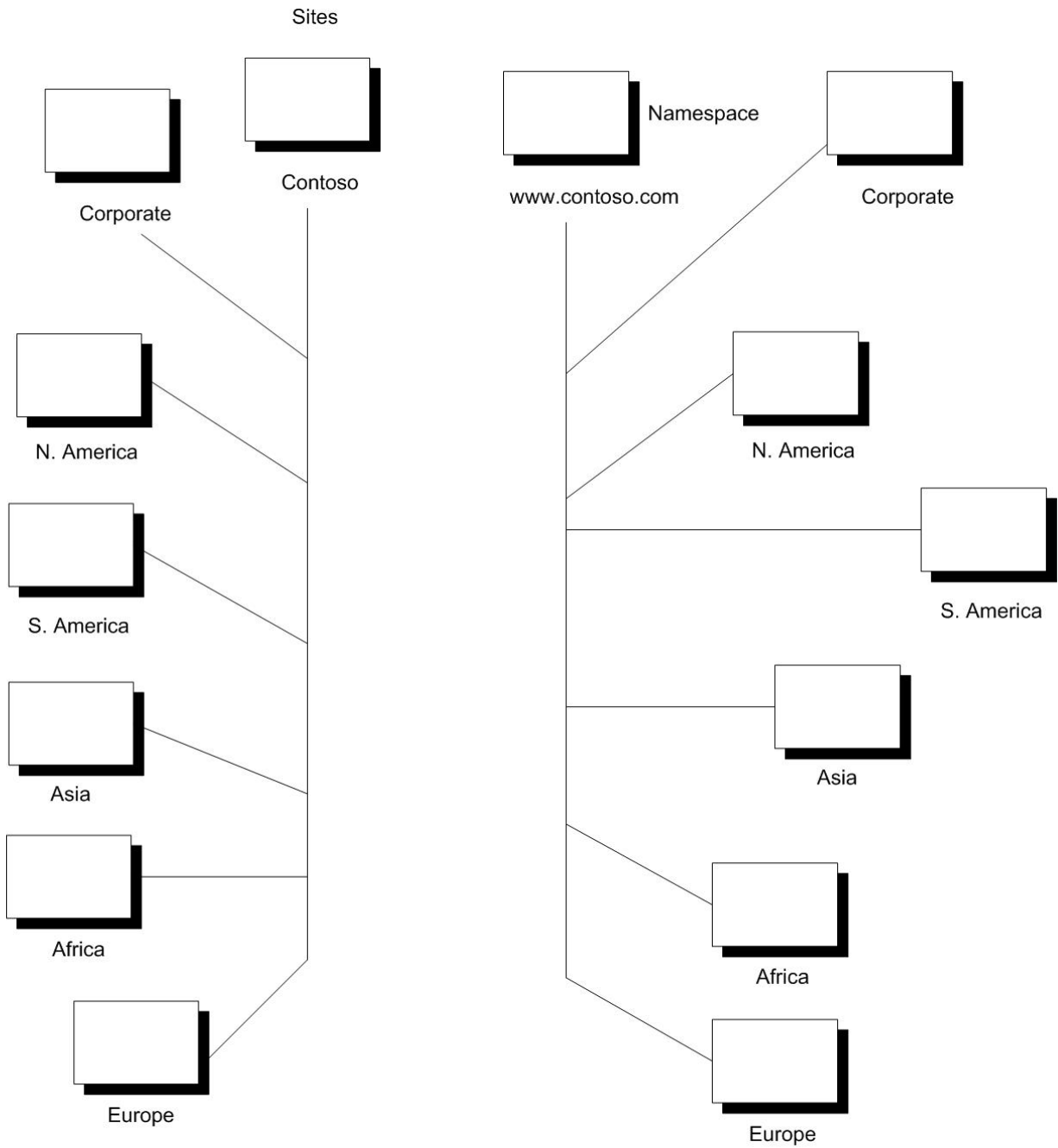
Communication and collaboration are very important at Contoso, Ltd., The company believes that it will succeed if it can successfully communicate its message to employees, to customers and to shareholders.

Contoso, Ltd., will continue to operate as an independent company. However, employees of Contoso, Ltd., will continue to communicate much more frequently with Enchantment Lakes Corporation in the future.

Existing IT Environment:

Directory Design:

The Contoso, Ltd., Active Directory design is shown in the Exhibit.



Contoso, Ltd., keeps the Active Directory employee data, such as office location, department and phone number, up-to-date by exporting information from the Human Resources (HR) employee database to the Exchange Server 5.5 directory. The connection from the HR database to the Exchange Server 5.5 is written in Directory API (DAPI), and work is currently being done to migrate the connection to Active Directory Services.

Contoso, Ltd., keeps the Active Directory employee data, such as office location, department and phone number up-to-date by exporting information from the Human Resources (HR) employee database to the Exchange Server 5.5 directory. The connection from the Human Resources (HR) database to Exchange Server 5.5 is written in Directory API (DAPI), and work is currently being done to migrate the connection to Active Directory Services Interface (ADSI). The migration will not be completed until the Exchange 2000 Server deployment is complete.

Messaging Environment:

Bismarck headquarters has two mailbox servers. BismarckMail1 and BismarckMail2. Headquarters also has bridgehead mail Server named BismarckHUB1.

Every Contoso, Ltd., location has at least one Exchange Server 5.5 computer.

Exchange Server 5.5 is configured as one Exchange organization and 12 Exchange sites. Sites that have stable bandwidth are connected to Bismarck headquarters by means of site connectors. Sites that have unreliable connections to headquarters use X400 connectors.

When Exchange Server 5.5 was installed, sites were configured according to number of users and the types use Microsoft Outlook 2000.

SMTP mail is used at all Contoso, Ltd., offices to communicate to Enchantment Lakes Corporation. However, full SMTP e-mail addresses are currently typed manually.

All of the Exchange Server computers in Contoso, Ltd., locations are members are member servers. The Contoso, Ltd., WAN is currently configured in a hub-and-spoke topology.

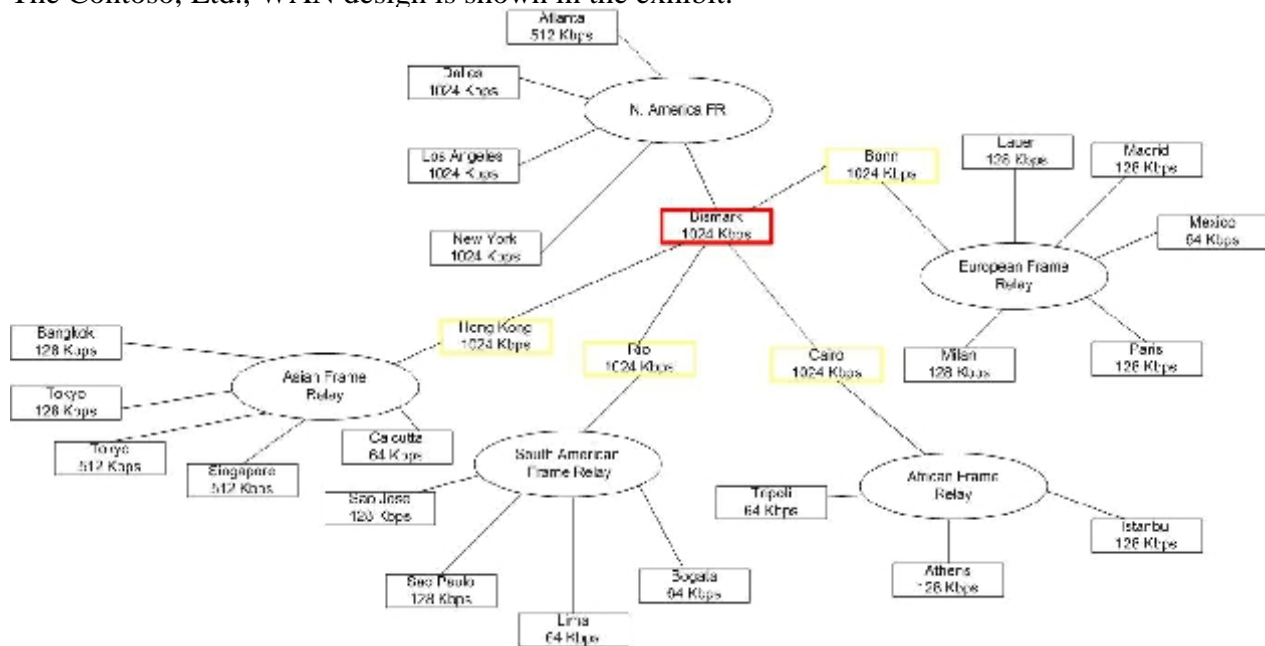
Public folder usage at Contoso, Ltd., is minimal. The public information store is 200 MB. Public folders are not currently backed up.

The Calcutta, Milan and Tripoli offices of the newly acquired agriculture-research company do not have e-mail servers.

- Users in Calcutta offices use the mail Server in the Hong Kong office and store the e-mail messages on the Server.
- Users in the Milan office use the mail Server in the Bonn office and download the e-mail messages from that Server.
- Users in the Tripoli office use the mail Server in Cairo office and store these e-mail messages on that Server.

Network Infrastructure:

The Contoso, Ltd., WAN design is shown in the exhibit.



Contoso, Ltd., plans to upgrade the WAN. However, the company will be unable to upgrade for at least two years.

The regional offices run Microsoft Windows 2000 Advanced Server. Offices that have lower than 500 employees run Windows 2000 Standard.

All Internet access is routed through Bismarck headquarters.

There are domain controllers at each regional office. Most of other locations use one Server for all services.

All domains are administered locally, except for the North American domains and servers. The North American domains are administered from Bismarck headquarters.

Exchange 2000 Server Requirements and Goals:

Security Requirements:

Contoso, Ltd., and Enchantment Lakes Corporation plan to use e-mail to communicate more frequently after Exchange 2000 Server is implemented. The companies want messages between executives to be encrypted in the future; they might want the ability to encrypt all messages that are sent between the two companies.

Archiving Requirements:

Contoso, Ltd., wants to backup the mailboxes and public folders every night and to create weekly and monthly archives.

Contoso, Ltd., does not currently have a recovery solution. To expedite the recovery of e-mail company wants to install recovery servers at strategic locations.

Availability Requirements:

Contoso, Ltd., wants to cluster the servers in the regional offices and headquarters because there are more people working at those offices and because the company wants to provide high availability for mailbox access.

Contoso, Ltd., wants to implement Outlook Web Access to make the company's mail Server more accessible to employees. The Sales team in particular must have this improved accessibility.

Users must be able to connect to local e-mail servers even when WAN connections are down.

Interoperability Requirements:

Contoso, Ltd., wants SMTP e-mail addresses for Enchantment Lakes Corporation to appear in an address list.

Goals:

Bismarck headquarters has two computers that the company plans to use as dedicated instant Messaging servers. The servers will be named M1 and M2.

The company is considering the implementation of additional front-end servers in the five regional offices: Bismarck, Bonn, Cairo, Hong Kong and Rio de Janeiro.

Users in Milan office must be able to view their own calendars and some public folders. They must be able to access their e-mail when they are offline.

Contoso, Ltd., plans to use public folders as a central repository for all research documents.

The company wants to implement a backup solution for public folders. In addition, the company wants to be able to restore all public folders in the most efficient manner.

The company wants to continue storing confidential research information in same public folders and allowing employees of only the research facilities to have access to this data.

The administrative staff at Bismarck headquarters wants to limit the administrative overhead necessary for maintaining message routing throughout Contoso, Ltd.,

Client Computer Configuration:

Contoso, Ltd., wants to implement instant Messaging between the Bismarck headquarters and Contoso, Ltd., and the New York headquarters of Enchantment Lakes Corporation. The first implementation of instant Messaging will be an experimental test phase.

The Sales team frequently hosts meetings in Canberra and Athens. The Sales will require the use of Outlook Web Access, when they are not in their home office.

Contoso, Ltd., wants to acquire additional small agricultural-research firms and quickly integrate them into the company. Typically the e-mail communication between the companies will occur by means of SMTP or X400 mail systems.

Questions, Case Study #1, Contoso Ltd.

QUESTION NO: 1

How should you design an Instant Messaging solution for Contoso, Ltd., to enable communication with Enchantment Lakes Corporation?

- A. Create an SRV record for _rvm service on Contoso, Ltd's internal DNS Server. Place the Instant Messaging Router in the Perimeter Network (DMZ) Use e-mail addresses for users to access Instant Messaging. Create an SRV record for _rvm service on external DNS Server. Place the Instant Messaging Router in the Perimeter Network (DMZ) Use e-mail addresses for users to access Instant Messaging.
- B. Create an SRV record for _rvm service on external DNS Server. Place the Instant Messaging Router in the Perimeter Network (DMZ) Use the alias@en.contoso.com address for users to access Instant Messaging.
- C. Create an SRV record for _rvm service on internal DNS Server. Place the Instant Messaging Router in the Perimeter Network (DMZ) Use the alias@en.contoso.com address for users to access Instant Messaging.

Answer: A

QUESTION NO: 2

What should you do to enable communication between Contoso, Ltd., and newly acquired research facilities until the facilities are fully integrated into the organization?

- A. Implement an X 400 connector or an SMTP connector on the front-end mail Server at Bismarck headquarters.
- B. Implement an X 400 connector or an SMTP connector on the back-end mail Server at Bismarck headquarters.
- C. Implement an X 400 connector, or use the current SMTP connector that is on one of the SMTP connector servers.
- D. Implement a dedicated Server for foreign connectors at the regional office that is nearest to the office that needs to communicate with the new research facility.

Answer: D

QUESTION NO: 3

What should you do to add to Contoso, Ltd's DNS Server SRV records to accommodate unified namespace for instant Messaging?

- A. _rvp_tcp.contoso.com SRV 0.0.80 M1.contoso.com
 _rvp_tcp.contoso.com SRV 10.0.80 M2.contoso.com
- B. _rvp_tcp.contoso.com SRV 10.0.443 M1.contoso.com
 _rvp_tcp.contoso.com SRV 10.0.80 M2.contoso.com
- C. _rvp_tcp.contoso.com SRV 0.0.80 BismarckM1.contoso.com
 _rvp_tcp.contoso.com SRV 10.0.80 BismarckReg1.contoso.com
- D. _rvp_tcp.contoso.com SRV 10.0.443 BismarckM1.contoso.com
 _rvp_tcp.contoso.com SRV 10.0.80 BismarckReg1.contoso.com

Answer: A

QUESTION NO: 4

How should you modify the Exchange architecture to fulfill the requirements for Outlook Web Access?

- A. Place front-end servers in Bismarck office to service back-end servers in all regions.
- B. Place front-end servers in Bismarck, Bonn, Cairo, Hong Kong and Rio de Janeiro regional offices to service all back-end servers.
- C. Place front-end servers in the Bismarck, Athens, Bonn, Canberra and Rio de Janeiro offices to back-end servers within their respective regions.
- D. Place front-end servers in the Bismarck, Athens, Bonn, Canberra and Rio de Janeiro offices to service back-end servers in the Bismarck, Athens, Bonn, Canberra and Rio de Janeiro offices respectively.

Answer: B

QUESTION NO: 5

How should you configure the Active Directory Connector (ADC)for Contoso, Ltd before the company upgrades to Exchange 2000 Server?

- A. Continuously replicate the directory data from Exchange Server 5.5 to Windows 2000. Continue to make revisions in the Exchange Server 5.5 directory until Exchange 2000 is fully implemented.
- B. Continuously replicate the directory data from Windows 2000 to Exchange Server 5.5. Make revisions in Windows 2000 directory.
- C. Perform a one-time export of the directory data from Exchange Server 5.5 to Windows 2000.

Make revisions in Windows 2000, and export the directory data back to the Exchange Server 5.5 directory.

- D. Perform a one-time export of the directory data from Exchange Server 5.5 to Windows 2000.
Make revisions in Windows 2000, but do not export the directory data back to the Exchange Server 5.5 directory.

Answer: B

QUESTION NO: 6

How should you modify the Active Directory Design to provide increased availability of directory access for Exchange server?

- A. Ensure that there is a global catalog server at each location that has at least one Exchange server computer.
- B. Ensure that there is a DNS server at each location that has at least one Exchange server computer.
- C. Ensure that there is a domain controller at each location that has at least one Exchange server computer.
- D. Ensure that there is a DHCP server at each location that has at least one Exchange server computer.

Answer: A

QUESTION NO: 7

Contoso, Ltd's connection to Outlook web Access is shown in the Exhibit.

You need to modify the Contoso, Ltd., routers so that the client computers that run Microsoft Internet Explorer 5 can use Outlook Web Access. Move the appropriate modifications to the appropriate router or routers. (Use only modifications that apply. You might need to use modifications more than once).

Routers to Configure

Modifications

Collapse

- Router B
- Firewall

- Open all LDAP ports
- Open all NetBIOS ports
- Open all RPC ports
- Open the port for HTTP
- Open the port for Kerberos
- Open the port for SSL

<<Move

Remove>>

Answer:

You need to modify the Contoso, Ltd., routers so that the client computers that run Microsoft Internet Explorer 5 can use Outlook Web Access. Move the appropriate modifications to the appropriate router or routers. (Use only modifications that apply. You might need to use modifications more than once).

Routers to Configure	Modifications
<p data-bbox="237 436 347 466">Collapse</p> <ul style="list-style-type: none"> <li data-bbox="212 512 342 541">■ Router B <ul style="list-style-type: none"> <li data-bbox="253 548 480 577">Open the port for HTTP <li data-bbox="253 583 467 613">Open the port for SSL <li data-bbox="212 619 331 648">■ Firewall <ul style="list-style-type: none"> <li data-bbox="253 655 448 684">Open all LDAP ports <li data-bbox="253 690 480 720">Open the port for HTTP <li data-bbox="253 726 467 756">Open the port for SSL 	<ul style="list-style-type: none"> <li data-bbox="919 506 1110 535">Open all LDAP ports <li data-bbox="919 541 1146 571">Open all NetBIOS ports <li data-bbox="919 577 1101 606">Open all RPC ports <li data-bbox="919 613 1146 642">Open the port for HTTP <li data-bbox="919 648 1182 678">Open the port for Kerberos <li data-bbox="919 684 1133 714">Open the port for SSL <p data-bbox="732 730 899 785"><<Move</p> <p data-bbox="732 814 899 869">Remove>></p>

QUESTION NO: 8

How should you design an Exchange 2000 server data recovery solution for Contoso, Ltd.?

- A. Place recovery servers in the Bismarck, Cairo and Milan offices. Restore information store databases for the Bismarck office and for offices that do not have mail servers.
- B. Place recovery servers in the Bismarck, Calcutta and Tripoli offices. Restore information store databases for the Bismarck office and for offices that do not have mail servers.
- C. Place recovery servers in the Bismarck, Bonn, Cairo, Hong Kong and Rio de Janeiro offices. Restore information store databases for the respective regions of those offices.
- D. Place recovery servers in the Bismarck office. Restore information-store databases for the entire company.

Answer: C

QUESTION NO: 9

**What are the two possible ways to fulfill the security requirements for the executives?
(Choose Two)**

- A. Implement the L2TP/IPSec between Enchantment Lakes Corporation and the client computers of the executives of Contoso, Ltd.,
- B. Implement PPTP/IPSec between Enchantment Lakes Corporation and the client computers of the executives of Contoso, Ltd.,
- C. Implement secure MME at Enchantment Lakes Corporation and at Contoso, Ltd.,
- D. Implement digital certificates at Enchantment Lakes Corporation and at Contoso, Ltd.,
- E. Require executives to use Outlook Web Access, and require SSL for all Outlook Web Access connections.

Answer: C, D

QUESTION NO: 10

The Contoso, Ltd., mail environment is shown in the exhibit.

Which of these servers should be replaced with two node server clients?
Move the appropriate servers from the Exchange 2000 server computers place to the Clustered Exchange 2000 server computer pane. (Use only servers that apply. The order of the servers is unimportant).

Clustered Exchange 2000 Server computers	Exchange 2000 Server computers
<p><input type="button" value="Collapse"/></p> <div style="border: 1px solid gray; height: 200px; width: 100%;"></div>	<ul style="list-style-type: none"> BismarckHub1 BismarckMail1 BismarckMail2 BonnHub1 BonnMail1 CairoHub1 CairoMail1 HongKong1 HongKongMail1 RioHub1 RioMail1
<p><input type="button" value=" <<Move"/></p> <p><input type="button" value=" Remove >>"/></p>	

Answer:

Which of these servers should be replaced with two node server clients?

Move the appropriate servers from the Exchange 2000 server computers place to the Clustered Exchange 2000 server computer pane. (Use only servers that apply. The order of the servers is unimportant).

The screenshot shows the Exchange 2000 server management console. It is divided into two main panes:

- Clustered Exchange 2000 Server computers:** This pane contains a list of mail servers: BismarckMail1, BismarckMail2, BonnMail1, CairoMail1, HongKongMail1, and RioMail1. A 'Collapse' button is located above this list.
- Exchange 2000 Server computers:** This pane contains a list of hub servers: BismarckHub1, BonnHub1, CairoHub1, HongKong1, and RioHub1.

Between the two panes, there are two buttons: '<<Move' and 'Remove>>'.

QUESTION NO: 11

How should you enable users in Milan to access e-mail after Exchange 2000 server is implemented?

- Implement Outlook Express on all client computers at the Milan office and configure the client computers for POP3 mail.
Enable POP3 protocol on the mail server at Bonn office.
- Implement Outlook Express on all client computers at the Milan office and configure the client computers for IMAP4.
Enable IMAP4 protocol on the mail server at Bonn office.
- Implement Outlook Express on all client computers at the Milan office.
Enable HTTP protocol on the mail server at Bonn office.
- Implement Outlook 2000 in Corporate or Workgroup mode on all client computers at the Milan office.

Answer: D