

Exam Number/Code: 70-414

Exam Name: Implementing an
Advanced Server
Infrastructure

Version: Demo

Topic 1, Contoso, Ltd

Overview

Contoso, Ltd., is a recruiting and staffing company that has offices throughout North America.

The company has a main office and six branch offices. The main office is located in Miami. The branch offices are located in New York, Seattle, Los Angeles, Montreal, Toronto, and Vancouver.

Existing Environment

Network Infrastructure

The network contains one Active Directory domain named contoso.com.

The main office has the following servers:

- One file server that maintains multiples shares

- Two domain controllers configured as DNS servers

- One Windows Server Update Services (WSUS) server

- Two DHCP servers that each have a scope for all of the subnets
- Two servers that have Failover Clustering configured and are used as virtualization hosts

- One server that has Microsoft SQL Server 2012 installed and maintains a customer relationship management (CRM) database

Each branch office has the following servers:

- One domain controller configured as a DNS server

- One DHCP server that has a single scope for its respective office

Each office has a single subnet. The network speed of the local area network (LAN) is 1 gigabit per second. All of the offices have a high-speed connection to the Internet. The offices connect to each other by using VPN appliances.

Current Issues

Users report that it can take a long time to download files from network shares in the main office.

A root cause analysis identifies that network traffic peaks when the users experience this issue.

Requirements

Planned Changes

The company plans to implement the following changes:

- Replace all of the domain controllers with new servers that run Windows Server 2012.

Upgrade the CRM application to use a web-based application that connects to the current CRM database. The web application will store session data in the memory of each web server.

Initially, deploy two front-end web servers to two virtual machines. Additional virtual web servers will be deployed in the future. Monitor the availability of the CRM application and create alerts when the overall availability is less than 99 percent.

Implement Microsoft System Center 2012 to manage the new environment.

Business Requirements

The company identifies the following business requirements:

Minimize hardware costs and software costs whenever possible. Minimize the amount of network traffic over the VPN whenever possible. Ensure that the users in the branch offices can access files currently on the main office file server if an Internet link fails.

Technical Requirements

The company identifies the following technical requirements:

Provide a highly available DHCP solution.

Maintain a central database that contains the security events from all of the servers. The database must be encrypted.

Ensure that an administrator in the main office can manage the approval of Windows updates and updates to third-party applications for all of the users. Ensure that all of the domain controllers have the ReliableTimeSource registry value in

HKEY_LOCAL_MACHINE

\SYSTEM\CurrentControlSet\Services\W32Time\Parameters set to 1, even if an administrator changes that value manually.

Virtualization Requirements

The company identifies the following virtualization requirements:

Minimize the number of permissions and privileges assigned to users. Ensure that the members of a group named Group2 can add a WSUS server to the fabric.

Ensure that a diagram view of the virtualization environment can be generated dynamically.

Minimize the amount of administrative effort required to manage the virtualization environment.

Prevent the failure of a front-end web server from affecting the availability of the CRM application.

Ensure that the members of a group named Group1 can create new virtual machines in the Los Angeles office only.

Only create virtual machine templates by using objects that already exist in the System Center 2012 Virtual Machine Manager (VMM) library. On the failover cluster in the main office, apply limited distribution release (LDR) updates to the virtualization hosts without disrupting the virtual machines hosted on the virtualization hosts.

Q 1

- (Topic 1)

You need to recommend a solution that manages the security events. The solution must meet the technical requirements.

Which configuration should you include in the recommendation?

- A. Object access auditing by using a Group Policy object (GPO)
- B. Event rules by using System Center 2012 Operations Manager
- C. Event forwarding by using Event Viewer
- D. Audit Collection Services (ACS) by using System Center 2012

Answer: D

Q 2

- (Topic 1)

You are planning the delegation for the virtualization environment. The delegation must meet the virtualization requirements.

Which user role profile should you select for Group2?

- A. Administrators
- B. Read-Only Administrator
- C. Self-Service User
- D. Delegated Administrator

Answer: A

Q 3

- (Topic 1)

You need to recommend a solution that resolves the current file server issue. The solution must meet the business requirements.

What should you include in the recommendation?

- A. BranchCache in hosted cache mode
- B. BranchCache in distributed cache mode
- C. A storage pool
- D. Distributed File System (DFS)

Answer: D

Q 4

- (Topic 1)

You need to recommend a solution for managing updates. The solution must meet the technical requirements.

What should you include in the recommendation?

- A. A System Center 2012 Configuration Manager management point in the main office and a WSUS downstream server in each office
- B. A System Center 2012 Configuration Manager software update point in the main office and a System Center 2012 Configuration Manager distribution point in each office
- C. A System Center 2012 Configuration Manager management point in the main office and a System Center 2012 Configuration Manager distribution point in each office
- D. A WSUS upstream server in the main office and a WSUS downstream server in each office

Answer: B

Q 5

- (Topic 1)

You are planning the deployment of System Center 2012 Virtual Machine Manager (VMM).

You need to identify which additional System Center 2012 product is required to meet the virtualization requirements.

What should you include in the recommendation?

- A. App Controller
- B. Operations Manager
- C. Configuration Manager
- D. Service Manager

Answer: B

Q 6

- (Topic 1)

You need to recommend a solution that meets the technical requirements for DHCP.

What should you include in the recommendation for each office?

- A. DHCP failover
- B. Network Load Balancing (NLB)
- C. DHCP server policies
- D. IP Address Management (IPAM)

Answer: A

Topic 2, Proseware Inc

General Overview

Proseware Inc., is a manufacturing company that has 4,000 employees.

Proseware works with a trading partner named Fabrikam, Inc.

Physical Locations

Proseware has a main office and two branch offices. The main office is located in London. The branch offices are located in Madrid and Berlin. Proseware has a sales department based in the London office and a research department based in the Berlin office. The offices connect to each other by using a WAN link. Each office connects directly to the Internet.

Proseware rents space at a hosting company. All offices have a dedicated WAN link to the hosting company. Web servers that are accessible from the Internet are located at the hosting company.

Active Directory

The Proseware network contains an Active Directory forest named proseware.com. The forest contains a single domain. The forest functional level is Windows Server 2012.

Each office contains three domain controllers. An Active Directory site is configured for each office.

System state backups are performed every day on the domain controllers by using System Center 2012 R2 Data Protection Manager (DPM).

Virtualization

Proseware has Hyper-V hosts that run Windows Server 2012 R2. Each Hyper-V host manages eight to ten virtual machines. The Hyper-V hosts are configured as shown in the following table.

Server name	Location
HyperV1	London
HyperV2	London
HyperV3	Madrid
HyperV4	Madrid
HyperV5	Berlin
HyperV6	Berlin
HyperV7	Hosting company
HyperV8	Hosting company
VDI1	London
VDI2	London

All of the Hyper-V hosts store virtual machines on direct-attached storage (DAS).

Servers

All servers run Windows Server 2012 R2. All of the servers are virtualized, except for the Hyper-V hosts.

VDI1 and VDI2 use locally attached storage to host virtual hard disk (VHD) files. The VHDs use the .vhd format.

A line-of-business application named SalesApp is used by the sales department and runs on a server named APP1. APP1 is hosted on HyperV2.

A server named CA1 has the Active Directory Certificate Services server role installed and is configured as an enterprise root certification authority (CA) named ProsewareCA.

Ten load-balanced web servers hosted on HyperV7 and HyperV8 run the Internet-facing web site that takes orders from Internet customers.

System Center 2012 R2 Operations Manager is used to monitor the health of the servers on the network.

All of the servers are members of the proseware.com domain, except for the servers located in the perimeter network.

Client Computers

All client computers run either Windows 8.1 or Windows 7. Some of the users in the London office connect to pooled virtual desktops hosted on VDI1 and VDI2.

Problem Statements

Proseware identifies the following issues on the network:

Virtualization administrators report that the load on the Hyper-V hosts is inconsistent. The virtualization administrators also report that administrators fail to account for host utilization when creating new virtual machines.

Users in the sales department report that they experience issues when they attempt to access SalesApp from any other network than the one in the London office.

Sometimes, configuration changes are not duplicated properly across the web servers, resulting in customer ordering issues. Web servers are regularly changed.

Demand for virtual desktops is increasing. Administrators report that storage space is becoming an issue as they want to add more virtual machines.

In the past, some personally identifiable information (PII) was exposed when paper shredding procedures were not followed.

Requirements

Planned Changes

Proseware plans to implement the following changes on the network:

Implement a backup solution for Active Directory. Relocate the sales department to the Madrid office. Implement System Center 2012 R2 components, as required. Protect email attachments sent to Fabrikam that contain PII data so that the attachments cannot be printed.

Implement System Center 2012 R2 Virtual Machine Manager (VMM) to manage the virtual machine infrastructure. Proseware does not plan to use private clouds in the near future.

Deploy a new Hyper-V host named RESEARCH1 to the Berlin office. RESEARCH1 will be financed by the research department. All of the virtual machines deployed to RESEARCH1 will use VMM templates.

Technical Requirements

Proseware identifies the following virtualization requirements:

The increased demand for virtual desktops must be met. Once System Center is deployed, all of the Hyper-V hosts must be managed by using VMM.

If any of the Hyper-V hosts exceeds a set number of virtual machines, an administrator must be notified by email.

Network administrators in each location must be responsible for managing the Hyper-V hosts in their respective location. The management of the hosts must be performed by using VMM.

The network technicians in each office must be able to create virtual machines in their respective office. The network technicians must be prevented from modifying the host server settings.

New virtual machines must be deployed to RESEARCH1 only if the virtual machine template used to create the machine has a value specified for a custom property named 'CostCenter' that matches Research'.

The web site configurations must be identical on all web servers.

Security Requirements

Proseware identifies the following security requirements:

All email messages sent to and from Fabrikam must be encrypted by using digital certificates issued to users by the respective CA of their company. No other certificates must be trusted between the organizations. Microsoft Word documents attached to email messages sent from Proseware to Fabrikam must be protected.

Privileges must be minimized, whenever possible.

Q 7

HOTSPOT

- (Topic 2)

You need to recommend a design that meets the technical requirements for managing the Hyper-V hosts by using VMM.

What should you recommend? To answer, select the appropriate options in the answer area.

Answer Area

Minimum number of host groups in the London office:

Minimum number of host groups in the Madrid office:

User roles required to administer the Hyper-V hosts in each office:

Answer Area

Minimum number of host groups in the London office:

▼
0
1
2
3
4
5

Minimum number of host groups in the Madrid office:

▼
0
1
2
3
4
5

User roles required to administer the Hyper-V hosts in each office:

▼
Application Administrator
Fabric Administrator
Read-Only Administrator
Tenant Administrator

Answer:

Answer Area

Minimum number of host groups in the London office:

▼
0
1
2
3
4
5

Minimum number of host groups in the Madrid office:

▼
0
1
2
3
4
5

User roles required to administer the Hyper-V hosts in each office:

▼
Application Administrator
Fabric Administrator
Read-Only Administrator
Tenant Administrator

Q 8

DRAG DROP

- (Topic 2)

You need to recommend a monitoring solution for Proseware.

Which three actions should you recommend performing in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.

Actions	Answer Area
Configure a notification subscription.	
Configure an availability monitor.	
From the Virtual Machine Manager console, configure Operations Manager integration.	
From the Operations Manager console, configure VMM integration.	
Install the Operations Manager console on the VMM server.	
Install the Virtual Machine Manager console on the Operations Manager server.	

Answer:

Actions	Answer Area
Configure a notification subscription.	Install the Operations Manager console on the VMM server.
Configure an availability monitor.	From the Virtual Machine Manager console, configure Operations Manager integration.
From the Virtual Machine Manager console, configure Operations Manager integration.	Configure a notification subscription.
From the Operations Manager console, configure VMM integration.	
Install the Operations Manager console on the VMM server.	
Install the Virtual Machine Manager console on the Operations Manager server.	

Q 9

- (Topic 2)

You need to recommend changes to the virtual desktop infrastructure (VDI) environment.

What should you recommend?

- A. Implement Hyper-V replication between VDI1 and VDI2.
- B. Create new VDI virtual machines that are Generation 2 virtual machines.
- C. Convert the existing VHDs to .vhdx format.
- D. Move the VHDs to a Cluster Shared Volume (CSV) and implement Data Deduplication on the CSV.

Answer: D

Q 10

- (Topic 2)

You need to recommend changes to the existing environment to meet the web server requirement.

Which two actions should you recommend? Each correct answer presents part of the solution.

- A. On one web server, run the Start-DSCConfiguration cmdlet. Create and run a configuration script.
- B. On all of the web servers, install the Windows PowerShell Web Access feature, and then run the Set-DscLocalConfigurationManager cmdlet.
- C. On all of the web servers, configure the Local Configuration Manager settings, and then run the Set-DscLocalConfigurationManager cmdlet.
- D. On one web server, install the Windows PowerShell Desired State Configuration (DSC) feature. Create and run a configuration script.

Answer: C,D