

# Version: 16.0

## Case Study: 1

### Contoso, Ltd

#### Overview

Contoso, Ltd. is a manufacturing company.

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

#### Existing Environment

##### Active Directory Environment

The network contains an Active Directory forest named contoso.com. The forest contains a child domain for each office.

Active Directory currently contains 7,500 user accounts and 15,000 computer accounts.

##### Network Infrastructure

All servers are located in a data center in Toronto. The data center contains multiple subnets that are separated by firewalls.

The Toronto data center contains a cluster that runs Microsoft SQL Server 2008 Enterprise Service Pack 1 (SP1).

Four servers are unused and are being considered as potential Hyper-V hosts. The servers are configured as shown in the following table.

Server name	Baseboard Management Controller (BMC)	Operating system
Server1	Installed	Windows Server 2012
Server2	Not installed	None
Server3	Installed	None
Server4	Installed	Windows Server 2008 R2

All of the servers being considered as potential Hyper-V hosts have both locally attached storage and access to a SAN.

##### Help Desk Environment

Contoso uses a help desk ticketing system that was developed in-house. Fifty help desk agents have access to the ticketing system.

The ticketing system currently tracks:

- An average of two new incidents per month, per client computer
- An average of 2,000 change requests per month

##### Disaster Recovery Environment

Contoso uses a third-party backup solution. Backups are scheduled for the servers in the Seattle office as follows:

- The daily incremental backups total 10 GB.

- The total size of data to back up is 100 GB.
- Backed up data is retained for 10 business days.

### **Problem Statements**

The original developers of the help desk ticketing system are no longer employed by Contoso and maintenance of the system is becoming an issue.

### **Requirements**

#### **Planned Changes**

Contoso plans to move the IT infrastructure to a private cloud.

Whenever possible, hardware and software costs must be minimized.

Contoso plans to open a small office in Beijing. System Center 2012 App Controller will be used to manage applications. The display names of the applications will be in Simplified Chinese Pinyin IME.

New physical servers will be deployed by using System Center 2012 Configuration Manager from a server named Server5. Server5 will also be a PXE service point.

The current backup solution will be replaced with System Center 2012 Data Protection Manager (DPM).

A public key infrastructure (PKI) will be deployed to issue and manage certificates. The PKI deployment must be made as secure as possible.

Hardware load balancers will be deployed for use in the deployment of private cloud services.

#### **Cloud Requirements**

Contoso plans to implement a cloud solution that meets the following requirements:

- Stores all virtual machines on the SAN only.
- Uses SAN copy to provision the virtual machines.
- Provides the ability to manage the resolution of incidents.
- Contains managed virtual machines across both private and public clouds.
- Provides the ability to customize the settings of management packs provided by Microsoft.
- Collects security events from all of the servers running in the private cloud and provides centralized reporting on the events.

#### **App1 Requirements**

A new application named App1 will be deployed to the private cloud. App1 is a three-tier application that contains the following components:

- A front-end tier that runs a web server. The tier must be highly available and capable of being quickly scaled out if required.
- A middle tier that runs an application server.
- A back-end tier that runs a database.

#### **App2 Requirements**

An application named App2 will be deployed to the public cloud. Users will be authenticated by using the on-premises Active Directory. The users must be able to access App2 without being prompted for authentication again.

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**Question: 1**

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You need to recommend a deployment topology for the PKI. The deployment topology must meet the cloud requirements.

What should you recommend? (More than one answer choice may achieve the goal. Select the BEST answer.)

- A. An online enterprise root certification authority (CA) only
- B. An online standalone root certification authority (CA) only
- C. An offline root certification authority (CA) and an online enterprise subordinate CA
- D. An offline root certification authority (CA) and an online standalone subordinate CA

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**Answer: C**

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**Question: 2**

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You need to recommend a solution for the management packs. The solution must meet the cloud requirements.

What should you recommend? (More than one answer choice may achieve the goal. Select the BEST answer.)

- A. Export the management packs, and then modify the settings of the management packs. Seal the management packs, and then import the management packs.
- B. Export the management packs, modify the settings of the management packs, and then import the unsealed management packs.
- C. Unseal the management packs, and then modify the settings of the management packs.
- D. Create a new management pack that contains overrides.

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**Answer: B**

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**Question: 3**

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You need to recommend a solution to meet the requirements for App2.

What should you include in the recommendation?

- A. Active Directory Rights Management Services (AD RMS)
- B. Active Directory Federation Services (AD FS)
- C. Windows Azure Active Directory Rights Management Services
- D. Microsoft Forefront Identity Manager (FIM) 2010 R2

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**Answer: B**

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**Question: 4**

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You need to recommend the configuration settings for the SQL Server instance that will host the App Controller database. The solution must support the planned changes.  
What should you include in the recommendation?

- A. Change the database collation.
- B. Enable case sensitivity.
- C. Disable full-text search.
- D. Install the SQL Server Reporting Services (SSRS).

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**Answer: A**

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Explanation:

Reference:

To support Simplified Chinese change MS SQL Collation

[http://msdn.microsoft.com/en-us/library/ms144250\(v=sql.105\).aspx](http://msdn.microsoft.com/en-us/library/ms144250(v=sql.105).aspx)

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### Question: 5

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You need to identify which components must be created to meet the App1 deployment requirements.  
Which components should you identify?

- A. A service template and a service request template
- B. A guest operating system profile and a virtual IP (VIP) template
- C. A guest operating system profile and a service request template
- D. A service template and a virtual IP (VIP) template

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**Answer: C**

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### Question: 6

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You need to identify what you require from the vendor of the hardware load balancer to support the planned changes.

What should you identify?

- A. A driver
- B. A provider
- C. A Management Information Base (MIB)
- D. A management tool

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**Answer: B**

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### Question: 7

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You need to recommend a solution to meet the technical requirements for the web tier of App1.  
What should you include in the recommendation? (More than one answer choice may achieve the goal.

Select the BEST answer.)

- A. Network Load Balancing (NLB)
- B. Failover Clustering
- C. Multipath I/O (MPIO)
- D. DNS round robin

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**Answer: A**

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Explanation:

Reference:

Network Load Balancing (NLB) provides scalability and at the same time helps increase availability of Web-based services

<http://technet.microsoft.com/en-us/library/cc725946.aspx>

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### Question: 8

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You need to identify which UDP port or ports must be opened on any of the firewalls between Server5 and all of the subnets in the data center. The solution must minimize the number of ports opened on the firewall.

Which port or ports should you identify? (Each correct answer presents part of the solution. Choose all that apply.)

- A. 67
- B. 69
- C. 389
- D. 3389
- E. 4010
- F. 4011

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**Answer: A, B, F**

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Explanation:

References:

Ports required by Configuration Manager: 67 and 68, 69, 4011

<http://technet.microsoft.com/en-us/library/bb632618.aspx>

Dynamic Host Configuration Protocol (DHCP): 67 and 68

Trivial File Transfer Protocol (TFTP) : 69

Boot Information Negotiation Layer (BINL): 4011

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### Question: 9

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You need to identify which server or servers can be deployed as a Hyper-V host by using System Center 2012 -Virtual Machine Manager (VMM).

Which server or servers should you identify? (Each correct answer presents part of the solution. Choose all that apply.)

- A. Server1
- B. Server2
- C. Server3
- D. Server4

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**Answer: A, C, D**

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Explanation:

\* To support discovery, the physical computer must have a baseboard management controller (BMC) installed that enables out-of-band management.

From scenario:

Server name	Baseboard Management Controller (BMC)	Operating system
Server1	Installed	Windows Server 2012
Server2	Not installed	None
Server3	Installed	None
Server4	Installed	Windows Server 2008 R2

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### Question: 10

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You need to identify which Microsoft SharePoint product or products support the planned deployment of the System Center 2012 Service Manager Self-Service Portal.

Which product or products should you identify? (Each correct answer presents a complete solution. Choose all that apply.)

- A. SharePoint 2010 for Internet Sites Enterprise
- B. SharePoint Foundation 2010
- C. SharePoint Server 2010
- D. SharePoint Server 2013

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**Answer: A, B, C**

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Explanation:

References:

One of the following versions of Microsoft SharePoint:

Microsoft SharePoint Foundation 2010

Microsoft SharePoint Server 2010

Microsoft SharePoint 2010 for Internet Sites Enterprise

SharePoint 2013 is not supported on the server hosting the SharePoint Web Parts.

<http://technet.microsoft.com/en-us/library/hh519608.aspx>

<http://www.server-log.com/blog/2011/12/29/scsm-2012how-to-install-the-self-service-portal.html>

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### Question: 11

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## DRAG DROP

You need to configure the storage fabric to support the deployment of the virtual machines. The solution must meet the cloud requirements.

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

Actions	Answer Area
Assign the storage to hosts and clusters.	
Configure the iSCSI initiator.	
Allocate storage to a host group.	
Install the Microsoft iSCSI Software Target.	
Run the Add Storage Devices Wizard.	

**Answer:**

Box 1: Configure the iSCSI initiator

Box 2: Run the Add Storage Devices Wizard.

Box 3: Allocate storage to a host group.

Explanation:

Note:

We configure the iSCSI initiator in VMM to connect to the SAN.

Then we run the Add Storage Devices Wizard to add the SAN as a storage device.

Then we can assign the storage to host groups (not directly to the hosts).

\* From scenario:

/ Stores all virtual machines on the SAN only.

/ Uses SAN copy to provision the virtual machines.

\* The following list describes the workflow used to discover, classify, and assign storage using VMM:

/ After configuring storage and assigning to host groups, you can assign the storage to Hyper-V hosts and clusters as shared (Cluster Shared Volume) or available storage. Note that all nodes in the cluster should have access to the storage array using host bus adapters (HBA) or iSCSI. If you allocated a storage pool to a host group, you can create and optionally assign logical units directly from the Properties dialog box of a host or host cluster. If the storage array supports iSCSI host connectivity, you can create iSCSI sessions to the storage array from the Properties dialog box of a host.

/ In addition to discovery and management of iSCSI arrays with static targets, System Center 2012 SP1 adds support for the discovery and management of iSCSI target arrays that support dynamic and manual targets (for example Starwind, HP P2000, HP Lefthand, Dell EqualLogic, and Microsoft iSCSI Software Target).

\* You can use host groups to group virtual machine hosts in meaningful ways, often based on physical

site location and resource allocation.

\* Storage allocation — You can allocate available storage pools and LUNs to defined host groups that can represent business groups, locations and so on. Resources typically need to be allocated on the host group level before they can be assigned to hosts.

\* You can create a private cloud from resources in host groups. When you create a private cloud, you select which host groups will be part of the private cloud. You can then allocate all or some of the resources from the selected host groups to the private cloud.

Reference: Configuring Storage in VMM Overview

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## Question: 12

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DRAG DROP

You need to identify which System Center 2012 components are required to meet the cloud requirements.

Which components should you identify? (To answer, drag the appropriate components to the correct requirements. Each component may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

Components	Answer Area								
App Controller	<table border="1"><thead><tr><th>Requirement</th><th>Component</th></tr></thead><tbody><tr><td>Manages the resolution of incidents and issues.</td><td>Component</td></tr><tr><td>Deploys and manages virtual machines across both the private and public clouds.</td><td>Component</td></tr><tr><td>Collects security events from all of the servers running in the private cloud and provides centralized reporting on the events.</td><td>Component</td></tr></tbody></table>	Requirement	Component	Manages the resolution of incidents and issues.	Component	Deploys and manages virtual machines across both the private and public clouds.	Component	Collects security events from all of the servers running in the private cloud and provides centralized reporting on the events.	Component
Requirement	Component								
Manages the resolution of incidents and issues.	Component								
Deploys and manages virtual machines across both the private and public clouds.	Component								
Collects security events from all of the servers running in the private cloud and provides centralized reporting on the events.	Component								
Configuration Manager									
Data Protection Manager									
Endpoint Protection									
Operations Manager									
Service Manager									

Answer:

Requirement	Component
Manages the resolution of incidents and issues.	Service Manager
Deploys and manages virtual machines across both the private and public clouds.	App Controller
Collects security events from all of the servers running in the private cloud and provides centralized reporting on the events.	Operations Manager



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## Question: 13

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### HOTSPOT

You need to configure the Hyper-V hosts to meet the cloud requirements.

From which node should you perform the configuration? (To answer, select the appropriate node in the answer area.)

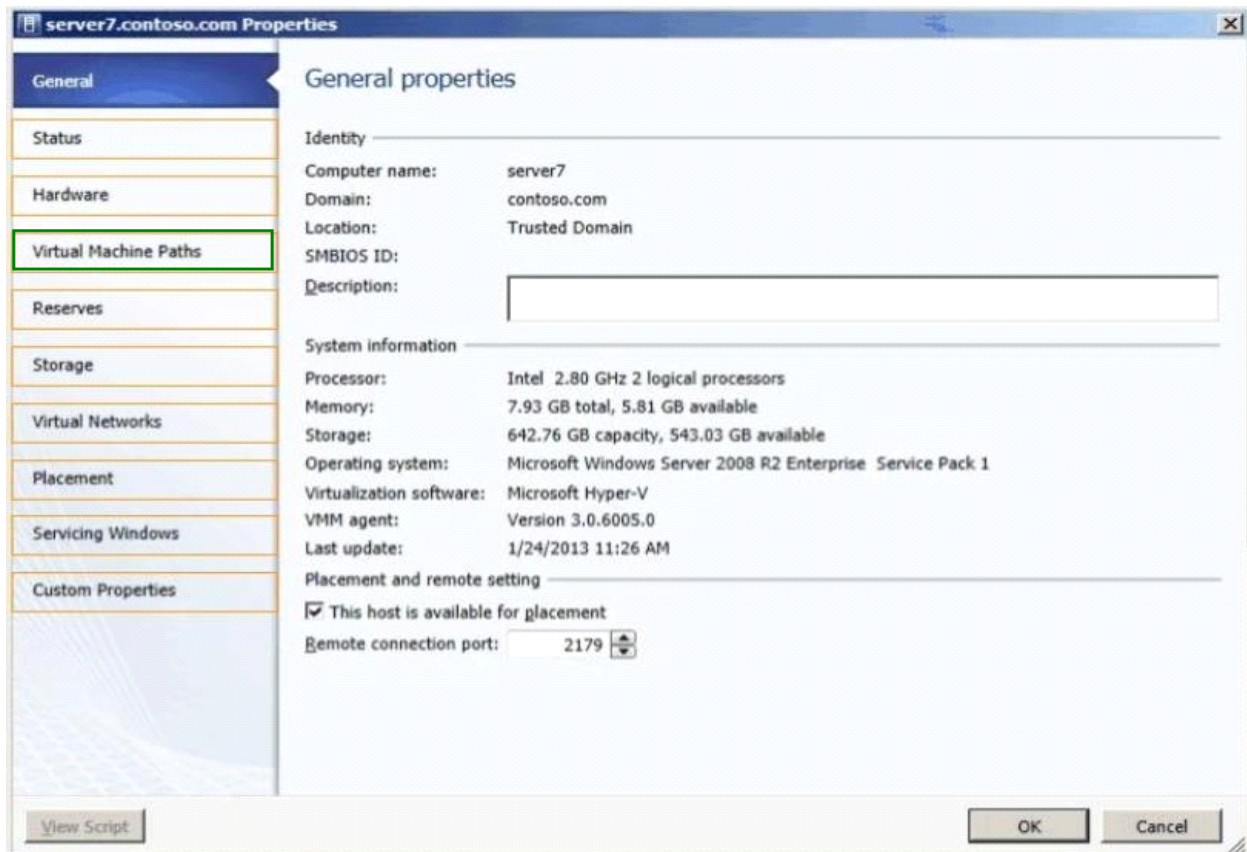
The screenshot shows the 'server7.contoso.com Properties' dialog box with the 'General' tab selected. The left sidebar contains a tree view with the following nodes: General (selected), Status, Hardware, Virtual Machine Paths, Reserves, Storage, Virtual Networks, Placement, Servicing Windows, and Custom Properties. The main area displays the following information:

- Identity**
  - Computer name: server7
  - Domain: contoso.com
  - Location: Trusted Domain
  - SMBIOS ID:
  - Description:
- System information**
  - Processor: Intel 2.80 GHz 2 logical processors
  - Memory: 7.93 GB total, 5.81 GB available
  - Storage: 642.76 GB capacity, 543.03 GB available
  - Operating system: Microsoft Windows Server 2008 R2 Enterprise Service Pack 1
  - Virtualization software: Microsoft Hyper-V
  - VMM agent: Version 3.0.6005.0
  - Last update: 1/24/2013 11:26 AM
- Placement and remote setting**
  - ☒ This host is available for placement
  - Remote connection port: 2179

At the bottom of the dialog, there is a 'View Script' button on the left and 'OK' and 'Cancel' buttons on the right.

**Answer:**

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Explanation:

"Uses SAN copy to provision the virtual machines"

"Stores all virtual machines on the SAN only"

Reference:

<http://technet.microsoft.com/en-us/library/gg610643.aspx>

Explanation:

"Under Locations, click Virtual Machine Location. In the results pane, under the Virtual machine path box, click Browse. In the Select Destination Folder dialog box, click the drive that you created from the assigned logical unit, and then click OK."