

Introductory Info

Case Study -

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Overview -

Litware, Inc. is a medium-sized finance company that has a main office in Boston.

Existing Environment -

Identity Environment -

The network contains an Active Directory forest named litware.com that is linked to an Azure Active Directory (Azure AD) tenant named litware.com. All users have Azure Active Directory Premium P2 licenses.

Litware has a second Azure AD tenant named dev.litware.com that is used as a development environment.

The litware.com tenant has a Conditional Access policy named Capolicy1. Capolicy1 requires that when users manage the Azure subscription for a production environment by using the Azure portal, they must connect from a hybrid Azure AD-joined device.

Azure Environment -

Litware has 10 Azure subscriptions that are linked to the Litware.com tenant and five Azure subscriptions that are linked to the dev.litware.com tenant. All the subscriptions are in an Enterprise Agreement (EA).

The litware.com tenant contains a custom Azure role-based access control (Azure RBAC) role named Role1 that grants the DataActions read permission to the blobs and files in Azure Storage.

On-Premises Environment -

The on-premises network of Litware contains the resources shown in the following table.

Name	Type	Configuration
SERVER1 SERVER2 SERVER3	Ubuntu 18.04 virtual machines hosted on Hyper-V	The virtual machines host a third-party app named App1. App1 uses an external storage solution that provides Apache Hadoop-compatible data storage. The data storage supports POSIX access control list (ACL) file-level permissions.
SERVER10	Server that runs Windows Server 2016	The server contains a Microsoft SQL Server instance that hosts two databases named DB1 and DB2.

Network Environment -

Litware has ExpressRoute connectivity to Azure.

## Planned Changes and Requirements

### Planned Changes -

Litware plans to implement the following changes:

Migrate DB1 and DB2 to Azure.

Migrate App1 to Azure virtual machines.

Migrate the external storage used by App1 to Azure Storage.

Deploy the Azure virtual machines that will host App1 to Azure dedicated hosts.

- 

### Authentication and Authorization Requirements

Litware identifies the following authentication and authorization requirements:

Only users that manage the production environment by using the Azure portal must connect from a hybrid Azure AD-joined device and authenticate by using

Azure Multi-Factor Authentication (MFA).

The Network Contributor built-in RBAC role must be used to grant permissions to the network administrators for all the virtual networks in all the Azure subscriptions.

To access the resources in Azure, App1 must use the managed identity of the virtual machines that will host the app.

RBAC roles must be applied to management groups.

### Resiliency Requirements -

Litware identifies the following resiliency requirements:

Once migrated to Azure, DB1 and DB2 must meet the following requirements:

- Maintain availability if two availability zones in the local Azure region fail.
- Fail over automatically.
- Minimize I/O latency.

App1 must meet the following requirements:

- Be hosted in an Azure region that supports availability zones.
- Be hosted on Azure virtual machines that support automatic scaling.
- Maintain availability if two availability zones in the local Azure region fail.

### Security and Compliance Requirements

Litware identifies the following security and compliance requirements:

Once App1 is migrated to Azure, you must ensure that new data can be written to the app, and the modification of new and existing data is prevented for a period of three years.

On-premises users and services must be able to access the Azure Storage account that will host the data in App1.

Access to the public endpoint of the Azure Storage account that will host the App1 data must be prevented.

All Azure SQL databases in the production environment must have Transparent Data Encryption (TDE) enabled.

App1 must NOT share physical hardware with other workloads.

### Business Requirements -

Litware identifies the following business requirements:

Minimize administrative effort.

Minimize costs.

- 

## Question

### HOTSPOT -

You plan to migrate App1 to Azure.

You need to recommend a storage solution for App1 that meets the security and compliance requirements.

Which type of storage should you recommend, and how should you recommend configuring the storage? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

Storage account type:

	▼
Premium page blobs	
Premium file shares	
Standard general-purpose v2	

Configuration:

	▼
NFSv3	
Large file shares	
Hierarchical namespace	

Answer Area

Storage account type:

	▼
Premium page blobs	
Premium file shares	
Standard general-purpose v2	

Configuration:

	▼
NFSv3	
Large file shares	
Hierarchical namespace	

Correct Answer:

Box 1: Standard general-purpose v2

Standard general-purpose v2 supports Blob Storage.

Azure Storage provides data protection for Blob Storage and Azure Data Lake Storage Gen2.

Scenario:

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All Azure SQL databases in the production environment must have Transparent Data Encryption (TDE) enabled.

- 
- App1 must NOT share physical hardware with other workloads.

Box 2: Hierarchical namespace -

Scenario: Plan: Migrate App1 to Azure virtual machines.

Azure Data Lake Storage Gen2 implements an access control model that supports both Azure role-based access control (Azure RBAC) and POSIX-like access control lists (ACLs).

Data Lake Storage Gen2 and the Network File System (NFS) 3.0 protocol both require a storage account with a hierarchical namespace enabled.

Reference:

<https://docs.microsoft.com/en-us/azure/storage/blobs/data-protection-overview> <https://docs.microsoft.com/en-us/azure/storage/blobs/immutable-storage-overview>

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### Business Requirements -

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- 

## Question

You plan to migrate App1 to Azure.

You need to recommend a network connectivity solution for the Azure Storage account that will host the App1 data. The solution must meet the security and compliance requirements.

What should you include in the recommendation?

- A. Microsoft peering for an ExpressRoute circuit
- B. Azure public peering for an ExpressRoute circuit
- C. a service endpoint that has a service endpoint policy
- D. a private endpoint

**Correct Answer:** *D*

Private Endpoint securely connect to storage accounts from on-premises networks that connect to the VNet using VPN or ExpressRoutes with private-peering.

Private Endpoint also secure your storage account by configuring the storage firewall to block all connections on the public endpoint for the storage service.

**Incorrect Answers:**

A: Microsoft peering provides access to Azure public services via public endpoints with public IP addresses, which should not be allowed.

B: Azure public peering has been deprecated.

C: By default, Service Endpoints are enabled on subnets configured in Azure virtual networks. Endpoints can't be used for traffic from your premises to Azure services.

**Reference:**

<https://docs.microsoft.com/en-us/azure/expressroute/expressroute-circuit-peerings>

*Community vote distribution*

D (100%)

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## Question

You need to implement the Azure RBAC role assignments for the Network Contributor role. The solution must meet the authentication and authorization requirements.

What is the minimum number of assignments that you must use?

A. 1

B. 2

C. 5

D. 10

E. 15



**Correct Answer:** *B*

Scenario: The Network Contributor built-in RBAC role must be used to grant permissions to the network administrators for all the virtual networks in all the Azure subscriptions.

RBAC roles must be applied at the highest level possible.

*Community vote distribution*

B (89%)

11%

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