☞ Azure SQL Managed Instance max database size is up to currently available instance size (depending on the number of vCores).
Max instance storage size (reserved) - 2 TB for 4 vCores
- 8 TB for 8 vCores
- 16 TB for other sizes
Reference:
https://docs.microsoft.com/en-us/azure/azure-sql/database/active-geo-replication-overview https://medium.com/awesome-azure/azure-difference-between-azure-sql-database-and-sql-server-on-vm-comparison-azure-sql-vs-sql-server-vm-cf02578a1188

Question #9 *Topic 2*

You are planning an Azure IoT Hub solution that will include 50,000 IoT devices.
Each device will stream data, including temperature, device ID, and time data. Approximately 50,000 records will be written every second. The data will be visualized in near real time.
You need to recommend a service to store and query the data.
Which two services can you recommend? Each correct answer presents a complete solution.
NOTE: Each correct selection is worth one point.

A. Azure Table Storage

B. Azure Event Grid

C. Azure Cosmos DB SQL API

D. Azure Time Series Insights

Correct Answer: *CD*
D: Time Series Insights is a fully managed service for time series data. In this architecture, Time Series Insights performs the roles of stream processing, data store, and analytics and reporting. It accepts streaming data from either IoT Hub or Event Hubs and stores, processes, analyzes, and displays the data in near real time.
C: The processed data is stored in an analytical data store, such as Azure Data Explorer, HBase, Azure Cosmos DB, Azure Data Lake, or Blob Storage.
Reference:
https://docs.microsoft.com/en-us/azure/architecture/data-guide/scenarios/time-series

Community vote distribution

Question #10 *Topic 2*

You are designing an application that will aggregate content for users.

You need to recommend a database solution for the application. The solution must meet the following requirements:

- Support SQL commands.
- Support multi-master writes.
- Guarantee low latency read operations.

What should you include in the recommendation?

A. Azure Cosmos DB SQL API

B. Azure SQL Database that uses active geo-replication

C. Azure SQL Database Hyperscale

D. Azure Database for PostgreSQL

Correct Answer: *A*

With Cosmos DB's novel multi-region (multi-master) writes replication protocol, every region supports both writes and reads. The multi-region writes capability also enables:

Unlimited elastic write and read scalability.

99.999% read and write availability all around the world.

Guaranteed reads and writes served in less than 10 milliseconds at the 99th percentile.

Reference:

https://docs.microsoft.com/en-us/azure/cosmos-db/distribute-data-globally

Community vote distribution

A (100%)

HOTSPOT -

You have an Azure subscription that contains the SQL servers on Azure shown in the following table.

Name	Resource group	Location
SQLsvr1	RG1	East US
SQLsvr2	RG2	West US

The subscription contains the storage accounts shown in the following table.

Name	Resource group	Location	Account kind
storage1	RG1	East US	StorageV2 (general purposev2)
storage2	RG2	Central US	BlobStorage

You create the Azure SQL databases shown in the following table.

Name	Resource group	Server	Pricing tier
SQLdb1	RG1	SQLsvr1	Standard
SQLdb2	RG1	SQLsvr1	Standard
SQLdb3	RG2	SQLsvr2	Premium

For each of the following statements, select Yes if the statement is true. Otherwise, select No.

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

Statements	Yes	No
When you enable auditing for SQLdb1, you can store the audit information to storage1.	○	○
When you enable auditing for SQLdb2, you can store the audit information to storage2.	○	○
When you enable auditing for SQLdb3, you can store the audit information to storage2.	○	○

Correct Answer:

Answer Area

Statements	Yes	No
When you enable auditing for SQLdb1, you can store the audit information to storage1.	●	○
When you enable auditing for SQLdb2, you can store the audit information to storage2.	○	●
When you enable auditing for SQLdb3, you can store the audit information to storage2.	○	●

Box 1: Yes -

Auditing works fine for a Standard account.

Box 2: No -

Auditing limitations: Premium storage is currently not supported.

Box 3: No -

Auditing limitations: Premium storage is currently not supported.

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/database/auditing-overview#auditing-limitations

DRAG DROP -

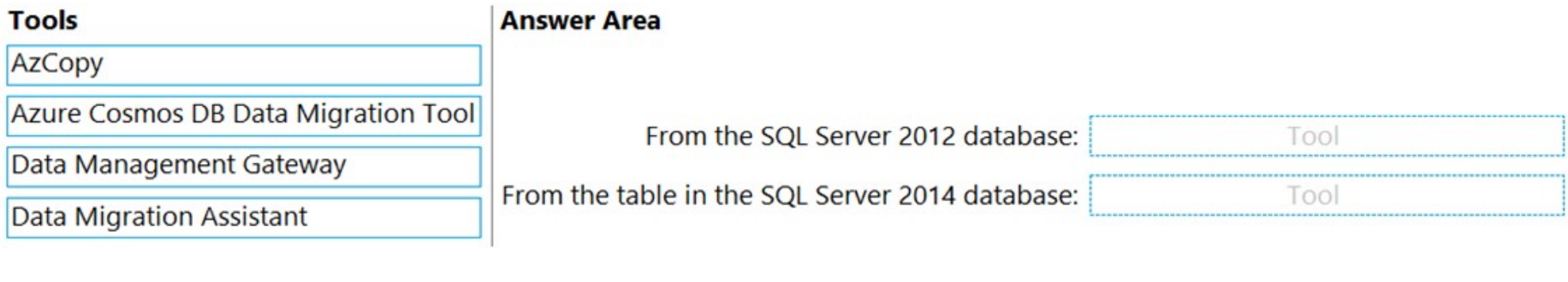
You plan to import data from your on-premises environment to Azure. The data is shown in the following table.

On-premises source	Azure target
A Microsoft SQL Server 2012 database	An Azure SQL database
A table in a Microsoft SQL Server 2014 database	An Azure Cosmos DB account that uses the SQL API

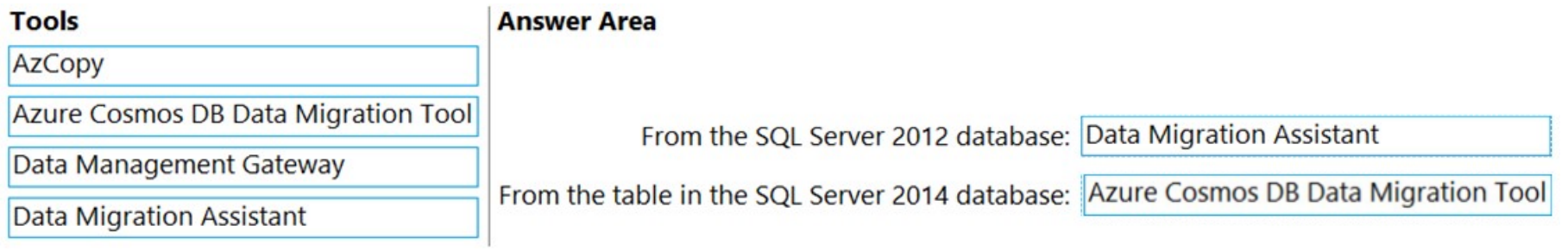
What should you recommend using to migrate the data? To answer, drag the appropriate tools to the correct data sources. Each tool may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.

NOTE: Each correct selection is worth one point.

Select and Place:



Correct Answer:



Box 1: Data Migration Assistant -

The Data Migration Assistant (DMA) helps you upgrade to a modern data platform by detecting compatibility issues that can impact database functionality in your new version of SQL Server or Azure SQL Database. DMA recommends performance and reliability improvements for your target environment and allows you to move your schema, data, and uncontained objects from your source server to your target server.

Incorrect:

AzCopy is a command-line utility that you can use to copy blobs or files to or from a storage account.

Box 2: Azure Cosmos DB Data Migration Tool

Azure Cosmos DB Data Migration Tool can used to migrate a SQL Server Database table to Azure Cosmos.

Reference:

https://docs.microsoft.com/en-us/sql/dma/dma-overview

https://docs.microsoft.com/en-us/azure/cosmos-db/cosmosdb-migrationchoices

Question #13 *Topic 2*

You store web access logs data in Azure Blob Storage.
You plan to generate monthly reports from the access logs.
You need to recommend an automated process to upload the data to Azure SQL Database every month.
What should you include in the recommendation?

A. Microsoft SQL Server Migration Assistant (SSMA)

B. Data Migration Assistant (DMA)

C. AzCopy

D. Azure Data Factory

Correct Answer: *D*
You can create Data Factory pipelines that copies data from Azure Blob Storage to Azure SQL Database. The configuration pattern applies to copying from a file- based data store to a relational data store.
Required steps:
Create a data factory.
Create Azure Storage and Azure SQL Database linked services.
Create Azure Blob and Azure SQL Database datasets.
Create a pipeline contains a Copy activity.
Start a pipeline run.
Monitor the pipeline and activity runs.
Reference:
https://docs.microsoft.com/en-us/azure/data-factory/tutorial-copy-data-dot-net

Community vote distribution

D (100%)

Question #14 *Topic 2*

You have an Azure subscription.
Your on-premises network contains a file server named Server1. Server1 stores 5 ׀¢׀' of company files that are accessed rarely.
You plan to copy the files to Azure Storage.
You need to implement a storage solution for the files that meets the following requirements:
☞ The files must be available within 24 hours of being requested.
☞ Storage costs must be minimized.
Which two possible storage solutions achieve this goal? Each correct answer presents a complete solution.
NOTE: Each correct selection is worth one point.

A. Create an Azure Blob Storage account that is configured for the Cool default access tier. Create a blob container, copy the files to the blob container, and set each file to the Archive access tier.

B. Create a general-purpose v1 storage account. Create a blob container and copy the files to the blob container.

C. Create a general-purpose v2 storage account that is configured for the Cool default access tier. Create a file share in the storage account and copy the files to the file share.

D. Create a general-purpose v2 storage account that is configured for the Hot default access tier. Create a blob container, copy the files to the blob container, and set each file to the Archive access tier.

E. Create a general-purpose v1 storage account. Create a fie share in the storage account and copy the files to the file share.

Correct Answer: *AD*
To minimize costs: The Archive tier is optimized for storing data that is rarely accessed and stored for at least 180 days with flexible latency requirements (on the order of hours).
Reference:
https://docs.microsoft.com/en-us/azure/storage/blobs/storage-blob-storage-tiers

Community vote distribution

AD (94%) 6%

Question #15 *Topic 2*

You have an app named App1 that uses two on-premises Microsoft SQL Server databases named DB1 and DB2.
You plan to migrate DB1 and DB2 to Azure
You need to recommend an Azure solution to host DB1 and DB2. The solution must meet the following requirements:
☞ Support server-side transactions across DB1 and DB2.
☞ Minimize administrative effort to update the solution.
What should you recommend?

A. two Azure SQL databases in an elastic pool

B. two databases on the same Azure SQL managed instance

C. two databases on the same SQL Server instance on an Azure virtual machine

D. two Azure SQL databases on different Azure SQL Database servers

Correct Answer: *B*
Elastic database transactions for Azure SQL Database and Azure SQL Managed Instance allow you to run transactions that span several databases.
SQL Managed Instance enables system administrators to spend less time on administrative tasks because the service either performs them for you or greatly simplifies those tasks.
Reference:
https://docs.microsoft.com/en-us/azure/azure-sql/database/elastic-transactions-overview?view=azuresql

Community vote distribution

B (100%)

Question #16 *Topic 2*

You need to design a highly available Azure SQL database that meets the following requirements:

- Failover between replicas of the database must occur without any data loss.
- The database must remain available in the event of a zone outage.
- Costs must be minimized.

Which deployment option should you use?

A. Azure SQL Database Hyperscale

B. Azure SQL Database Premium

C. Azure SQL Database Basic

D. Azure SQL Managed Instance General Purpose

Correct Answer: *B*

Azure SQL Database Premium tier supports multiple redundant replicas for each database that are automatically provisioned in the same datacenter within a region. This design leverages the SQL Server AlwaysON technology and provides resilience to server failures with 99.99% availability SLA and RPO=0.

With the introduction of Azure Availability Zones, we are happy to announce that SQL Database now offers built-in support of Availability Zones in its Premium service tier.

Incorrect:

Not A: Hyperscale is more expensive than Premium.

Not C: Need Premium for Availability Zones.

Not D: Zone redundant configuration that is free on Azure SQL Premium is not available on Azure SQL Managed Instance.

Reference:

https://azure.microsoft.com/en-us/blog/azure-sql-database-now-offers-zone-redundant-premium-databases-and-elastic-pools/

Community vote distribution

B (100%)

Question #17 *Topic 2*

HOTSPOT -

You are planning an Azure Storage solution for sensitive data. The data will be accessed daily. The dataset is less than 10 GB.

You need to recommend a storage solution that meets the following requirements:

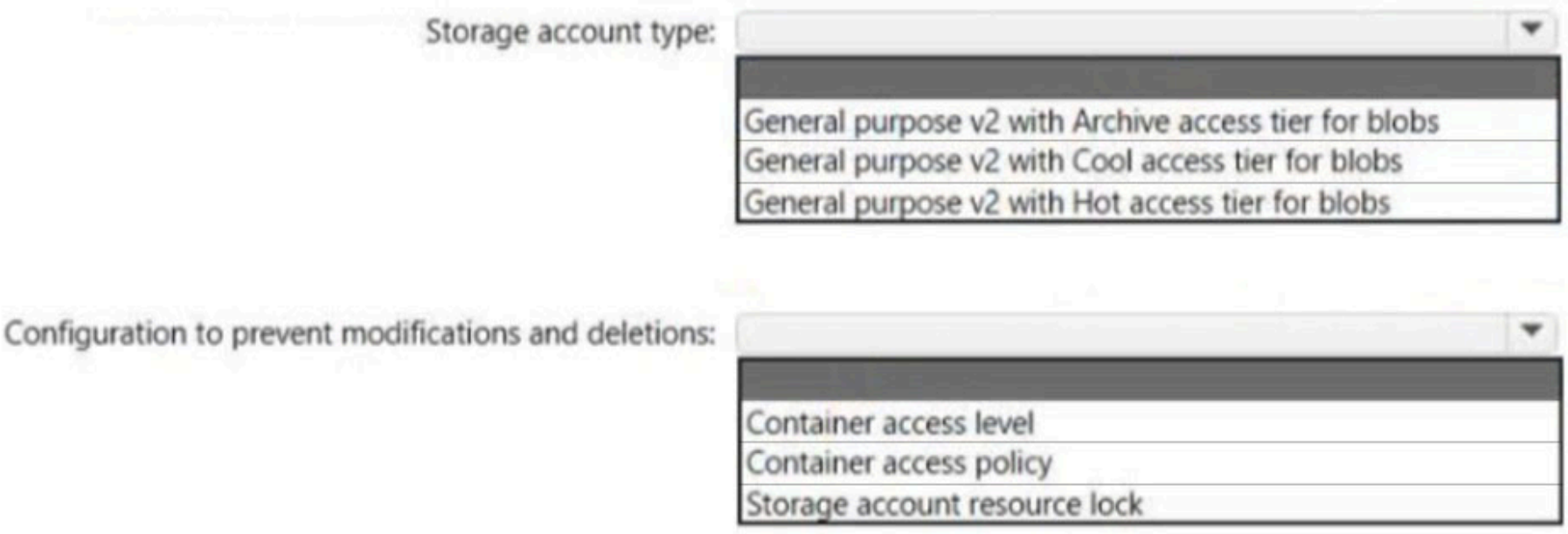
- All the data written to storage must be retained for five years.
- Once the data is written, the data can only be read. Modifications and deletion must be prevented.
- After five years, the data can be deleted, but never modified.
- Data access charges must be minimized.

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

NOTE: Each correct selection is worth one point.

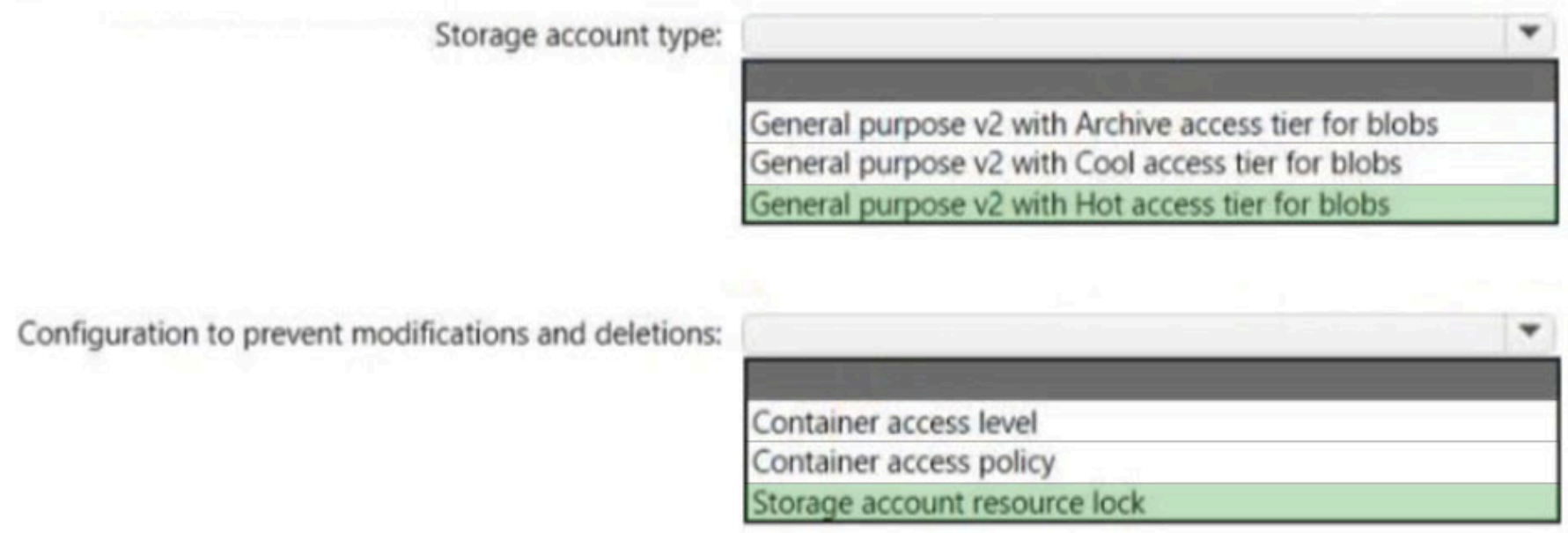
Hot Area:

Answer Area



Correct Answer:

Answer Area



Box 1: General purpose v2 with Hot access tier for blobs

Note:

* All the data written to storage must be retained for five years.
* Data access charges must be minimized

Hot tier has higher storage costs, but lower access and transaction costs.

Incorrect:

Not Archive: Lowest storage costs, but highest access, and transaction costs.

Not Cool: Lower storage costs, but higher access and transaction costs.

Box 2: Storage account resource lock

As an administrator, you can lock a subscription, resource group, or resource to prevent other users in your organization from accidentally deleting or modifying critical resources. The lock overrides any permissions the user might have.

Reference:

https://docs.microsoft.com/en-us/azure/storage/blobs/access-tiers-overview https://docs.microsoft.com/en-us/azure/azure-resource-manager/management/lock-resources

HOTSPOT -

You are designing a data storage solution to support reporting.

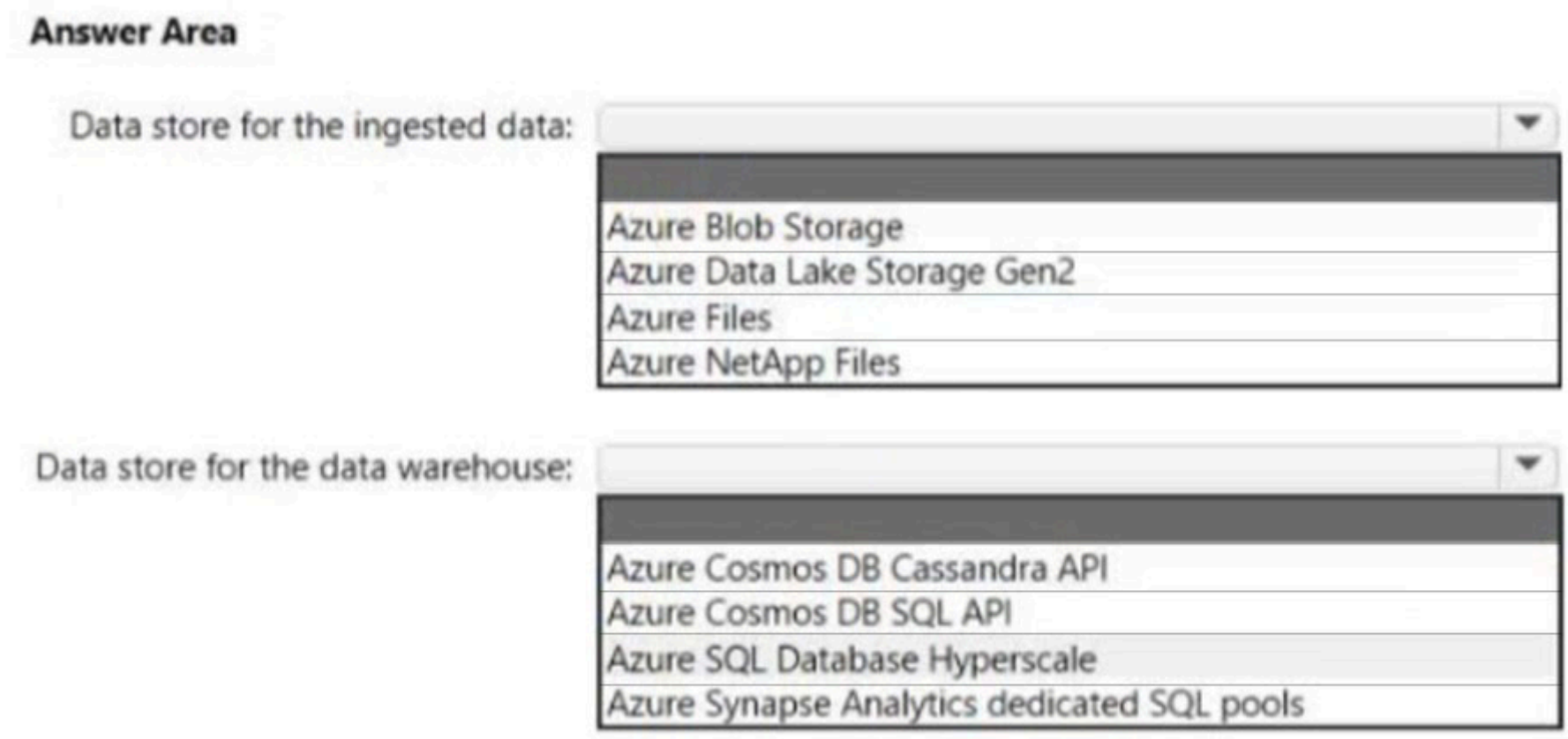
The solution will ingest high volumes of data in the JSON format by using Azure Event Hubs. As the data arrives, Event Hubs will write the data to storage. The solution must meet the following requirements:

- Organize data in directories by date and time.
- Allow stored data to be queried directly, transformed into summarized tables, and then stored in a data warehouse.
- Ensure that the data warehouse can store 50 TB of relational data and support between 200 and 300 concurrent read operations.

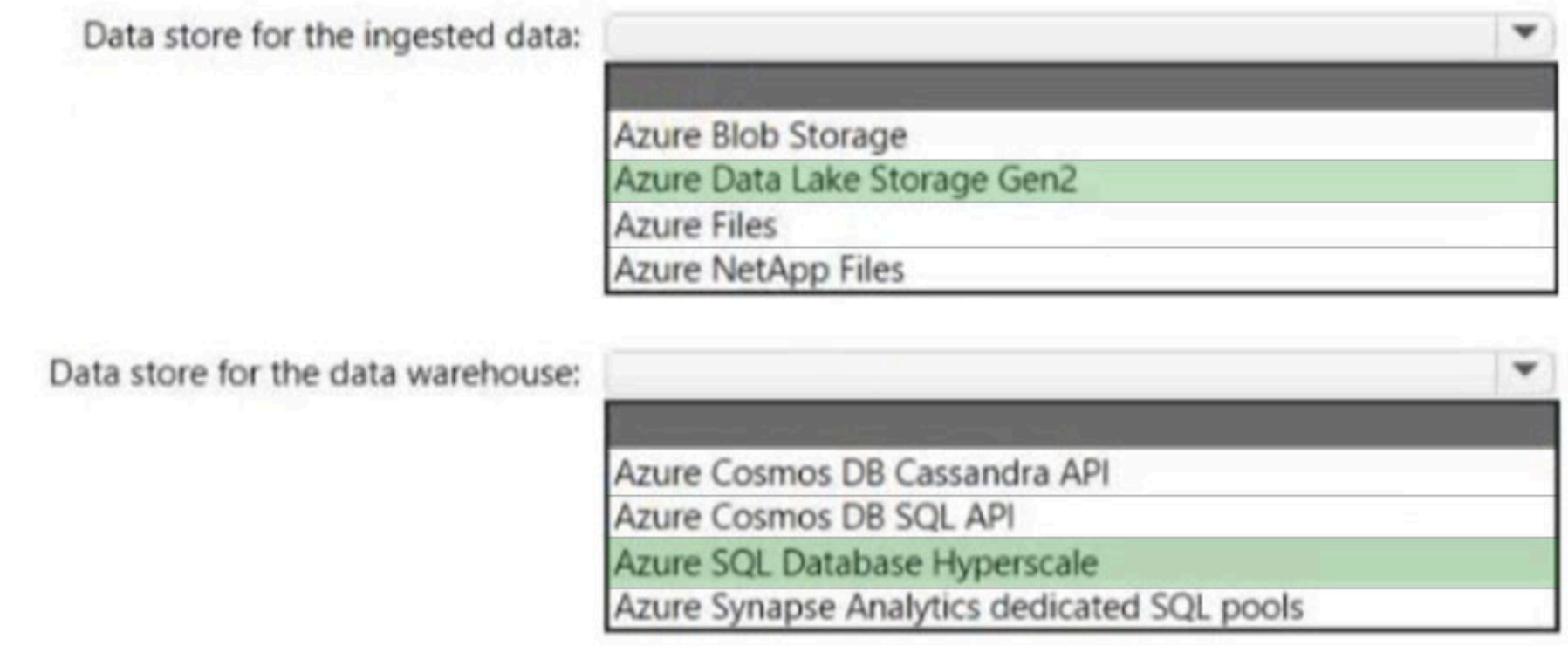
Which service should you recommend for each type of data store? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:



Correct Answer:



Box 1: Azure Data Lake Storage Gen2

Azure Data Explorer integrates with Azure Blob Storage and Azure Data Lake Storage (Gen1 and Gen2), providing fast, cached, and indexed access to data stored in external storage. You can analyze and query data without prior ingestion into Azure Data Explorer. You can also query across ingested and uningested external data simultaneously.

Azure Data Lake Storage is optimized storage for big data analytics workloads.

Use cases: Batch, interactive, streaming analytics and machine learning data such as log files, IoT data, click streams, large datasets

Box 2: Azure SQL Database Hyperscale

Azure SQL Database Hyperscale is optimized for OLTP and high throughput analytics workloads with storage up to 100TB.

A Hyperscale database supports up to 100 TB of data and provides high throughput and performance, as well as rapid scaling to adapt to the workload requirements. Connectivity, query processing, database engine features, etc. work like any other database in Azure SQL Database. Hyperscale is a multi-tiered architecture with caching at multiple levels. Effective IOPS will depend on the workload.
Compare to:
General purpose: 500 IOPS per vCore with 7,000 maximum IOPS
Business critical: 5,000 IOPS with 200,000 maximum IOPS
Incorrect:
* Azure Synapse Analytics Dedicated SQL pool.

Max database size: 240 TB -
A maximum of 128 concurrent queries will execute and remaining queries will be queued.
Reference:
https://docs.microsoft.com/en-us/azure/data-explorer/data-lake-query-data https://docs.microsoft.com/en-us/azure/azure-sql/database/service-tier-hyperscale https://docs.microsoft.com/en-us/azure/synapse-analytics/sql-data-warehouse/sql-data-warehouse-service-capacity-limits

Question #19 *Topic 2*

You have an app named App1 that uses an on-premises Microsoft SQL Server database named DB1.

You plan to migrate DB1 to an Azure SQL managed instance.

You need to enable customer managed Transparent Data Encryption (TDE) for the instance. The solution must maximize encryption strength.

Which type of encryption algorithm and key length should you use for the TDE protector?

A. RSA 3072

B. AES 256

C. RSA 4096

D. RSA 2048

Correct Answer: *A*

Community vote distribution

A (90%) 10%