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AZ-120

Planning and Administering Microsoft Azure for SAP Workloads (beta)



Testlet 1

Case Study

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Litware, Inc. is an international manufacturing company that has 3,000 employees.

Litware has two main offices. The offices are located in Miami, FL, and Madrid, Spain.

Existing Environment

Infrastructure

Litware currently uses a third-party provider to host a datacenter in Miami and a disaster recovery datacenter in Chicago, IL.

The network contains an Active Directory domain named litware.com. Litware has two third-party applications hosted in Azure.

Litware already implemented a site-to-site VPN connection between the on-premises network and Azure.

SAP Environment

Litware currently runs the following SAP products:

- Enhancement Pack6 for SAP ERP Central Component 6.0 (SAP ECC 6.0)
 - SAP Extended Warehouse Management (SAP EWM)
 - SAP Supply Chain Management (SAP SCM)
 - SAP NetWeaver Process Integration (PI)
 - SAP Business Warehouse (SAP BW) ▪
- SAP Solution Manager

All servers run on the Windows Server platform. All databases use Microsoft SQL Server. Currently, you have 20 production servers.

You have 30 non-production servers including five testing servers, five development servers, five quality assurance (QA) servers, and 15 pre-production servers.

Currently, all SAP applications are in the litware.com domain.

Problem Statements

The current version of SAP ECC has a transaction that, when run in batches overnight, takes eight hours to complete. You confirm that upgrading to SAP Business Suite on HANA will improve performance because of code changes and the SAP HANA database platform.

Litware is dissatisfied with the performance of its current hosted infrastructure vendor. Litware experienced several hardware failures and the vendor struggled to adequately support its 24/7 business operations.

Requirements

Business Goals

Litware identifies the following business goals:

- Increase the performance of SAP ECC applications by moving to SAP HANA. All other SAP databases will remain on SQL Server.
- Move away from the current infrastructure vendor to increase the stability and availability of the SAP services.
- Use the new Environment, Health and Safety (EH&S) in Recipe Management function.
- Ensure that any migration activities can be completed within a 48-hour period during a weekend.

Planned Changes

Litware identifies the following planned changes:

- Migrate SAP to Azure.
- Upgrade and migrate SAP ECC to SAP Business Suite on HANA Enhancement Pack 8. **Technical**

Requirements

Litware identifies the following technical requirements:

- Implement automated backups.
 - Support load testing during the migration.
 - Identify opportunities to reduce costs during the migration.
 - Continue to use the litware.com domain for all SAP landscapes.
 - Ensure that all SAP applications and databases are highly available.
 - Establish an automated monitoring solution to avoid unplanned outages.
 - Remove all SAP components from the on-premises network once the migration is complete.
 - Minimize the purchase of additional SAP licenses. SAP HANA licenses were already purchased.
- Ensure that SAP can provide technical support for all the SAP landscapes deployed to Azure.

QUESTION 1

You are evaluating which migration method Litware can implement based on the current environment and the business goals.

Which migration method will cause the least amount of downtime?

- A. Migrate SAP ECC to SAP Business Suite in HANA, and then migrate SAP to Azure.
- B. Use Near-Zero Downtime (NZDT) to migrate to SAP HANA and Azure during the same maintenance window.
- C. Use the Database Migration Option (DMO) to migrate to SAP HANA and Azure during the same maintenance window.
- D. Migrate SAP to Azure, and then migrate SAP ECC to SAP Business Suite on HANA.

Correct Answer: C

Section: [none]

Explanation

Explanation/Reference:

Explanation:

The SAP Database Migration Option (DMO) with System Move option of SUM, used as part of the migration allows customer the options to perform the migration in a single step, from source system on-premises, or to the target system residing in Microsoft Azure, minimizing overall downtime.

References:

<https://blogs.sap.com/2017/10/05/your-sap-on-azure-part-2-dmo-with-system-move/>

Question Set 2

QUESTION 1

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You plan to migrate an SAP HANA instance to Azure.

You need to gather CPU metrics from the last 24 hours from the instance.

Solution: You run SAP HANA Quick Sizer.

Does this meet the goal?

- A. Yes
- B. No

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

Explanation:

The SAP HANA cockpit provides a single point of access to a range of SAP HANA administration and monitoring tasks. It is used to monitor and ensure the overall health of the system.

The HANA Monitoring dashboard also visualizes key HANA Metrics of SAP HANA system.

References:

<https://developers.sap.com/tutorials/dt-monitoring-hana-part1.html>

<https://www.hanatutorials.com/p/hana-monitoring-dashboard.html>

QUESTION 2

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You plan to migrate an SAP HANA instance to Azure.

You need to gather CPU metrics from the last 24 hours from the instance.

Solution: You use DBA Cockpit from SAP GUI.

Does this meet the goal?

- A. Yes
- B. No

Correct Answer: A

Section: [none]

Explanation

Explanation/Reference:

Explanation:

The SAP HANA cockpit provides a single point of access to a range of SAP HANA administration and monitoring tasks. It is used to monitor and ensure the overall health of the system.

The HANA Monitoring dashboard also visualizes key HANA Metrics of SAP HANA system.

References: <https://developers.sap.com/tutorials/dt-monitoring-hana-part1.html>

<https://help.sap.com/viewer/afa922439b204e9caf22c78b6b69e4f2/2.10.0.0/en-US>

<https://www.hanatutorials.com/p/hana-monitoring-dashboard.html>

QUESTION 3

You are migrating SAP to Azure. The ASCS application servers are in one Azure zone, and the SAP database server in in a different Azure zone. ASCS/ERS is configured for high availability.

During performance testing, you discover increased response times in Azure, even though the Azure environment has better computer and memory configurations than the on-premises environment.

During the initial analysis, you discover an increased wait time for Enqueue.

What are three possible causes of the increased wait time? Each correct answer presents a complete solution.

NOTE: Each correct selection is worth one point.

- A. a missing Enqueue profile
- B. disk I/O during Enqueue backup operations
- C. misconfigured load balancer rules and health check probes for Enqueue and ASCS
- D. active Enqueue replication
- E. network latency between the database server and the SAP application servers

Correct Answer: CDE

Section: [none]

Explanation

Explanation/Reference:

Explanation:

E: The network latency across Availability Zones is not the same in all Azure regions. In some cases, you can deploy and run the SAP application layer across different zones because the network latency from one zone to the active DBMS VM is acceptable. But in some Azure regions, the latency between the active DBMS VM and the SAP application instance, when deployed in different zones, might not be acceptable for SAP business processes.

References: <https://docs.microsoft.com/en-us/azure/virtual-machines/workloads/sap/sap-ha-availability-zones>

QUESTION 4

You have an on-premises SAP environment that uses AIX servers and IBM DB2 as the database platform.

You plan to migrate SAP to Azure. In Azure, the SAP workloads will use Windows Server and Microsoft SQL Server as the database platform.

What should you use to export from DB2 and import the data to SQL Server?

- A. R3load
- B. Azure SQL Data Warehouse
- C. SQL Server Management Studio (SSMS)
- D. R3trans

Correct Answer: C

Section: [none]

Explanation

Explanation/Reference:

Explanation:

To migrate DB2 databases to SQL Server, you must connect to the DB2 database that you want to migrate. When you connect, SSMA obtains metadata about all DB2 schemas, and then displays it in the DB2 Metadata Explorer pane.

References: <https://docs.microsoft.com/en-us/sql/ssma/db2/connecting-to-db2-database-db2tosql?view=sql-server-ver15> <https://docs.microsoft.com/en-us/biztalk/adapters-and-accelerators/adapter-sap/import-sap-data-using-sql-server-management-studio>

QUESTION 5

HOTSPOT

You are designing the backup for an SAP database.

You have an Azure Storage account that is configured as shown in the following exhibit.

The cost of your storage account depends on the usage and the options you choose below.
[Learn more](#)

Account kind
 StorageV2 (general purpose v2)

Performance ⓘ
 Standard Premium

* Secure transfer required ⓘ
 Disabled Enabled

Access tier (default) ⓘ
 Cool Hot

Replication ⓘ
 Geo-redundant storage (GRS) ▼

Azure Active Directory authentication for Azure Files (Preview) ⓘ
 Disabled Enabled

Data Lake Storage Gen2
 Hierarchical namespace ⓘ
 Disabled Enabled



Use the drop-down menus to select the answer choice that completes each statement based on the information presented in the graphic.

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

Data in the storage account is stored on [answer choice].

Backups will be replicated [answer choice].

Correct Answer:

Answer Area

Data in the storage account is stored on [answer choice].

Backups will be replicated [answer choice].

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Box 1: standard solid-state drives (SSDs)

Standard SSD Managed Disks, a low-cost SSD offering, are optimized for test and entry-level production workloads requiring consistent latency.

Box 2: to another Azure region

Geo-redundant storage (GRS) copies your data synchronously three times within a single physical location in the primary region using LRS. It then copies your data asynchronously to a single physical location in a secondary region that is hundreds of miles away from the primary region.

References: <https://azure.microsoft.com/en-us/pricing/details/managed-disks/>

<https://docs.microsoft.com/en-us/azure/storage/common/storage-redundancy#geo-redundant-storage>

QUESTION 6 DRAG DROP

You migrate SAP ERP Central Component (SAP ECC) production and non-production landscapes to Azure.

You are licensed for SAP Landscape Management (LaMa).

You need to refresh from the production landscape to the non-production landscape.

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

Select and Place:

Actions

- From the Azure portal, create a service principal
- From the Cloud Managers tab in LaMa, add an adapter
- From SAP Solution Manager, deploy the LaMa adapter
- Add permissions to the service principal
- Install and configure LaMa on an SAP NetWeaver instance

Answer Area



Correct Answer:

Actions

- From the Azure portal, create a service principal
- From the Cloud Managers tab in LaMa, add an adapter
- From SAP Solution Manager, deploy the LaMa adapter
- Add permissions to the service principal
- Install and configure LaMa on an SAP NetWeaver instance



Answer Area



- From the Azure portal, create a service principal
- Add permissions to the service principal
- From the Cloud Managers tab in LaMa, add an adapter
- Install and configure LaMa on an SAP NetWeaver instance

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Step 1: From the Azure portal, create a service principal

The Azure connector can use a Service Principal to authorize against Microsoft Azure. Follow these steps to create a Service Principal for SAP Landscape Management (LaMa).

Step 2: Add permissions to the service principal

The Service Principal does not have permissions to access your Azure resources by default. You need to give the Service Principal permissions to access them.

Step 3: From the Cloud Managers tab in LaMa, add an adapter

Create a new connector in SAP LaMa

Open the SAP LaMa website and navigate to Infrastructure. Go to tab Cloud Managers and click on Add. Select the Microsoft Azure Cloud Adapter

Step 4: Install and configure LaMA on an SAP NetWeater instance

Provision a new adaptive SAP system

You can manually deploy a new virtual machine or use one of the Azure templates in the quickstart repository. It contains templates for SAP NetWeaver ASCS, SAP NetWeaver application servers, and the database. You can also use these templates to provision new hosts as part of a system copy/clone etc.

Note: To support customers on their journey into a cloud model (hybrid or entirely public cloud), SAP and Microsoft partnered to create an adapter that integrates the SAP management capabilities of LaMa with the IaaS advantages of Microsoft Azure.

References: <https://docs.microsoft.com/en-us/azure/virtual-machines/workloads/sap/lama-installation>

QUESTION 7

HOTSPOT

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
Oracle Real Application Clusters (RAC) can be used to provide high availability of SAP databases on Azure.	<input type="radio"/>	<input type="radio"/>
You can host SAP databases on Azure by using Oracle on a virtual machine that runs Windows Server 2016.	<input type="radio"/>	<input type="radio"/>
You can host SAP databases on Azure by using Oracle on a virtual machine that runs SUSE Linux Enterprise Server 12 (SLES 12).	<input type="radio"/>	<input type="radio"/>

Correct Answer:

Answer Area

Statements	Yes	No
Oracle Real Application Clusters (RAC) can be used to provide high availability of SAP databases on Azure.	<input checked="" type="radio"/>	<input type="radio"/>
You can host SAP databases on Azure by using Oracle on a virtual machine that runs Windows Server 2016.	<input checked="" type="radio"/>	<input type="radio"/>
You can host SAP databases on Azure by using Oracle on a virtual machine that runs SUSE Linux Enterprise Server 12 (SLES 12).	<input checked="" type="radio"/>	<input type="radio"/>

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Box 1: Yes

Box 2: Yes

Oracle Database 12c Release 2 (12.2) is certified on Microsoft Windows Server 2016 (Standard, Datacenter, and Essentials Editions), which includes support for the database client, server, and Oracle Real Application Clusters.

Organizations can run SAP applications with Oracle databases on the same code base on Unix, Linux, and Windows operating systems. Box

3: Yes

References:

<https://docs.microsoft.com/en-us/azure/virtual-machines/workloads/oracle/oracle-overview>

<https://docs.oracle.com/en/database/oracle/oracle-database/12.2/ntdbn/index.html#>

QUESTION 8 You have an SAP environment that is managed by using VMware vCenter.

You plan to migrate the SAP environment to Azure.

You need to gather information to identify which compute resources are required in Azure.

What should you use to gather the information?

- A. Azure Migrate and SAP EarlyWatch Alert reports
- B. Azure Site Recovery and SAP Quick Sizer
- C. SAP Quick Sizer and SAP HANA system replication
- D. Azure Site Recovery Deployment Planner and SAP HANA Cockpit

Correct Answer: A

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Azure Migrate is a Microsoft service that helps an enterprise assess how its on-premises workloads will perform, and how much they will cost to host, in the Azure public cloud.

An enterprise can use Azure Migrate to discover information about the VMware VMs running within its own data center, including CPU and memory usage, as well as performance history.

SAP EarlyWatch Alert (EWA) is a monitoring service for SAP customers, to monitor SAP systems in the solution landscape.

Incorrect Answers:

D: SAP HANA Cockpit is an administrative tool with a web interface for a correspondingly named database engine, a part of SAP ERP software. It allows both offline and cloud operations for managing databases,

References: <https://searchcloudcomputing.techtarget.com/definition/Azure-Migrate>

QUESTION 9 You plan to migrate an SAP ERP Central Component (SAP ECC) production system to Azure.

You are reviewing the SAP EarlyWatch Alert report for the system.

You need to recommend sizes for the Azure virtual machines that will host the system.

Which two sections of the report should you review? Each correct answer presents a complete solution.

NOTE: Each correct selection is worth one point.

- A. Hardware Capacity
- B. Patch Levels under SAP Software Configuration
- C. Hardware Configuration under Landscape
- D. Database and ABAP Load Optimization
- E. Data Volume Management

Correct Answer: AD

Section: [none]

Explanation

Explanation/Reference:

Explanation:

It is important to note that there are 2 types of data collected for Hardware Capacity.

- Performance Data - e.g. CPU and Memory utilization data.
Hardware Capacity data shown in the EWA is measuring CPU and Memory utilization data. This is known as Performance Data.
- Configuration Data - e.g. OS information, CPU type.
It is also collecting system information about the host such as hardware manufacturer, CPU type etc. This is known as Configuration Data.

Incorrect Answers:

E: Data Volume Management focuses on whether the collection of DVM content for the EarlyWatch Alert report is not performed, not activated, or not possible because the SAP Solution Manager system does not meet the technical requirements.

References:

<https://wiki.scn.sap.com/wiki/display/SM/Hardware+Capacity+Checks+in+EWA>

QUESTION 10 You plan to migrate an SAP environment to Azure.

You need to recommend a solution to migrate the SAP application servers to Azure. The solution must minimize downtime and changes to the environments.

What should you include in the recommendation?

- A. Azure Storage Explorer
- B. Azure Import/Export service
- C. AzCopy
- D. Azure Site Recovery



Correct Answer: D

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Site Recovery is used to manage and orchestrate disaster recovery of on-premises machines and Azure VMs. However, it can also be used for migration. Migration uses the same steps as disaster recovery with one exception. In a migration, failing machines over from your on-premises site is the final step. Unlike disaster recovery, you can't fail back to on-premises in a migration scenario.

References: <https://docs.microsoft.com/en-us/azure/site-recovery/migrate-tutorial-on-premises-azure>

QUESTION 11 You plan to migrate an on-premises SAP development system to Azure.

Before the migration, you need to check the usage of the source system hardware, such as CPU, memory, network, etc.

Which transaction should you run from SAP GUI?

- A. SM51
- B. DB01C. DB12
- D. OS07N

Correct Answer: D

Section: [none]

Explanation

Explanation/Reference:

Explanation:

SAP transaction OS07N (Remote Operating System Activity) is classified in the Basis Component module under application component Operating System Monitors and runs Monitoring Operating System program RSHOST1N upon execution.

Incorrect Answers:

A: Transaction code SM51 is to display list of active application servers that have registered in the SAP message server.

B: DB01 is a transaction code used for Analyze Exclusive Lockwaits in SAP.

C: Transaction code DB12 is to collect and presents information that is necessary to monitor database backups.

References:

<http://www.saptransactions.com/codes/OS07N/>

QUESTION 12 Your company has an SAP environment that contains the following components:

- SAP systems based on SAP HANA and SAP Adaptive Server Enterprise (SAP ASE) that run on SUSE Linux Enterprise Server 12 (SLES 12)
- Multiple SAP applications

The company plans to migrate all the applications to Azure.

You need to get a comprehensive list of all the applications that are part of the SAP environment.

What should you use?

- A. the SAP license information
- B. the SAP Solution Manager
- C. the data volume management report
- D. the network inventory and locations

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

Explanation:

The SAP Solution Manager is a centralized robust application management and administration solution used to implement, support, operate and monitor your SAP enterprise solutions, SAP Solution Manager is a platform providing integrated content, tools, methodologies and access to SAP systems.

Incorrect Answers:

C: Data volume management is a framework that helps the solution operations team of an SAP-centric solution to balance the need of business' access to a wealth of data and IT efforts to monitor and control data growth and to minimize data volume.

References: <https://blogs.sap.com/2009/02/20/sap-solution-manager-overview-for-dummies/>

QUESTION 13

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You plan to migrate an SAP HANA instance to Azure.

You need to gather CPU metrics from the last 24 hours from the instance.

Solution: You query views from SAP HANA Studio.

Does this meet the goal?

A. Yes

B. No

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

Explanation:

The SAP HANA cockpit provides a single point of access to a range of SAP HANA administration and monitoring tasks. It is used to monitor and ensure the overall health of the system.

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References:

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You have 30 non-production servers including five testing servers, five development servers, five quality assurance (QA) servers, and 15 pre-production servers.

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Litware is dissatisfied with the performance of its current hosted infrastructure vendor. Litware experienced several hardware failures and the vendor struggled to adequately support its 24/7 business operations.

Requirements

Business Goals

Litware identifies the following business goals:

- Increase the performance of SAP ECC applications by moving to SAP HANA. All other SAP databases will remain on SQL Server.
- Move away from the current infrastructure vendor to increase the stability and availability of the SAP services.
- Use the new Environment, Health and Safety (EH&S) in Recipe Management function.
- Ensure that any migration activities can be completed within a 48-hour period during a weekend.

Planned Changes

Litware identifies the following planned changes:

- Migrate SAP to Azure.
- Upgrade and migrate SAP ECC to SAP Business Suite on HANA Enhancement Pack 8.

Technical Requirements

Litware identifies the following technical requirements:

- Implement automated backups.
 - Support load testing during the migration.
 - Identify opportunities to reduce costs during the migration.
 - Continue to use the litware.com domain for all SAP landscapes.
 - Ensure that all SAP applications and databases are highly available.
 - Establish an automated monitoring solution to avoid unplanned outages.
 - Remove all SAP components from the on-premises network once the migration is complete.
 - Minimize the purchase of additional SAP licenses. SAP HANA licenses were already purchased.
- Ensure that SAP can provide technical support for all the SAP landscapes deployed to Azure.

QUESTION 1 You are evaluating the migration plan.

Licensing for which SAP product can be affected by changing the size of the virtual machines?

- A. SAP ECC
- B. SAP Solution Manager
- C. PI
- D. SAP SCM



Correct Answer: A

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Scenario: Increase the performance of SAP ECC applications by moving to SAP HANA.

References:

<https://azure.microsoft.com/en-us/pricing/details/virtual-machines/rhel-sap-hana/>

Question Set 2

QUESTION 1

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You deploy SAP HANA on Azure (Large Instances).

You need to back up the SAP HANA database to Azure.

Solution: You create a Recovery Services vault and a backup policy.

Does this meet the goal?

- A. Yes
- B. No

Correct Answer: A

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Backup architecture

- The backup process begins by creating a Recovery services vault in Azure. This vault will be used to store the backups and recovery points created over time.
- The Azure VM running SAP HANA server is registered with the vault, and the databases to be backed-up are discovered. To enable the Azure Backup service to discover databases, a preregistration script must be run on the HANA server as a root user.
- This script creates AZUREWLBACKUPHANAUSER DB user and a corresponding key with the same name in hdbuserstore. Refer to the setting up permissions section to understand more about what the script does.
- Azure Backup Service now installs the Azure Backup Plugin for HANA on the registered SAP HANA server.
- The AZUREWLBACKUPHANAUSER DB user created by the preregistration script is used by the Azure Backup Plugin for HANA to perform all backup and restore operations. If you attempt to configure backup for SAP HANA DBs without running this script, you might receive the following error: UserErrorHanaScriptNotRun.
- To configure backup on the databases that are discovered, choose the required backup policy and enable backups.
- Once the backup is configured, Azure Backup service sets up the Backint parameters at the DATABASE level on the protected SAP HANA server.
- The Azure Backup Plugin for HANA maintains all the backup schedules and policy details. It triggers the scheduled backups and communicates with the HANA Backup Engine through the Backint APIs.
- The HANA Backup Engine returns a Backint stream with the data to be backed up.
- All the scheduled backups and on-demand backups (triggered from the Azure portal) that are either full or differential are initiated by the Azure Backup Plugin for HANA. However, log backups are managed and triggered by HANA Backup Engine itself.

References: <https://docs.microsoft.com/en-us/azure/backup/sap-hana-db-about>

<https://docs.microsoft.com/en-us/azure/backup/backup-azure-sap-hana-database#configure-backup>



QUESTION 2

HOTSPOT

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
SAP HANA certification for M-Series Azure virtual machines requires that Write Accelerator be enabled on the /hana/data volume.	<input type="radio"/>	<input type="radio"/>
SAP HANA certification for M-Series Azure virtual machines requires that Write Accelerator be enabled on the /hana/log volume.	<input type="radio"/>	<input type="radio"/>
To enable Write Accelerator, you must use Azure Premium managed disks.	<input type="radio"/>	<input type="radio"/>

Correct Answer:

Answer Area

Statements	Yes	No
SAP HANA certification for M-Series Azure virtual machines requires that Write Accelerator be enabled on the /hana/data volume.	<input type="radio"/>	<input checked="" type="radio"/>
SAP HANA certification for M-Series Azure virtual machines requires that Write Accelerator be enabled on the /hana/log volume.	<input checked="" type="radio"/>	<input type="radio"/>
To enable Write Accelerator, you must use Azure Premium managed disks.	<input checked="" type="radio"/>	<input type="radio"/>

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Box 1: No

Box 2: Yes

The minimum SAP HANA certified conditions for the different storage types are:

Azure Premium SSD - /hana/log is required to be cached with Azure Write Accelerator. The /hana/data volume could be placed on Premium SSD without Azure Write Accelerator or on Ultra disk Box

3: Yes

References: <https://docs.microsoft.com/en-us/azure/virtual-machines/workloads/sap/hana-vm-operations-storage> **QUESTION 3** HOTSPOT

You plan to deploy a highly available ASCS instance to SUSE Linux Enterprise Server (SLES) virtual machines in Azure.

You are configuring an internal Azure Standard Load Balancer for the ASCS instance.

How should you configure the internal Standard Load Balancer? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:



Answer Area

Session persistence: ▼

Client IP
Client IP and Protocol
None

Floating IP (direct server return): ▼

Disabled
Enabled

Correct Answer:

Answer Area



Session persistence: ▼

Client IP
Client IP and Protocol
None

Floating IP (direct server return): ▼

Disabled
Enabled

Section: [none]
Explanation

Explanation/Reference:
Explanation:

Box 1: Client IP
The standard load balancer allows stateful sessions to remain as there are no IP address changes with this method.

Box 2: Enabled

Make sure to enable Floating IP.

References: <https://docs.microsoft.com/en-us/azure/virtual-machines/workloads/sap/high-availability-guide-suse>

QUESTION 4 You have an SAP environment on Azure that uses multiple subscriptions.

To meet GDPR requirements, you need to ensure that virtual machines are deployed only to the West Europe and North Europe Azure regions.

Which Azure components should you use?

- A. Azure resource locks and the Compliance admin center
- B. Azure resource groups and role-based access control (RBAC)
- C. Azure management groups and Azure Policy
- D. Azure Security Center and Azure Active Directory (Azure AD) groups

Correct Answer: C

Section: [none]

Explanation

Explanation/Reference:

Explanation:
Azure Policy enables you to set policies to conform to the GDPR. Azure Policy is generally available today at no additional cost to Azure customers. You can use Azure Policy to define and enforce policies that help your cloud environment become compliant with internal policies as well as external regulations.

Azure Policy is deeply integrated into Azure Resource Manager and applies across all resources in Azure. Individual policies can be grouped into initiatives to quickly implement multiple rules. You can also use Azure Policy in a wide range of compliance scenarios, such as ensuring that your data is encrypted or remains in a specific region as part of GDPR compliance. Microsoft is the only hyperscale cloud provider to offer this level of policy integration built in to the platform for no additional charge.

References: <https://azure.microsoft.com/de-de/blog/new-capabilities-to-enable-robust-gdpr-compliance/>



QUESTION 5

HOTSPOT

You have an Azure Availability Set that is configured as shown in the following exhibit.

```
PS Azure:\> get-azavailabilityset | Select Sku, PlatformFaultDomainCount, PlatformUpdateDomainCount, name, type | FL
Sku                : Aligned
PlatformFaultDomainCount : 2
PlatformUpdateDomainCount : 4
Name               : SAP-Databases-AS
Type               : Microsoft.Compute/availabilitySets
```

Use the drop-down menus to select the answer choice that completes each statement based on the information presented in the graphic.

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

Virtual machines that share **[answer choice]** will be susceptible to a storage outage.

	▼
aligned SKUs	
the same fault domain	
the same update domain	

Virtual machines in the Azure Availability Set can support **[answer choice]**.

	▼
datacenter outages	
managed disks	
regional outages	

Correct Answer:

Answer Area



Virtual machines that share **[answer choice]** will be susceptible to a storage outage.

	▼
aligned SKUs	
the same fault domain	
the same update domain	

Virtual machines in the Azure Availability Set can support **[answer choice]**.

	▼
datacenter outages	
managed disks	
regional outages	

Section: [none]
Explanation

Explanation/Reference:
Explanation:

Box 1: the same fault domain

Fault domains define the group of virtual machines that share a common power source and network switch. If a storage fault domain fails due to hardware or software failure, only the VM instance with disks on the storage fault domain fails.

Box 2: managed disks

Managed disks provide better reliability for Availability Sets by ensuring that the disks of VMs in an Availability Set are sufficiently isolated from each other to avoid single points of failure. It does this by automatically placing the disks in different storage fault domains (storage clusters) and aligning them with the VM fault domain.

References: <https://docs.microsoft.com/en-us/azure/virtual-machines/windows/manage-availability>

QUESTION 6

A customer that has a large enterprise SAP environment plans to migrate to Azure. The environment uses servers that run Windows Server 2016 and Microsoft SQL Server.

The environment is critical and requires a comprehensive business continuity and disaster recovery (BCDR) strategy that minimizes the recovery point objective (RPO) and the recovery time objective (RTO).

The customer wants a resilient environment that has a secondary site that is at least 250 kilometers away.

You need to recommend a solution for the customer.

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

NOTE: Each correct selection is worth one point.

- A. warm standby virtual machines in paired regions
- B. Azure Traffic Manager to route incoming traffic
- C. warm standby virtual machines in an Azure Availability Set that uses geo-redundant storage (GRS)
- D. an internal load balancer to route Internet traffic
- E. warm standby virtual machines in Azure Availability Zones

Correct Answer: AC

Section: [none]

Explanation

Explanation/Reference:

Explanation:

A: An Azure Region Pair is a relationship between two Azure Regions within the same geographic region for disaster recovery purposes. If one of the regions were to experience a disaster or failure, then the services in that region will automatically failover to that regions secondary region in the pair.

C: For increased availability, you can deploy two VMs with two HANA instances within an Azure availability set that uses HANA system replication for availability.

References: <https://docs.microsoft.com/en-us/azure/virtual-machines/workloads/sap/sap-hana-availability-one-region>

QUESTION 7 You plan to deploy an SAP environment on Azure that will use Azure Availability Zones.

Which load balancing solution supports the deployment?

- A. Azure Basic Load Balancer
- B. Azure Standard Load Balancer
- C. Azure Application Gateway v1 SKU

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

Explanation:

When you deploy Azure VMs across Availability Zones and establish failover solutions within the same Azure region, some restrictions apply:

- You can't use an Azure Basic Load Balancer to create failover cluster solutions based on Windows Server Failover Clustering or Linux Pacemaker. Instead, you need to use the Azure Standard Load Balancer SKU.

References: <https://docs.microsoft.com/en-us/azure/virtual-machines/workloads/sap/sap-ha-availability-zones>



QUESTION 8 You have an Azure subscription.

Your company has an SAP environment that runs on SUSE Linux Enterprise Server (SLES) servers and SAP HANA. The environment has a primary site and a disaster recovery site. Disaster recovery is based on SAP HANA system replication. The SAP ERP environment is 4 TB and has a projected growth of 5% per month.

The company has an uptime Service Level Agreement (SLA) of 99.99%, a maximum recovery time objective (RTO) of four hours, and a recovery point objective (RPO) of 10 minutes.

You plan to migrate to Azure.

You need to design an SAP landscape for the company.

Which options meet the company's requirements?

- A.
 - Azure virtual machines and SLES for SAP application servers
 - SAP HANA on Azure (Large Instances) that uses SAP HANA system replication for high availability and disaster recovery
- B.
 - ASCS/ERS and SLES clustering that uses the Pacemaker fence agent
 - SAP application servers deployed to an Azure Availability Zone
 - SAP HANA on Azure (Large Instances) that uses SAP HANA system replication for database high availability and disaster recovery
- C.
 - SAP application instances deployed to an Azure Availability Set
 - SAP HANA on Azure (Large Instances) that uses SAP HANA system replication for database high availability and disaster recovery
- D.
 - ASCS/ERS and SLES clustering that uses the Azure fence agent
 - SAP application servers deployed to an Azure Availability Set
 - SAP HANA on Azure (Large Instances) that uses SAP HANA system replication for database high availability and disaster recovery

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

Explanation:

With Availability Zones, Azure offers industry best 99.99% VM uptime SLA.

References: <https://docs.microsoft.com/en-us/azure/traffic-manager/traffic-manager-faqs>



QUESTION 9

DRAG DROP

Your on-premises network contains an Active Directory domain.

You have an SAP environment on Azure that runs on SUSE Linux Enterprise Server (SLES) servers.

You configure the SLES servers to use domain controllers as their NTP servers and their DNS servers.

You need to join the SLES servers to the Active Directory domain.

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

Select and Place:

Actions

Add realm details to /etc/krb5.conf and /etc/samba/smb.conf

Shut down the following services: smbd, nmbd, and winbindd

Run net ads join -U administrator

Run net rpc join -U administrator

Install the samba-winbind package

Answer Area



Correct Answer:

Actions

Add realm details to /etc/krb5.conf and /etc/samba/smb.conf

Shut down the following services: smbd, nmbd, and winbindd

Run net ads join -U administrator

Run net rpc join -U administrator

Install the samba-winbind package



Answer Area



Install the samba-winbind package

Add realm details to /etc/krb5.conf and /etc/samba/smb.conf

Run net ads join -U administrator

Section: [none]
Explanation

Explanation/Reference:

Explanation:

Step 1: Install the samba-winbind package
Install samba-winbind

Step 2: Add realm details to /etc/krb5.conf and /etc/samba/smb.conf
Edit files - best way to do this is to use yast on test machine and copy files from it
In following examples you need to replace EXAMPLE/EXAMPLE.COM/.example.com with your values/settings

```
/etc/samba/smb.conf
[global] workgroup =
EXAMPLE
usershare allow guests = NO #disallow guests from sharing
idmap gid = 10000-20000 idmap uid = 10000-20000
kerberos method = secrets and keytab
realm = EXAMPLE.COM
security = ADS template homedir =
/home/%D/%U template shell =
/bin/bash winbind offline logon =
yes winbind refresh tickets = yes
```

```
/etc/krb5.conf
[libdefaults]
default_realm = EXAMPLE.COM
clockskew = 300 [realms]
EXAMPLE.COM = { kdc =
PDC.EXAMPLE.COM
default_domain =
EXAMPLE.COM
admin_server = PDC.EXAMPLE.COM
}
..
```



Step 3: Run net ads join -U administrator
Join the SLES 12 Server to the AD domain

References:

<https://www.suse.com/support/kb/doc/?id=7018461>

QUESTION 10

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You deploy SAP HANA on Azure (Large Instances).

You need to back up the SAP HANA database to Azure.

Solution: You configure DB13 to back up directly to a local disk.

Does this meet the goal?

- A. Yes
- B. No

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

Explanation:

You need to back up the SAP HANA database to Azure, not to a local disk.

References: <https://docs.microsoft.com/en-us/azure/backup/sap-hana-db-about>

<https://docs.microsoft.com/en-us/azure/backup/backup-azure-sap-hana-database#configure-backup>

Testlet 1**Case Study**

This is a case study. **Case studies are not timed separately. You can use as much exam time as you would like to complete each case.** However, there may be additional case studies and sections on this exam. You must manage your time to ensure that you are able to complete all questions included on this exam in the time provided.

To answer the questions included in a case study, you will need to reference information that is provided in the case study. Case studies might contain exhibits and other resources that provide more information about the scenario that is described in the case study. Each question is independent of the other questions in this case study.

At the end of this case study, a review screen will appear. This screen allows you to review your answers and to make changes before you move to the next section of the exam. After you begin a new section, you cannot return to this section.

To start the case study

To display the first question in this case study, click the **Next** button. Use the buttons in the left pane to explore the content of the case study before you answer the questions. Clicking these buttons displays information such as business requirements, existing environment, and problem statements. If the case study has an **All Information** tab, note that the information displayed is identical to the information displayed on the subsequent tabs. When you are ready to answer a question, click the **Question** button to return to the question. **Overview**

Litware, Inc. is an international manufacturing company that has 3,000 employees.

Litware has two main offices. The offices are located in Miami, FL, and Madrid, Spain.

Existing Environment**Infrastructure**

Litware currently uses a third-party provider to host a datacenter in Miami and a disaster recovery datacenter in Chicago, IL.

The network contains an Active Directory domain named litware.com. Litware has two third-party applications hosted in Azure.

Litware already implemented a site-to-site VPN connection between the on-premises network and Azure.

SAP Environment

Litware currently runs the following SAP products:

- Enhancement Pack6 for SAP ERP Central Component 6.0 (SAP ECC 6.0)
 - SAP Extended Warehouse Management (SAP EWM)
 - SAP Supply Chain Management (SAP SCM)
 - SAP NetWeaver Process Integration (PI)
 - SAP Business Warehouse (SAP BW) ▪
- SAP Solution Manager

All servers run on the Windows Server platform. All databases use Microsoft SQL Server. Currently, you have 20 production servers.

You have 30 non-production servers including five testing servers, five development servers, five quality assurance (QA) servers, and 15 pre-production servers.

Currently, all SAP applications are in the litware.com domain.

Problem Statements

The current version of SAP ECC has a transaction that, when run in batches overnight, takes eight hours to complete. You confirm that upgrading to SAP Business Suite on HANA will improve performance because of code changes and the SAP HANA database platform.

Litware is dissatisfied with the performance of its current hosted infrastructure vendor. Litware experienced several hardware failures and the vendor struggled to adequately support its 24/7 business operations.

Requirements

Business Goals

Litware identifies the following business goals:

- Increase the performance of SAP ECC applications by moving to SAP HANA. All other SAP databases will remain on SQL Server.
- Move away from the current infrastructure vendor to increase the stability and availability of the SAP services.
- Use the new Environment, Health and Safety (EH&S) in Recipe Management function.
- Ensure that any migration activities can be completed within a 48-hour period during a weekend.

Planned Changes

Litware identifies the following planned changes:

- Migrate SAP to Azure.
- Upgrade and migrate SAP ECC to SAP Business Suite on HANA Enhancement Pack 8.

Technical Requirements

Litware identifies the following technical requirements:

- Implement automated backups.
 - Support load testing during the migration.
 - Identify opportunities to reduce costs during the migration.
 - Continue to use the litware.com domain for all SAP landscapes.
 - Ensure that all SAP applications and databases are highly available.
 - Establish an automated monitoring solution to avoid unplanned outages.
 - Remove all SAP components from the on-premises network once the migration is complete.
 - Minimize the purchase of additional SAP licenses. SAP HANA licenses were already purchased.
- Ensure that SAP can provide technical support for all the SAP landscapes deployed to Azure.



QUESTION 1 You need to ensure that you can receive technical support to meet the technical requirements.

What should you deploy to Azure?

- A. SAP Landscape Management (LaMa)
- B. SAP Gateway
- C. SAP Web Dispatcher
- D. SAPRouter

Correct Answer: A

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Scenario: Ensure that SAP can provide technical support for all the SAP landscapes deployed to Azure.

References: <https://blogs.sap.com/2019/07/22/sap-landscape-management-on-microsoft-azure-part-1/>

QUESTION 2

HOTSPOT

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
After the migration, all user authentication to the SAP applications must be handled by Azure Active Directory (Azure AD).	<input type="radio"/>	<input type="radio"/>
The migration requires that the on-premises Active Directory domain syncs to Azure Active Directory (Azure AD).	<input type="radio"/>	<input type="radio"/>
After the migration users will be able to authenticate to the SAP applications by using their existing credentials in litware.com.	<input type="radio"/>	<input type="radio"/>

Correct Answer:

Answer Area

Statements	Yes	No
After the migration, all user authentication to the SAP applications must be handled by Azure Active Directory (Azure AD).	<input checked="" type="radio"/>	<input type="radio"/>
The migration requires that the on-premises Active Directory domain syncs to Azure Active Directory (Azure AD).	<input checked="" type="radio"/>	<input type="radio"/>
After the migration users will be able to authenticate to the SAP applications by using their existing credentials in litware.com.	<input checked="" type="radio"/>	<input type="radio"/>

Section: [none]

Explanation

Explanation/Reference:

Explanation:

In a Hybrid-IT scenario, Active Directory from on-premises can be extended to serve as the authentication mechanism through an Azure deployed domain controller (as well as potentially using the integrated DNS).

It is important to distinguish between traditional Active Directory Servers and Microsoft Azure Active Directory that provides only a subset of the traditional on-premises AD offering. This subset include Identity and Access Management, but does not have the full AD schema or services that many 3rd party application take advantage of. While Azure Active Directory IS a requirement to establish authentication for the Azure virtual machines in use, and it can synchronize users with customers' on-premises AD, the two are explicitly different and customers will likely continue to require full Active Directory servers deployed in Microsoft Azure.

References:

https://www.suse.com/media/guide/sap_hana_on_azure_101.pdf

QUESTION 3

You need to recommend a solution to reduce the cost of the SAP non-production landscapes after the migration.

What should you include in the recommendation?

- A. Configure scaling of Azure App Service
- B. Migrate the SQL Server databases to Azure SQL Data Warehouse
- C. Deallocate virtual machines when not in use
- D. Deploy non-production landscapes to Azure DevTest Labs

Correct Answer: D

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Relevant use cases Dev/test environments for SAP workloads on Azure.

Noncritical SAP nonproduction workloads (such sandbox, development, test, and quality assurance).

Noncritical SAP business workloads.

References: <https://docs.microsoft.com/en-us/azure/architecture/example-scenario/apps/sap-dev-test>

Testlet 2

Case Study

This is a case study. **Case studies are not timed separately. You can use as much exam time as you would like to complete each case.** However, there may be additional case studies and sections on this exam. You must manage your time to ensure that you are able to complete all questions included on this exam in the time provided.

To answer the questions included in a case study, you will need to reference information that is provided in the case study. Case studies might contain exhibits and other resources that provide more information about the scenario that is described in the case study. Each question is independent of the other questions in this case study.

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Contoso, Ltd. is a manufacturing company that has 15,000 employees.

The company uses SAP for sales and manufacturing.

Contoso has sales offices in New York and London and manufacturing facilities in Boston and Seattle.

Existing Environment

Active Directory

The network contains an on-premises Active Directory domain named ad.contoso.com. User email addresses use a domain name of contoso.com. **SAP**

Environment

The current SAP environment contains the following components:

- SAP Solution Manager
- SAP ERP Central Component (SAP ECC)
- SAP Supply Chain Management (SAP SCM)
- SAP application servers that run Windows Server 2008 R2
- SAP HANA database servers that run SUSE Linux Enterprise Server 12 (SLES 12) **Problem**



Statements

Contoso identifies the following issues in its current environment:

- The SAP HANA environment lacks adequate resources.
 - The Windows servers are nearing the end of support. ▪
- The datacenters are at maximum capacity.

Requirements

Planned Changes

Contoso identifies the following planned changes:

- Deploy Azure Virtual WAN.
- Migrate the application servers to Windows Server 2016.
- Deploy ExpressRoute connections to all of the offices and manufacturing facilities.
- Deploy SAP landscapes to Azure for development, quality assurance, and production.

All resources for the production landscape will be in a resource group named SAPProduction.

Business goals

Contoso identifies the following business goals:

- Minimize costs whenever possible.
- Migrate SAP to Azure without causing downtime.
- Ensure that all SAP deployments to Azure are supported by SAP.
- Ensure that all the production databases can withstand the failure of an Azure region.
- Ensure that all the production application servers can restore daily backups from the last 21 days. **Technical**

Requirements

Contoso identifies the following technical requirements:

- Inspect all web queries.
- Deploy an SAP HANA cluster to two datacenters.
- Minimize the bandwidth used for database synchronization.
- Use Active Directory accounts to administer Azure resources.
- Ensure that each production application server has four 1-TB data disks.
- Ensure that an application server can be restored from a backup created during the last five days within 15 minutes.
- Implement an approval process to ensure that an SAP administrator is notified before another administrator attempts to make changes to the Azure virtual machines that host SAP.

It is estimated that during the migration, the bandwidth required between Azure and the New York office will be 1 Gbps. After the migration, a traffic burst of up to 3 Gbps will occur. **Proposed**

Backup Policy

An Azure administrator proposes the backup policy shown in the following exhibit.



* Policy name 

SapPolicy 

Backup schedule

* Frequency * Time * Timezone

Daily 3:30 AM (UTC) Coordinated Universal Time

Instant Restore 

Retain instant recovery snapshot(s) for

5  Day(s)

Retention range

Retention of daily backup point.

* At For

3:30 AM 14  Day(s)

Retention of weekly backup point.

* On * At For

Sunday 3:30 AM 8  Week(s)

Retention of monthly backup point.

Week Based Day Based

* On * Day * At For

First Sunday 3:30 AM 12  Month(s)

Retention of yearly backup point.

Week Based Day Based

* In * On * Day * At For

January First Sunday 3:30 AM 7  Year(s)



Azure Resource Manager Template

An Azure administrator provides you with the Azure Resource Manager template that will be used to provision the production application servers.

```
{
  "apiVersion": "2017-03-30",
  "type": "Microsoft.Compute/virtualMachines",
  "name": "[parameters('vmname')]",

  "location": "EastUS",
  "dependsOn": [
    "[resourceId('Microsoft.Network/networkInterfaces/', parameters('vmname'))]"
  ],
  "properties": {
    "hardwareProfile": {
      "vmSize": "[parameters('vmSize')]"
    },
    "osProfile": {
      "computerName": "[parameters('vmname')]",
      "adminUsername": "[parameters('adminUsername')]",
      "adminPassword": "[parameters('adminPassword')]"
    },
    "storageProfile": {
      "imageReference": {
        "publisher": "MicrosoftWindowsServer",
        "offer": "WindowsServer",
        "sku": "2016-datacenter",
        "version": "latest"
      },
      "osDisk": {
        "name": "[concat(parameters('vmname'), '-OS')]",
        "caching": "ReadWrite",
        "createOption": "FromImage",
        "diskSizeGB": 128,
        "managedDisk": {
          "storageAccountType": "[parameters('storageAccountType')]"
        }
      }
    },
    "copy": [
      {
        "name": "DataDisks",
        "count": "[parameters('diskCount')]",
        "input": {
          "caching": "None",
          "diskSizeGB": 1024,
          "lun": "[copyIndex('datadisks')]"
        }
      }
    ]
  }
}
```



```
    "name": "[concat(parameters('vmname'), '-DD', copyIndex('datadisks'))]",  
    "createOption": "Empty"  
  }  
]  
],  
"networkProfile": {  
  "networkInterfaces": [  
    {  
      "id": "[resourceId('Microsoft.Network/networkInterfaces', parameters('vmName'))]"  
    }  
  ]  
}  
],  
"resources": [  
  {  
    "apiVersion": "2017-03-30"  
    "type": "Microsoft.Compute/virtualMachines/extensions",  
    "name": "[concat(parameters('VMName'), '/joindomain')]",  
    "location": "eastus",  
    "properties": {  
      "publisher": "Microsoft.Compute",  
      "type": "JsonADDomainExtension",  
      "typeHandlerVersion": "1.3",  
      "autoUpgradeMinorVersion": true,  
      "settings": {  
        "Name": "[parameters('domainName')]",  
        "User": "[parameters('domainusername')]",  
        "Restart": "true",  
        "Options": "3"  
      },  
      "protectedsettings": {  
        "Password": "[parameters('domainPassword')]"  
      }  
    }  
  }  
]  
]
```



QUESTION 1 This question requires that you evaluate the underlined text to determine if it is correct.

You are planning for the administration of resources in Azure.

To meet the technical requirements, you must first implement Active Directory Federation Services (AD FS).

Instructions: Review the underlined text. If it makes the statement correct, select "No change is needed". If the statement is incorrect, select the answer choice that makes the statement correct.

- A. No change is needed
- B. Azure AD Connect
- C. Azure AD join
- D. Enterprise State Roaming

Correct Answer: A

Section: [none]

Explanation

Explanation/Reference:

Explanation:

The SAP Cloud Platform Identity Authentication and Active Directory Federation Services enable you to implement SSO across applications or services that are protected by Azure AD (as an IdP) with SAP applications and services that are protected by SAP Cloud Platform Identity Authentication.

Scenario: Use Active Directory accounts to administer Azure resources.

Incorrect Answers:

Not D: With Windows 10, Azure Active Directory (Azure AD) users gain the ability to securely synchronize their user settings and application settings data to the cloud. Enterprise State Roaming provides users with a unified experience across their Windows devices and reduces the time needed for configuring a new device. Enterprise State Roaming operates similar to the standard consumer settings sync that was first introduced in Windows 8.

References: <https://docs.microsoft.com/en-us/azure/active-directory/saas-apps/sap-hana-cloud-platform-identity-authentication-tutorial>

QUESTION 2

HOTSPOT

Before putting the SAP environment on Azure into production, which command should you run to ensure that the virtual machine disks meet the business requirements? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

Get-AzDisk
Get-AzVM
Get-AzVMImage

`-resourcegroupname "SAPProduction" | Where {$_.Sku.Name -ne "`

Premium_LRS
Standard_LRS
Standard_RAGRS
StandardsSSD_LRS

Correct Answer:

Answer Area

Get-AzDisk
Get-AzVM
Get-AzVMImage

`-resourcegroupname "SAPProduction" | Where {$_.Sku.Name -ne "`

Premium_LRS
Standard_LRS
Standard_RAGRS
StandardsSSD_LRS

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Scenario: Ensure that all the production databases can withstand the failure of an Azure region.

References: <https://docs.microsoft.com/en-us/powershell/module/az.compute/get-azvmimage>

QUESTION 3 HOTSPOT

You need to provide the Azure administrator with the values to complete the Azure Resource Manager template.

Which values should you provide for `diskCount`, `StorageAccountType`, and `domainName`? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

diskCount:

storageAccountType:

domainName:

Correct Answer:

Answer Area

diskCount:

storageAccountType:

domainName:

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Box 1: 4

Scenario: the Azure Resource Manager template that will be used to provision the production application servers. Ensure that each production application server has four 1-TB data disks.

Box 2: Standard_LRS

Scenario: Minimize costs whenever possible.

Box 3: contoso.onmicrosoft.com

The network contains an on-premises Active Directory domain named ad.contoso.com.

The Initial domain: The default domain (onmicrosoft.com) in the Azure AD Tenant. For example, contoso.onmicrosoft.com.

References: <https://docs.microsoft.com/en-us/azure/active-directory/hybrid/plan-connect-userprincipalname> **Question Set 3**

QUESTION 1

DRAG DROP

You have a large and complex SAP environment on Azure.

You are designing a training landscape that will be used 10 times a year.

You need to recommend a solution to create the training landscape. The solution must meet the following requirements:

- Minimize the effort to build the training landscape. ▪
- Minimize costs.

In which order should you recommend the actions be performed for the first training session? To answer, move all actions from the list of actions to the answer area and arrange them in the correct order.

Select and Place:

Actions

Build the training landscape

Create a custom image by using the snapshot

Deliver the training

Take a snapshot of the virtual machine disks

Shut down and delete the virtual machines

Answer Area







Correct Answer:

Actions

Build the training landscape

Create a custom image by using the snapshot

Deliver the training

Take a snapshot of the virtual machine disks

Shut down and delete the virtual machines

Answer Area

Build the training landscape

Deliver the training

Take a snapshot of the virtual machine disks

Create a custom image by using the snapshot

Shut down and delete the virtual machines

Section: [none]
Explanation

Explanation/Reference:

References: <https://docs.microsoft.com/en-us/azure/virtual-machines/workloads/sap/planning-guide>

QUESTION 2 You plan to deploy an SAP environment on Azure.

During a bandwidth assessment, you identify that connectivity between Azure and an on-premises datacenter requires up to 5 Gbps.

You need to identify which connectivity method you must implement to meet the bandwidth requirement. The solution must minimize costs.

Which connectivity method should you identify?

- A. an ExpressRoute connection
- B. an Azure site-to-site VPN that is route-based
- C. an Azure site-to-site VPN that is policy-based
- D. Global VNet peering

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

Explanation:
Azure site-to-site VPN is cheaper.

Incorrect Answers:

A: ExpressRoute could be quite expensive.

C: Policy-based gateways use static routing, and only work with site-to-site connections.

References: <https://docs.microsoft.com/en-us/azure/architecture/reference-architectures/hybrid-networking/vpn>



QUESTION 3

You plan to migrate an SAP environment to Azure.

You need to create a design to facilitate end-user access to SAP applications over the Internet, while restricting user access to the virtual machines of the SAP application servers.

What should you include in the design?

- A. Configure a public IP address for each SAP application server
- B. Deploy an internal Azure Standard Load Balancer for incoming connections
- C. Use an SAP Web Dispatcher to route all incoming connections
- D. Configure point-to-site VPN connections for each user

Correct Answer: C

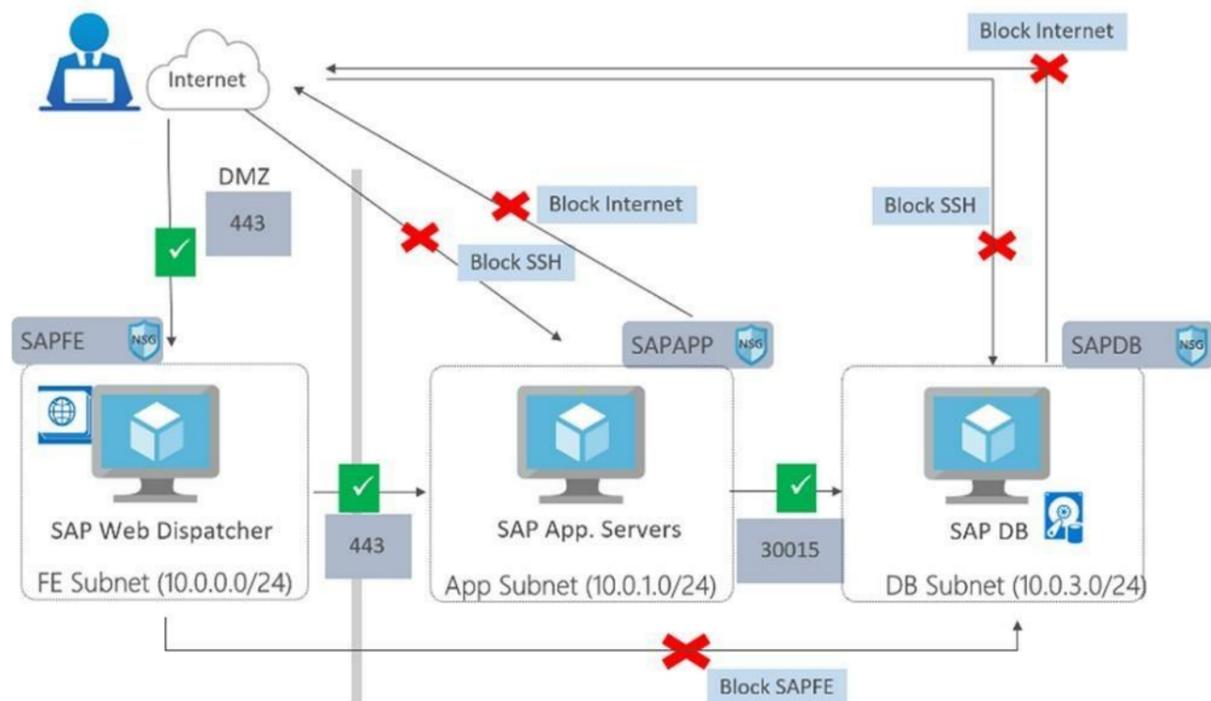
Section: [none]

Explanation

Explanation/Reference:

Explanation:

1. A public internet user can reach the SAP Web-Dispatcher over port 443
2. The SAP Web-Dispatcher can reach the SAP Application server over port 443
3. The App Subnet accepts traffic on port 443 from 10.0.0.0/24
4. The SAP Application server sends traffic on port 30015 to the SAP DB server
5. The DB subnet accepts traffic on port 30015 from 10.0.1.0/24.
6. Public Internet Access is blocked on both App Subnet and DB Subnet.



References: <https://azure.microsoft.com/en-in/blog/sap-on-azure-architecture-designing-for-security/>

QUESTION 4 You have an Azure subscription.

You deploy Active Directory domain controllers to Azure virtual machines.

You plan to deploy Azure for SAP workloads.

You plan to segregate the domain controllers from the SAP systems by using different virtual networks.

You need to recommend a solution to connect the virtual networks. The solution must minimize costs.

What should you recommend?

- A. a site-to-site VPN
- B. virtual network peering
- C. user-defined routing
- D. ExpressRoute

Correct Answer: C

Section: [none]

Explanation

Explanation/Reference:

Explanation:

You can create custom, or user-defined, routes in Azure to override Azure's default system routes, or to add additional routes to a subnet's route table. In Azure, you create a route table, then associate the route table to zero or more virtual network subnets.

Incorrect Answers:

D: ExpressRoute is a costly solution.

QUESTION 5 You deploy an SAP environment on Azure.

Your company has a Service Level Agreement (SLA) of 99.99% for SAP.

You implement Azure Availability Zones that have the following components:

- Redundant SAP application servers
- ASCS/ERS instances that use a failover cluster
- Database high availability that has a primary instance and a secondary instance

You need to validate the high availability configuration of the ASCS/ERS cluster.

What should you use?

- A. SAP Web Dispatcher
- B. Azure Traffic Manager
- C. SAPControl
- D. SAP Solution Manager

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Incorrect Answers:

C: You can use SAPControl to start or stop an SAP system from the command line.

References: <https://docs.microsoft.com/en-us/azure/architecture/reference-architectures/sap/sap-netweaver>

QUESTION 6

DRAG DROP



You are validating an SAP HANA on Azure (Large Instances) deployment.

You need to ensure that `sapconf` is installed and the kernel parameters are set appropriately for the active profile.

How should you complete the commands? To answer, drag the appropriate values to the correct targets. Each value 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:

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Box 1: `sapconf`

The configuration is split into two parts:

`/etc/sysconfig/sapconf`

`/usr/lib/tuned/tuned.conf`

Box 2: `tuned`

References: <https://www.suse.com/c/sapconf-a-way-to-prepare-a-sles-system-for-sap-workload-part-2/>

QUESTION 7 You are deploying an SAP environment on Azure that will use an SAP HANA database server.

You provision an Azure virtual machine for SAP HANA by using the M64s virtual machine SKU.

You need to set the swap space by using the Microsoft Azure Linux Agent (waagent) configuration file.

Which two settings should you configure? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

- A. `ResourceDisk.EnableSwapEncryption=n`
- B. `AutoUpdate.Enabled=n`
- C. `ResourceDisk.SwapSizeMB=229376`
- D. `ResourceDisk.EnableSwap=y`

Correct Answer: CD

Section: [none]

Explanation

Explanation/Reference:

Explanation:

To create a swap file in the directory that's defined by the `ResourceDisk.MountPoint` parameter, you can update the `/etc/waagent.conf` file by setting the following three parameters: `ResourceDisk.Format=y`

`ResourceDisk.EnableSwap=y`

`ResourceDisk.SwapSizeMB=xx`

References: <https://support.microsoft.com/en-us/help/4010058/how-to-add-a-swap-file-in-linux-azure-virtual-machines>

QUESTION 8 HOTSPOT

You have the following Azure Resource Manager template.



```

{
  "$schema": "https://schema.management.azure.com/schemas/2015-01-01/deploymentTemplate.json#",
  "contentVersion": "1.0.0.0",
  "parameters": {},
  "resources": [
    {
      "apiVersion": "2016-01-01",
      "type": "Microsoft.Storage/storageAccounts",
      "name": "[concat(copyIndex(), 'storage', uniqueString(resourceGroup().id))]",
      "location": "[resourceGroup().location]",
      "sku": {
        "name": "Premium_LRS"
      },
      "kind": "Storage",
      "properties": {},
      "copy": {
        "name": "storagecopy",
        "count": 6,
        "mode": "Serial",
        "batchSize": 1
      }
    }
  ]
}

```



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
Six storage accounts will be created.	<input type="radio"/>	<input type="radio"/>
The storage accounts will be created in parallel.	<input type="radio"/>	<input type="radio"/>
The storage accounts will be replicated to multiple regions.	<input type="radio"/>	<input type="radio"/>

Correct Answer:

Answer Area

Statements	Yes	No
Six storage accounts will be created.	<input checked="" type="radio"/>	<input type="radio"/>
The storage accounts will be created in parallel.	<input type="radio"/>	<input checked="" type="radio"/>
The storage accounts will be replicated to multiple regions.	<input checked="" type="radio"/>	<input type="radio"/>

Section: [none]
Explanation

Explanation/Reference:

Explanation:

Box 1: Yes
Count is 6.

Box 2: No
Mode is serial.

Box 3: Yes

References: <https://docs.microsoft.com/en-us/azure/azure-resource-manager/templates/copy-resources>



QUESTION 9 You plan to deploy an SAP environment on Azure.

You plan to store all SAP connection strings securely in Azure Key Vault without storing credentials on the Azure virtual machines that host SAP.

What should you configure to allow the virtual machines to access the key vault?

- A. Azure Active Directory (Azure AD) Privilege Identity Manager (PIM)
- B. role-based access control (RBAC)
- C. a Managed Service Identity (MSI)
- D. the Custom Script Extension

Correct Answer: C

Section: [none]

Explanation

Explanation/Reference:

Explanation:

To reference a credential stored in Azure Key Vault, you need to:

1. Retrieve data factory managed identity
2. Grant the managed identity access to your Azure Key Vault
3. Create a linked service pointing to your Azure Key Vault.
4. Create data store linked service, inside which reference the corresponding secret stored in key vault.

References: <https://docs.microsoft.com/bs-latn-ba/azure/data-factory/store-credentials-in-key-vault>

QUESTION 10
HOTSPOT

You deploy SAP HANA by using SAP HANA on Azure (Large Instances).

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
You can use SAP HANA Studio to monitor CPU, memory, network, and storage usage for SAP HANA on Azure (Large Instances).	<input type="radio"/>	<input type="radio"/>
Azure Enhanced Monitoring is required to monitor the performance of SAP HANA on Azure (Large Instances).	<input type="radio"/>	<input type="radio"/>
You can use the SAP HANA HW Configuration Check Tool (HWCCT) to monitor SAP HANA running on SAP HANA on Azure (Large Instances).	<input type="radio"/>	<input type="radio"/>



Correct Answer:

Answer Area

Statements	Yes	No
You can use SAP HANA Studio to monitor CPU, memory, network, and storage usage for SAP HANA on Azure (Large Instances).	<input type="radio"/>	<input checked="" type="radio"/>
Azure Enhanced Monitoring is required to monitor the performance of SAP HANA on Azure (Large Instances).	<input checked="" type="radio"/>	<input type="radio"/>
You can use the SAP HANA HW Configuration Check Tool (HWCCT) to monitor SAP HANA running on SAP HANA on Azure (Large Instances).	<input type="radio"/>	<input checked="" type="radio"/>

Section: [none]
Explanation

Explanation/Reference:
Explanation:

Box 1: No

Box 2: Yes

The SAP Azure Enhanced Monitoring Extension allows for collecting diagnostic data including OS and Application performance counters from Azure VMs running SAP workloads. Box

3: No

References: <http://www.deployazure.com/compute/virtual-machines/sap-azure-enhanced-monitoring-extension/>

QUESTION 11 You plan to deploy SAP application servers that run Windows Server 2016.

You need to use PowerShell Desired State Configuration (DSC) to configure the SAP application server once the servers are deployed.

Which Azure virtual machine extension should you install on the servers?

- A. the Azure DSC VM Extension
- B. the Azure virtual machine extension
- C. the Azure Chef extension
- D. the Azure Enhanced Monitoring Extension for SAP

Correct Answer: A

Section: [none]

Explanation

Explanation/Reference:

Explanation:

The Azure Desired State Configuration (DSC) VM Extension is updated as-needed to support enhancements and new capabilities delivered by Azure, Windows Server, and the Windows Management Framework (WMF) that includes Windows PowerShell.

References: <https://docs.microsoft.com/en-us/powershell/scripting/dsc/getting-started/azuredscexthistory>



QUESTION 12

You deploy an SAP environment on Azure by following the SAP workload on Azure planning and deployment checklist.

You need to verify whether Azure Diagnostics is enabled.

Which cmdlet should you run?

- A. Get-AzureVMAvailableExtension
- B. Get-AzVmDiagnosticsExtension
- C. Test-AzDeployment
- D. Test-VMConfigForSAP

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

Explanation:

The Get-AzVMDiagnosticsExtension cmdlet gets the settings of the Azure Diagnostics extension on a virtual machine.

Incorrect Answers:

D: You can check the configuration of a virtual machine by calling the Test-VMConfigForSAP_GUI commandlet.

References: <https://docs.microsoft.com/en-us/powershell/module/az.compute/get-azvmdiagnosticsextension>

QUESTION 13

DRAG DROP

You need to connect SAP HANA on Azure (Large Instances) to an Azure Log Analytics workspace.

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

Select and Place:

Actions

- Install the Azure Enhanced Monitoring Extension for SAP on SAP HANA on Azure (Large Instances).
- On the gateway, run Import-Module OMSGateway and Add-OMSGatewayAllowedHost.
- Configure a Log Analytics gateway on the virtual network that has connectivity to the SAP HANA on Azure (Large Instances) instance.
- Install the Log Analytics client on the SAP HANA on Azure (Large Instances) instance.
- Configure a Log Analytics gateway server as a proxy for the Log Analytics client on SAP HANA on Azure (Large Instances).

Answer Area



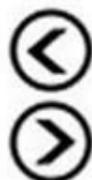
Correct Answer:

Actions

- Install the Azure Enhanced Monitoring Extension for SAP on SAP HANA on Azure (Large Instances).
- On the gateway, run Import-Module OMSGateway and Add-OMSGatewayAllowedHost.
- Configure a Log Analytics gateway on the virtual network that has connectivity to the SAP HANA on Azure (Large Instances) instance.
- Install the Log Analytics client on the SAP HANA on Azure (Large Instances) instance.
- Configure a Log Analytics gateway server as a proxy for the Log Analytics client on SAP HANA on Azure (Large Instances).

Answer Area

- Install the Azure Enhanced Monitoring Extension for SAP on SAP HANA on Azure (Large Instances).
- Install the Log Analytics client on the SAP HANA on Azure (Large Instances) instance.
- Configure a Log Analytics gateway on the virtual network that has connectivity to the SAP HANA on Azure (Large Instances) instance.
- On the gateway, run Import-Module OMSGateway and Add-OMSGatewayAllowedHost.



Section: [none]
Explanation

Explanation/Reference:
Explanation:

Step 1: Install the Azure Enhanced Monitoring.

The SAP Azure Enhanced Monitoring Extension allows for collecting diagnostic data including OS and Application performance counters from Azure VMs running SAP workloads.

Step 2: Install the Log Analytics client on the SAP HANA on Azure (Large Instances) instance.

Step 3: Configure a Log Analytics gateway on the virtual network.

Step 4: On the gateway, run.

References: <http://www.deployazure.com/compute/virtual-machines/sap-azure-enhanced-monitoring-extension/> <https://docs.microsoft.com/en-us/azure/azure-monitor/platform/gateway>

QUESTION 14
HOTSPOT

You are planning the Azure network infrastructure for an SAP environment.

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
You can segregate the SAP application layer and the DBMS layer into different virtual networks that are peered by using Global Vnet peering.	<input type="radio"/>	<input type="radio"/>
You can segregate the SAP application layer and the DBMS layer into different subnets in the same virtual network.	<input type="radio"/>	<input type="radio"/>
If you segregate the SAP application layer and the DBMS layer into different peered virtual networks, you will incur costs for the data transferred between the virtual networks.	<input type="radio"/>	<input type="radio"/>

Correct Answer:

Answer Area

Statements	Yes	No
You can segregate the SAP application layer and the DBMS layer into different virtual networks that are peered by using Global Vnet peering.	<input checked="" type="radio"/>	<input type="radio"/>
You can segregate the SAP application layer and the DBMS layer into different subnets in the same virtual network.	<input type="radio"/>	<input checked="" type="radio"/>
If you segregate the SAP application layer and the DBMS layer into different peered virtual networks, you will incur costs for the data transferred between the virtual networks.	<input checked="" type="radio"/>	<input type="radio"/>

Section: [none]
Explanation

Explanation/Reference:
Explanation:

Box 1: Yes

Box 2: No

A design that's not supported is the segregation of the SAP application layer and the DBMS layer into different Azure virtual networks that aren't peered with each other. We recommend that you segregate the SAP application layer and DBMS layer by using subnets within an Azure virtual network instead of by using different Azure virtual networks.

Box 3: Yes

Be aware that network traffic between two peered Azure virtual networks is subject to transfer costs. Huge data volume that consists of many terabytes is exchanged between the SAP application layer and the DBMS layer. You can accumulate substantial costs if the SAP application layer and DBMS layer are segregated between two peered Azure virtual networks.

References: https://docs.microsoft.com/en-us/azure/virtual-machines/workloads/sap/dbms_guide_general

QUESTION 15

DRAG DROP

You plan to deploy multiple SAP HANA virtual machines to Azure by using an Azure Resource Manager template.

How should you configure Accelerated Networking and Write Accelerator in the template? To answer, drag the appropriate values to the correct targets. Each value 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:



Values

-
-
-

Answer Area

```

{
  "apiVersion": "2017-06-01",
  "type": "Microsoft.Network/networkInterfaces",
  "name": "[concat(parameters('vmName'), '-static')]",
  "location": "[resourceGroup().location]",
  "properties": {
    "enableAcceleratedNetworking": ,
    "ipConfigurations": [
      {
        "name": "ipconfig1",
        "properties": {
          "privateIPAllocationMethod": "Static",
          "privateIPAddress": "[parameters('StaticIP')]",
          "subnet": {
            "id": "[variables('subnetRef')]"
          }
        }
      }
    ]
  }
},
{
  "apiVersion": "2014-12-01",
  "type": "Microsoft.Compute/virtualMachines",
  "name": "[parameters('vmName')]",
  "location": "[resourceGroup().location]",
  "dependsOn": [
  ],
  "properties": {
    "availabilitySet": {
      "id": "[resourceId('Microsoft.Compute/availabilitySets',parameters('AvailSetName'))]"
    },
    "hardwareProfile": {
      "vmSize": "Standard_M64ms"
    },
    "osProfile": {
      "computerName": "[parameters('vmName')]",
      "adminUsername": "[parameters('vmUserName')]",
      "adminPassword": "[parameters('vmPassword')]"
    },
    "storageProfile": {
      "imageReference": {
        "publisher": "RedHat",
        "offer": "RHEL-SAP-HANA",
        "sku": "7.2",
        "version": "latest"
      },
      "osDisk": {
        "createOption": "FromImage"
      },
      "dataDisks": [
        {
          "lun": 7,
          "name": "[concat(parameters('vmName'), '-log')]",
          "createOption": "Empty",
          "writeAcceleratorEnabled": ,
          "diskSizeGB": 2048,
          "managedDisk": {
            "storageAccountType": "Premium_LRS"
          }
        }
      ]
    }
  }
},
{
  "networkProfile": {
    "networkInterfaces": [
      {
        "id": "[resourceId('Microsoft.Network/networkInterfaces',concat(parameters('vmName'), '-static'))]"
      }
    ]
  }
}
}

```

Correct Answer:



Values

,
,
,

Answer Area

```

{
  "apiVersion": "2017-06-01",
  "type": "Microsoft.Network/networkInterfaces",
  "name": "[concat(parameters('vmName'), '-static')]",
  "location": "[resourceGroup().location]",
  "properties": {
    "enableAcceleratedNetworking": "true",
    "ipConfigurations": [
      {
        "name": "ipconfig1",
        "properties": {
          "privateIPAllocationMethod": "Static",
          "privateIPAddress": "[parameters('StaticIP')]",
          "subnet": {
            "id": "[variables('subnetRef')]"
          }
        }
      }
    ]
  }
},
{
  "apiVersion": "2014-12-01",
  "type": "Microsoft.Compute/virtualMachines",
  "name": "[parameters('vmName')]",
  "location": "[resourceGroup().location]",
  "dependsOn": [
  ],
  "properties": {
    "availabilitySet": {
      "id": "[resourceId('Microsoft.Compute/availabilitySets',parameters('AvailSetName'))]"
    },
    "hardwareProfile": {
      "vmSize": "Standard_M64ms"
    },
    "osProfile": {
      "computerName": "[parameters('vmName')]",
      "adminUsername": "[parameters('vmUserName')]",
      "adminPassword": "[parameters('vmPassword')]"
    },
    "storageProfile": {
      "imageReference": {
        "publisher": "RedHat",
        "offer": "RHEL-SAP-HANA",
        "sku": "7.2",
        "version": "latest"
      },
      "osDisk": {
        "createOption": "FromImage"
      },
      "dataDisks": [
        {
          "lun": 7,
          "name": "[concat(parameters('vmName'), '-log')]",
          "createOption": "Empty",
          "writeAcceleratorEnabled": "true",
          "diskSizeGB": 2048,
          "managedDisk": {
            "storageAccountType": "Premium_LRS"
          }
        }
      ]
    }
  }
},
{
  "networkProfile": {
    "networkInterfaces": [
      {
        "id": "[resourceId('Microsoft.Network/networkInterfaces',concat(parameters('vmName'), '-static'))]"
      }
    ]
  }
}
}

```

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Box 1: true enableAcceleratedNetworking: If the network interface is accelerated networking enabled.

To further reduce network latency between Azure VMs, we [Microsoft] recommend that you choose Azure Accelerated Networking. Use it when you deploy Azure VMs for an SAP workload, especially for the SAP application layer and the SAP DBMS layer.

Box 2: true

Write Accelerator should be used for the volumes that contain the transaction log or redo logs of a DBMS. It is not recommended to use Write Accelerator for the data volumes of a DBMS as the feature has been optimized to be used against log disks.

References: https://docs.microsoft.com/en-us/azure/virtual-machines/workloads/sap/dbms_guide_general

QUESTION 16 This question requires that you evaluate the underlined text to determine if it is correct.

You have an Azure resource group that contains the virtual machines for an SAP environment.

You must be assigned the Contributor role to grant permissions to the resource group.

Instructions: Review the underlined text. If it makes the statement correct, select "No change is needed". If the statement is incorrect, select the answer choice that makes the statement correct.

- A. No change is needed
- B. User Access Administrator
- C. Managed Identity Contributor
- D. Security Admin



Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Contributor - Can create and manage all types of Azure resources but can't grant access to others.

User Access Administrator - Lets you manage user access to Azure resources.

References: <https://docs.microsoft.com/en-us/azure/role-based-access-control/overview>

QUESTION 17

HOTSPOT

Your on-premises network contains SAP and non-SAP applications.

You have JAVA-based SAP systems that use SPNEGO for single-sign on (SSO) authentication.

Your external portal uses multi-factor authentication (MFA) to authenticate users.

You plan to extend the on-premises authentication features to Azure and to migrate the SAP applications to Azure.

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
Azure Active Directory (Azure AD) pass-through authentication can be used to enable MFA for on-premises users.	<input type="radio"/>	<input type="radio"/>
Azure Active Directory (Azure AD) password hash synchronization ensures that users can use on their on-premise credentials to authenticate to ABAP-based SAP systems on Azure.	<input type="radio"/>	<input type="radio"/>
Active Directory Federation Services (AD FS) can be used to enable MFA for on-premises users.	<input type="radio"/>	<input type="radio"/>

Correct Answer:

Answer Area

Statements	Yes	No
Azure Active Directory (Azure AD) pass-through authentication can be used to enable MFA for on-premises users.	<input type="radio"/>	<input checked="" type="radio"/>
Azure Active Directory (Azure AD) password hash synchronization ensures that users can use on their on-premise credentials to authenticate to ABAP-based SAP systems on Azure.	<input checked="" type="radio"/>	<input type="radio"/>
Active Directory Federation Services (AD FS) can be used to enable MFA for on-premises users.	<input checked="" type="radio"/>	<input type="radio"/>

Section: [none]
Explanation

Explanation/Reference:
Explanation:

Box 1: No
Need AD FS for MFA. See box 3.

Note: Azure Active Directory (Azure AD) Pass-through Authentication allows your users to sign in to both on-premises and cloud-based applications using the same passwords. This feature is an alternative to Azure AD Password Hash Synchronization (see Box 2).

Box 2: Yes

Password hash synchronization is one of the sign-in methods used to accomplish hybrid identity. Azure AD Connect synchronizes a hash, of the hash, of a users password from an on-premises Active Directory instance to a cloud-based Azure AD instance.

Password hash synchronization is an extension to the directory synchronization feature implemented by Azure AD Connect sync. You can use this feature to sign in to Azure AD services like Office 365. You sign in to the service by using the same password you use to sign in to your on-premises Active Directory instance.

Box 3: Yes
 If your organization is federated with Azure AD, you can use Azure Multi-Factor Authentication to secure AD FS resources, both on-premises and in the cloud. Azure MFA enables you to eliminate passwords and provide a more secure way to authenticate.

References: <https://docs.microsoft.com/en-us/azure/active-directory/hybrid/whatis-phs>
<https://docs.microsoft.com/en-us/windows-server/identity/ad-fs/operations/configure-ad-fs-and-azure-mfa>

QUESTION 18
 HOTSPOT

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
Azure AD Connect is required to sign into Linux virtual machines hosted in Azure.	<input type="radio"/>	<input type="radio"/>
An SAP application server that runs on a Linux virtual machine in Azure must be joined to Active Directory.	<input type="radio"/>	<input type="radio"/>
Before you can sign into an SAP application server that runs on a Linux virtual machine in Azure, you must create a Managed Service Identity (MSI).	<input type="radio"/>	<input type="radio"/>

Correct Answer:

Answer Area

Statements	Yes	No
Azure AD Connect is required to sign into Linux virtual machines hosted in Azure.	<input type="radio"/>	<input checked="" type="radio"/>
An SAP application server that runs on a Linux virtual machine in Azure must be joined to Active Directory.	<input checked="" type="radio"/>	<input type="radio"/>
Before you can sign into an SAP application server that runs on a Linux virtual machine in Azure, you must create a Managed Service Identity (MSI).	<input type="radio"/>	<input checked="" type="radio"/>

Section: [none]
Explanation

Explanation/Reference:

Explanation:

Box 1: No

To log in to a Linux VM with Azure AD credentials, install the Azure Active Directory login VM extension.

Note: Azure AD Connect is the Microsoft tool designed to meet and accomplish your hybrid identity goals.

Box 2: Yes

If you deploy SAP VMs in a cross-premises scenario, where on-premises Active Directory and DNS are extended in Azure, it is expected that the VMs are joining an on-premises domain. Box

3: No

References: <https://docs.microsoft.com/en-us/azure/virtual-machines/workloads/sap/deployment-guide>

QUESTION 19

HOTSPOT

You are integrating SAP HANA and Azure Active Directory (Azure AD).

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
SAP HANA supports SAML authentication for single-sign on (SSO).	<input type="radio"/>	<input type="radio"/>
SAP HANA supports OAuth2 authentication for single-sign on (SSO).	<input type="radio"/>	<input type="radio"/>
You can use Azure role-based access control (RBAC) to provide users with the ability to sign in to SAP HANA.	<input type="radio"/>	<input type="radio"/>

Correct Answer:

Answer Area

Statements	Yes	No
SAP HANA supports SAML authentication for single-sign on (SSO).	<input checked="" type="radio"/>	<input type="radio"/>
SAP HANA supports OAuth2 authentication for single-sign on (SSO).	<input type="radio"/>	<input checked="" type="radio"/>
You can use Azure role-based access control (RBAC) to provide users with the ability to sign in to SAP HANA.	<input type="radio"/>	<input checked="" type="radio"/>

Section: [none]
Explanation

Explanation/Reference:
Explanation:

Box 1: Yes

To configure Azure AD single sign-on with SAP HANA, perform the following steps:

1. In the Azure portal, on the SAP HANA application integration page, select Single sign-on.
2. On the Select a Single sign-on method dialog, select SAML/WS-Fed mode to enable single sign-on.

Select a single sign-on method [Help me decide](#)

 **Disabled**

User must manually enter their username and password.

 **SAML**

Rich and secure authentication to applications using the SAML (Security Assertion Markup Language) protocol.

 **Linked**

Link to an application in the Azure Active Directory Access Panel and/or Office 365 application launcher.

Box 2: No

Box 3: No

Key security considerations for deploying SAP on Azure

References: <https://docs.microsoft.com/en-us/azure/active-directory/saas-apps/saphana-tutorial>



QUESTION 20
HOTSPOT

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
The Azure Enhanced Monitoring Extension for SAP stores performance data in an Azure Storage account.	<input type="radio"/>	<input type="radio"/>
You can enable the Azure Enhanced Monitoring Extension for SAP on a SUSE Linux Enterprise Server 12 (SLES 12) server by running the Set-AzVMAEMExtension cmdlet.	<input type="radio"/>	<input type="radio"/>
You can enable the Azure Enhanced Monitoring Extension for SAP on a server that runs Windows Server 2016 by running the Set-AzVMAEMExtension cmdlet.	<input type="radio"/>	<input type="radio"/>

Correct Answer:

Answer Area

Statements	Yes	No
The Azure Enhanced Monitoring Extension for SAP stores performance data in an Azure Storage account.	<input checked="" type="radio"/>	<input type="radio"/>
You can enable the Azure Enhanced Monitoring Extension for SAP on a SUSE Linux Enterprise Server 12 (SLES 12) server by running the Set-AzVMAEMExtension cmdlet.	<input checked="" type="radio"/>	<input type="radio"/>
You can enable the Azure Enhanced Monitoring Extension for SAP on a server that runs Windows Server 2016 by running the Set-AzVMAEMExtension cmdlet.	<input checked="" type="radio"/>	<input type="radio"/>

Section: [none]
Explanation

Explanation/Reference:
Explanation:

Box 1: Yes
The SAP Azure Enhanced Monitoring Extension builds on top of the Azure Diagnostic extension, which stores its data in an Azure Storage account that you specify.

Box 2: Yes

The Set-AzVMAEMExtension cmdlet updates the configuration of a virtual machine to enable or update the support for monitoring for SAP systems that are installed on the virtual machine. The cmdlet installs the Azure Enhanced Monitoring (AEM) extension that collects the performance data and makes it discoverable for the SAP system. The -OSType specifies the OS. Either Windows or Linux.

Box 3: Yes

References:

<https://docs.microsoft.com/en-us/azure/azure-monitor/platform/diagnostics-extension-overview>

<https://docs.microsoft.com/en-us/powershell/module/az.compute/set-azvmaemextension>



Testlet 1

Case Study

This is a case study. **Case studies are not timed separately. You can use as much exam time as you would like to complete each case.** However, there may be additional case studies and sections on this exam. You must manage your time to ensure that you are able to complete all questions included on this exam in the time provided.

To answer the questions included in a case study, you will need to reference information that is provided in the case study. Case studies might contain exhibits and other resources that provide more information about the scenario that is described in the case study. Each question is independent of the other questions in this case study.

At the end of this case study, a review screen will appear. This screen allows you to review your answers and to make changes before you move to the next section of the exam. After you begin a new section, you cannot return to this section.

To start the case study

To display the first question in this case study, click the **Next** button. Use the buttons in the left pane to explore the content of the case study before you answer the questions. Clicking these buttons displays information such as business requirements, existing environment, and problem statements. If the case study has an **All Information** tab, note that the information displayed is identical to the information displayed on the subsequent tabs. When you are ready to answer a question, click the **Question** button to return to the question. **Overview**

Litware, Inc. is an international manufacturing company that has 3,000 employees.

Litware has two main offices. The offices are located in Miami, FL, and Madrid, Spain.

Existing Environment

Infrastructure

Litware currently uses a third-party provider to host a datacenter in Miami and a disaster recovery datacenter in Chicago, IL.

The network contains an Active Directory domain named litware.com. Litware has two third-party applications hosted in Azure.

Litware already implemented a site-to-site VPN connection between the on-premises network and Azure.



SAP Environment

Litware currently runs the following SAP products:

- Enhancement Pack6 for SAP ERP Central Component 6.0 (SAP ECC 6.0)
 - SAP Extended Warehouse Management (SAP EWM)
 - SAP Supply Chain Management (SAP SCM)
 - SAP NetWeaver Process Integration (PI)
 - SAP Business Warehouse (SAP BW) ▪
- SAP Solution Manager

All servers run on the Windows Server platform. All databases use Microsoft SQL Server. Currently, you have 20 production servers.

You have 30 non-production servers including five testing servers, five development servers, five quality assurance (QA) servers, and 15 pre-production servers.

Currently, all SAP applications are in the litware.com domain.

Problem Statements

The current version of SAP ECC has a transaction that, when run in batches overnight, takes eight hours to complete. You confirm that upgrading to SAP Business Suite on HANA will improve performance because of code changes and the SAP HANA database platform.

Litware is dissatisfied with the performance of its current hosted infrastructure vendor. Litware experienced several hardware failures and the vendor struggled to adequately support its 24/7 business operations.

Requirements

Business Goals

Litware identifies the following business goals:

- Increase the performance of SAP ECC applications by moving to SAP HANA. All other SAP databases will remain on SQL Server.
- Move away from the current infrastructure vendor to increase the stability and availability of the SAP services.
- Use the new Environment, Health and Safety (EH&S) in Recipe Management function.
- Ensure that any migration activities can be completed within a 48-hour period during a weekend.

Planned Changes

Litware identifies the following planned changes:

- Migrate SAP to Azure.
- Upgrade and migrate SAP ECC to SAP Business Suite on HANA Enhancement Pack 8. **Technical**

Requirements

Litware identifies the following technical requirements:

- Implement automated backups.
- Support load testing during the migration.
- Identify opportunities to reduce costs during the migration.
- Continue to use the litware.com domain for all SAP landscapes.
- Ensure that all SAP applications and databases are highly available.
- Establish an automated monitoring solution to avoid unplanned outages.
- Remove all SAP components from the on-premises network once the migration is complete.
- Minimize the purchase of additional SAP licenses. SAP HANA licenses were already purchased.

Ensure that SAP can provide technical support for all the SAP landscapes deployed to Azure.

QUESTION 1 What should you use to perform load testing as part of the migration plan?

- A. JMeter
- B. SAP LoadRunner by Micro Focus
- C. Azure Application Insights
- D. Azure Monitor



Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Scenario: Upgrade and migrate SAP ECC to SAP Business Suite on HANA Enhancement Pack 8.

With the SAP LoadRunner application by Micro Focus, you can accelerate testing and development, reduce slowdowns and expenses, and gain a better understanding of performance issues. Validate software performance, virtualize your network, simulate workloads, benchmark production system performance, and optimize your deployment of SAP HANA software

References:

<https://www.sap.com/products/loadrunner.html> **Question**

Set 2

QUESTION 1

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You deploy SAP HANA on Azure (Large Instances).

You need to back up the SAP HANA database to Azure.

Solution: You use a third-party tool that uses `backint` to back up the SAP HANA database to Azure storage.

Does this meet the goal?

- A. Yes
- B. No

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

References: <https://docs.microsoft.com/en-us/azure/backup/sap-hana-db-about>

<https://docs.microsoft.com/en-us/azure/backup/backup-azure-sap-hana-database#configure-backup>

QUESTION 2

DRAG DROP

You have an SAP environment on Azure.

You use Azure Site Recovery to protect an SAP production landscape.

You need to validate whether you can recover the landscape in the event of a failure. The solution must minimize the impact on the landscape.

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

Select and Place:



Actions

- Validate the SAP production landscape
- Create a virtual network that has the same subnets as the SAP production landscape
- Create a network security group (NSG) that restricts traffic to the primary region
- Shut down production virtual machines
- Select **Test failover** from the Recovery Plans blade
- Add a public IP address to a management server in the disaster recovery region

Answer Area



Correct Answer:

Actions

- Validate the SAP production landscape
- Create a virtual network that has the same subnets as the SAP production landscape
- Create a network security group (NSG) that restricts traffic to the primary region
- Shut down production virtual machines
- Select **Test failover** from the Recovery Plans blade
- Add a public IP address to a management server in the disaster recovery region

Answer Area

- 


- Create a virtual network that has the same subnets as the SAP production landscape
 - Add a public IP address to a management server in the disaster recovery region
 - Shut down production virtual machines
 - Select **Test failover** from the Recovery Plans blade






Section: [none]

Explanation

Explanation/Reference:

Explanation:

Step 1: Create a virtual network...

We recommended that for test failover, you choose a network that's isolated from the production recovery site network specific in the Compute and Network settings for each VM. By default, when you create an Azure virtual network, it is isolated from other networks. The test network should mimic your production network:

The test network should have same number of subnets as your production network. Subnets should have the same names.
The test network should use the same IP address range.

Step 2: Add a public IP address...

Because Site Recovery does not replicate the cloud witness, we recommend that you deploy the cloud witness in the disaster recovery region.

Step 3: Shut down production virtual machines

Make sure that the primary VM is shut down when you run the test failover. Otherwise there will be two VMs with the same identity, running in the same network at the same time. This can lead to unexpected consequences. Step

4: Select Test failover from the Recovery Plans blade

References:

<https://docs.microsoft.com/en-us/azure/site-recovery/site-recovery-test-failover-to-azure>

Testlet 1

Case Study

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Contoso, Ltd. is a manufacturing company that has 15,000 employees.

The company uses SAP for sales and manufacturing.

Contoso has sales offices in New York and London and manufacturing facilities in Boston and Seattle.

Existing Environment

Active Directory

The network contains an on-premises Active Directory domain named ad.contoso.com. User email addresses use a domain name of contoso.com. **SAP**

Environment

The current SAP environment contains the following components:

- SAP Solution Manager
- SAP ERP Central Component (SAP ECC)
- SAP Supply Chain Management (SAP SCM)
- SAP application servers that run Windows Server 2008 R2
- SAP HANA database servers that run SUSE Linux Enterprise Server 12 (SLES 12) **Problem**



Statements

Contoso identifies the following issues in its current environment:

- The SAP HANA environment lacks adequate resources.
 - The Windows servers are nearing the end of support. ▪
- The datacenters are at maximum capacity.

Requirements

Planned Changes

Contoso identifies the following planned changes:

- Deploy Azure Virtual WAN.
- Migrate the application servers to Windows Server 2016.
- Deploy ExpressRoute connections to all of the offices and manufacturing facilities.
- Deploy SAP landscapes to Azure for development, quality assurance, and production.

All resources for the production landscape will be in a resource group named SAPProduction.

Business goals

Contoso identifies the following business goals:

- Minimize costs whenever possible.
- Migrate SAP to Azure without causing downtime.
- Ensure that all SAP deployments to Azure are supported by SAP.
- Ensure that all the production databases can withstand the failure of an Azure region.
- Ensure that all the production application servers can restore daily backups from the last 21 days. **Technical**

Requirements

Contoso identifies the following technical requirements:

- Inspect all web queries.
- Deploy an SAP HANA cluster to two datacenters.
- Minimize the bandwidth used for database synchronization.
- Use Active Directory accounts to administer Azure resources.
- Ensure that each production application server has four 1-TB data disks.
- Ensure that an application server can be restored from a backup created during the last five days within 15 minutes.
- Implement an approval process to ensure that an SAP administrator is notified before another administrator attempts to make changes to the Azure virtual machines that host SAP.

It is estimated that during the migration, the bandwidth required between Azure and the New York office will be 1 Gbps. After the migration, a traffic burst of up to 3 Gbps will occur. **Proposed**

Backup Policy

An Azure administrator proposes the backup policy shown in the following exhibit.



* Policy name 

SapPolicy 

Backup schedule

* Frequency * Time * Timezone

Daily 3:30 AM (UTC) Coordinated Universal Time

Instant Restore 

Retain instant recovery snapshot(s) for

5  Day(s)

Retention range

Retention of daily backup point.

* At For

3:30 AM 14  Day(s)

Retention of weekly backup point.

* On * At For

Sunday 3:30 AM 8  Week(s)

Retention of monthly backup point.

Week Based Day Based

* On * Day * At For

First Sunday 3:30 AM 12  Month(s)

Retention of yearly backup point.

Week Based Day Based

* In * On * Day * At For

January First Sunday 3:30 AM 7  Year(s)



Azure Resource Manager Template

An Azure administrator provides you with the Azure Resource Manager template that will be used to provision the production application servers.

```
{
  "apiVersion": "2017-03-30",
  "type": "Microsoft.Compute/virtualMachines",
  "name": "[parameters('vmname')]",

  "location": "EastUS",
  "dependsOn": [
    "[resourceId('Microsoft.Network/networkInterfaces/', parameters('vmname'))]"
  ],
  "properties": {
    "hardwareProfile": {
      "vmSize": "[parameters('vmSize')]"
    },
    "osProfile": {
      "computerName": "[parameters('vmname')]",
      "adminUsername": "[parameters('adminUsername')]",
      "adminPassword": "[parameters('adminPassword')]"
    },
    "storageProfile": {
      "imageReference": {
        "publisher": "MicrosoftWindowsServer",
        "offer": "WindowsServer",
        "sku": "2016-datacenter",
        "version": "latest"
      },
      "osDisk": {
        "name": "[concat(parameters('vmname'), '-OS')]",
        "caching": "ReadWrite",
        "createOption": "FromImage",
        "diskSizeGB": 128,
        "managedDisk": {
          "storageAccountType": "[parameters('storageAccountType')]"
        }
      }
    },
    "copy": [
      {
        "name": "DataDisks",
        "count": "[parameters('diskCount')]",
        "input": {
          "caching": "None",
          "diskSizeGB": 1024,
          "lun": "[copyIndex('datadisks')]"
        }
      }
    ]
  }
}
```



```
    "name": "[concat(parameters('vmname'), '-DD', copyIndex('datadisks'))]",
    "createOption": "Empty"
  }
]
},
"networkProfile": {
  "networkInterfaces": [
    {
      "id": "[resourceId('Microsoft.Network/networkInterfaces', parameters('vmName'))]"
    }
  ]
}
},
"resources": [
  {
    "apiVersion": "2017-03-30",
    "type": "Microsoft.Compute/virtualMachines/extensions",
    "name": "[concat(parameters('VMName'), '/joindomain')]",
    "location": "eastus",
    "properties": {
      "publisher": "Microsoft.Compute",
      "type": "JsonADDomainExtension",
      "typeHandlerVersion": "1.3",
      "autoUpgradeMinorVersion": true,
      "settings": {
        "Name": "[parameters('domainName')]",
        "User": "[parameters('domainusername')]",
        "Restart": "true",
        "Options": "3"
      },
      "protectedSettings": {
        "Password": "[parameters('domainPassword')]"
      }
    }
  }
]
}
```



QUESTION 1

Once the migration completes, to which size should you set the ExpressRoute circuit to the New York office to meet the business goals and technical requirements?

- A. 500 Mbps
- B. 1,000 Mbps
- C. 2,000 Mbps
- D. 5,000 Mbps

Correct Answer: C

Section: [none]

Explanation

Explanation/Reference:

Explanation:

ExpressRoute circuits are configured to allow you to burst up to two times the bandwidth limit you procured for no additional cost.

Scenario: It is estimated that during the migration, the bandwidth required between Azure and the New York office will be 1 Gbps. After the migration, a traffic burst of up to 3 Gbps will occur.

References: <https://docs.microsoft.com/en-us/azure/expressroute/expressroute-faqs>

QUESTION 2 You are planning the Azure network infrastructure to support the disaster recovery requirements.

What is the minimum number of virtual networks required for the SAP deployment?

- A. 1
- B. 2
- C. 3
- D. 4

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Scenario: Ensure that all the production databases can withstand the failure of an Azure region.

Note: Use Azure Site Recovery to replicate applications across regions. Azure Site Recovery replicates workloads running on physical and virtual machines from a primary site (either on-premises or in Azure) to a secondary location (in Azure). When an outage occurs at the customer's primary site, a failover can be triggered to quickly return the customer to an operational state. After the primary location is restored, customers can then fail back.

References:

<https://docs.microsoft.com/en-us/azure/architecture/resiliency/recovery-loss-azure-region>



Question Set 2

QUESTION 1
HOTSPOT

You have an on-premises SAP environment.

Backups are performed by using tape backups. There are 50 TB of backups.

A Windows file server has BMP images of checks used by SAP Finance. There are 9 TB of images.

You need to recommend a method to migrate the images and the tape backups to Azure. The solution must maintain continuous replication of the images.

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

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

Tape backups:	<input type="text"/>	▼
	AzCopy	
	Azure Data Box Edge	
	Azure Databox	
	Azure Storage Explorer	
File server:	<input type="text"/>	▼
	AzCopy	
	Azure Data Box Edge	
	Azure Databox	
	Azure Storage Explorer	

Correct Answer:

Answer Area

Tape backups: ▼

AzCopy
Azure Data Box Edge
Azure Databox
Azure Storage Explorer

File server: ▼

AzCopy
Azure Data Box Edge
Azure Databox
Azure Storage Explorer



Section: [none]

Explanation

Explanation/Reference:

Explanation:

Tape backups: Azure DataBox

The Microsoft Azure Data Box cloud solution lets you send terabytes of data into Azure in a quick, inexpensive, and reliable way. The secure data transfer is accelerated by shipping you a proprietary Data Box storage device. Each storage device has a maximum usable storage capacity of 80 TB and is transported to your datacenter through a regional carrier. The device has a rugged casing to protect and secure data during the transit.

File server: Azure Storage Explorer

Azure Storage Explorer is an application which helps you to easily access the Azure storage account through any device on any platform, be it Windows, MacOS, or Linux. You can easily connect to your subscription and manipulate your tables, blobs, queues, and files.

Incorrect Answers:

Not Azure Data Box Edge: Azure Data Box Edge is rebranded as Azure Stack Edge. Azure Stack Edge is a Hardware-as-a-service solution. Microsoft ships you a cloud-managed device with a built-in Field Programmable Gate Array (FPGA) that enables accelerated AI-inferencing and has all the capabilities of a network storage gateway.

References: <https://docs.microsoft.com/en-us/azure/databox/data-box-overview> <https://github.com/MicrosoftDocs/azure-docs/blob/master/articles/vs-azure-tools-storage-manage-with-storage-explorer.md>

QUESTION 2

You need direct connectivity from an on-premises network to SAP HANA (Large Instances). The solution must meet the following requirements:

- Minimize administrative effort.
- Provide the highest level of resiliency.

What should you use?

- A. ExpressRoute Global Reach
- B. Linux IPTables
- C. ExpressRoute

D. NGINX as a reverse proxy

Correct Answer: C

Section: [none]

Explanation

Explanation/Reference:

Explanation:

The Azure network functionality used is:

- Azure virtual networks are connected to the ExpressRoute circuit that connects to your on-premises network assets.
- An ExpressRoute circuit that connects on-premises to Azure should have a minimum bandwidth of 1 Gbps or higher. This minimal bandwidth allows adequate bandwidth for the transfer of data between on-premises systems and systems that run on VMs. It also allows adequate bandwidth for connection to Azure systems from on-premises users.
- All SAP systems in Azure are set up in virtual networks to communicate with each other.

References: <https://docs.microsoft.com/en-us/azure/virtual-machines/workloads/sap/hana-network-architecture>

QUESTION 3

You have an on-premises SAP environment hosted on VMware vSphere.

You plan to migrate the environment to Azure by using Azure Site Recovery.

You need to prepare the environment to support Azure Site Recovery.

What should you deploy first?

- A. an on-premises data gateway to vSphere
- B. Microsoft System Center Virtual Machine Manager (VMM)
- C. an Azure Backup server
- D. a configuration server to vSphere



Correct Answer: D

Section: [none]

Explanation

Explanation/Reference:

Explanation:

When you set up disaster recovery for on-premises VMware VMs, Site Recovery needs access to the vCenter Server/vSphere host so that the Site Recovery process server can automatically discover VMs, and fail them over as needed. By default the process server runs on the Site Recovery configuration server. Add an account for the configuration server to connect to the vCenter Server/vSphere host.

References: <https://docs.microsoft.com/en-us/azure/site-recovery/vmware-azure-manage-vcenter>

QUESTION 4

HOTSPOT

You have an on-premises SAP environment. Application servers run on SUSE Linux Enterprise Server (SLES) servers. Databases run on SLES servers that have Oracle installed.

You need to recommend a solution to migrate the environment to Azure. The solution must use currently deployed technologies whenever possible and support high availability.

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

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

Application server operating system: ▼

Oracle Linux
SLES
Windows Server 2016

Database server operating system: ▼

Oracle Linux
SLES
Windows Server 2016

Database platform: ▼

Azure SQL Database
Microsoft SQL Server
Oracle
SAP HANA



Correct Answer:

Answer Area

Application server operating system: ▼

Oracle Linux
SLES
Windows Server 2016

Database server operating system: ▼

Oracle Linux
SLES
Windows Server 2016

Database platform: ▼

Azure SQL Database
Microsoft SQL Server
Oracle
SAP HANA



Section: [none]

Explanation

Explanation/Reference:

QUESTION 5

DRAG DROP

You have an SAP environment on Azure.

You use Azure Recovery Services to back up an SAP application server.

You need to test the restoration process of a file on the server.

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

Select and Place:

Actions

- Download and run the mount disk executable
- From Azure Cloud Shell, run the `Get-AzBackupItem` cmdlet
- From Azure Recovery Vault, select **File Recovery**
- Recover the file and unmount the disk
- From Azure Cloud Shell, run the `Get-AzBackupRecoveryPoint` cmdlet

Answer Area



Correct Answer:

Actions

- Download and run the mount disk executable
- From Azure Cloud Shell, run the `Get-AzBackupItem` cmdlet
- From Azure Recovery Vault, select **File Recovery**
- Recover the file and unmount the disk
- From Azure Cloud Shell, run the `Get-AzBackupRecoveryPoint` cmdlet




- From Azure Recovery Vault, select **File Recovery**
- Download and run the mount disk executable
- Recover the file and unmount the disk

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Step 1: From Azure Recover Vault, select File Recovery

To restore files or folders from the recovery point, go to the virtual machine and choose the desired recovery point.

Step 2: Download and run the mount disk executable

Step 3: recover the file and unmount the disk



The screenshot shows a window titled "File Recovery" with the subtitle "v2win2012r2". The interface is divided into three main steps:

- Step 1: Select recovery point** (indicated by a checkmark): A dropdown menu shows "7/20/2017, 1:36:40 PM [Latest] (AppCo...)" with a downward arrow.
- Step 2: Download script to browse and recover files** (indicated by a right-pointing arrow): Below the heading, text reads: "This script will mount the disks from the selected recovery point **as local drives on the machine where it is run**. These drives will remain mounted for 12 hours." Below this text is a blue button labeled "Download Executable *". Underneath the button, it says "Requires password to run" followed by a text input field and a document icon.
- Step 3: Unmount the disks after recovery** (indicated by a right-pointing arrow): Below the heading, text reads: "Unmount disks and close the connection to the recovery point." Below this text is a grey button labeled "Unmount Disks".

At the bottom of the window, there are three asterisked notes:

- * Run this script on the machine where you want to copy the files
- * To restore files larger than 10GB, restore entire VM to an alternate location or restore disks using PowerShell
- * Data transfer rate: up to 1GB/Hr

Below the notes, it says "If you have trouble finding your files, [click here](#)".



QUESTION 6 This question requires that you evaluate the underlined text to determine if it is correct.

When deploying SAP HANA to an Azure virtual machine, you can enable Write Accelerator to reduce the latency between the SAP application servers and the database layer.

Instructions: Review the underlined text. If it makes the statement correct, select "No change is needed". If the statement is incorrect, select the answer choice that makes the statement correct.

- A. No change is needed
- B. install the Mellanox driver
- C. start the NIPING service
- D. enable Accelerated Networking

Correct Answer: D

Section: [none]

Explanation

Explanation/Reference:

Explanation:

To further reduce network latency between Azure VMs, we [Microsoft] recommend that you choose Azure Accelerated Networking. Use it when you deploy Azure VMs for an SAP workload, especially for the SAP application layer and the SAP DBMS layer.

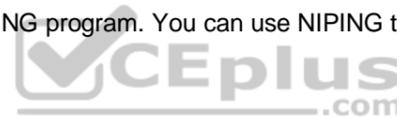
Incorrect Answers:

A: Write Accelerator is a disk capability for M-Series Virtual Machines (VMs) on Premium Storage with Azure Managed Disks exclusively. As the name states, the purpose of the functionality is to improve the I/O latency of writes against Azure Premium Storage.

B: Mellanox offers a robust and full set of protocol software and driver for Linux with the ConnectX EN family cards. Designed to provide a high performance support for Enhanced Ethernet with fabric consolidation over TCP/IP based LAN applications. The driver and software in conjunction with the Industry's leading ConnectX family of cards achieve full line rate, full duplex of up to 100Gbps performance per port.

C: To analyze network issue or measure network metrics you can test the connection using SAP's NIPING program. You can use NIPING to analyze the network connection between any two machines running SAP software.

References: https://docs.microsoft.com/en-us/azure/virtual-machines/workloads/sap/dbms_guide_general



QUESTION 7

HOTSPOT

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
Enabling Accelerated Networking on an SAP application server will decrease CPU usage.	<input type="radio"/>	<input type="radio"/>
Enabling Accelerated Networking on an SAP application server will increase jitter.	<input type="radio"/>	<input type="radio"/>
You can enable Accelerated Networking on any Azure virtual machine.	<input type="radio"/>	<input type="radio"/>

Correct Answer:

Answer Area



Statements	Yes	No
Enabling Accelerated Networking on an SAP application server will decrease CPU usage.	<input checked="" type="radio"/>	<input type="radio"/>
Enabling Accelerated Networking on an SAP application server will increase jitter.	<input checked="" type="radio"/>	<input type="radio"/>
You can enable Accelerated Networking on any Azure virtual machine.	<input type="radio"/>	<input checked="" type="radio"/>

Section: [none]
Explanation

Explanation/Reference:
Explanation:

Box 1: Yes
By moving much of Azure's software-defined networking stack off the CPUs and into FPGA-based SmartNICs, compute cycles are reclaimed by end user applications, putting less load on the VM, decreasing jitter and inconsistency in latency.

Box 2: Yes

Box 3: No

Accelerated Networking (AN) is generally available (GA) and widely available for Windows and the latest distributions of Linux

References: <https://azure.microsoft.com/en-us/blog/maximize-your-vm-s-performance-with-accelerated-networking-now-generally-available-for-both-windows-and-linux/>

