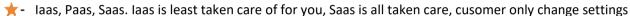
Azure az900

June 15, 2021 6:18 PM

- 1 Describe Cloud Concepts
- 2 Describe Core Azure Services
- 3 Describe core solutions and management tools on Azure
- 4 Describe general security and network security features
- 5 Describe identity governance, privacy, and complicance features
- 6 Describe Azure cost management and Service Level Agreements

1 Describe Cloud Concepts

Shared Responsibility Model



- Public cloud vs Private cloud (own datacenter) vs Hybrid

Concepts

- Scalability, Elasticity (grow on demand), Agility (react quick to change in demand), Economies of scale, Capital Expenditure (physical infra cost), Operational Expenditure, Consumption-based model
- Fault tolerance, high availability, disaster recovery

2 Describe Core Azure Services

- 2 sections
 - Core architectural components
 - Regions/Region Pairs
 - Availability Zones, Resource Groups (can access other groups), Subscriptions, mgmt group, azure resource manager
 - Core resources

Core architectural components

- Scope (high to low)
 - o Azure geography: 2 or more regions (NA, EU, CN, etc)
 - o Azure Regions: set of datacenters connected (US East, US west, CA east, etc)
 - o Azure Pairs: 2 azure regions connected for disaster purpose
- Availability zones
 - ★○ Unique physical locations within a region with independent power
 - Made of one or more datacenters
- Management Groups (root). Can be used to aggregate policy and assignments
 - o Subscriptions (logical container to provision resources). Unit of billing, scale
 - Resource Groups (a container that holds related resources/common lifecycle)
 - □ Resources

Core resources

- Compute, Network, Storage, Database

Compute

- Virtual Machines
 - Compute on demand without purchases
- Azure App services
 - HTTP based service for hosting web apps, RESTAPI
- Azure container Instances ACI
 - Docker containers on demand. Isolated containers without orchestration
- Azure Kubernetes Service AKS
 - A hosted Kubernetes service.

- Windows Virtual Desktop
 - App virtualization service that runs on Azure

Network

- Virtual Networks
 - Logical representation of your network. VNET.
- VPN Gateway
 - Sends encrypted traffic between VNET and other locations
- Virtual Network peering
 - Enables connection of two or more VNETs
- ExpressRoute
 - Extends on premise networks over a private connection with help of connectivity provider. Does not traverse internet.

Storage

- Container(Blob) Storage
 - Massive amount of instructed data (not DB)
- o Disk storage
 - Block level storage volumes used with Azure VMs
- File storage
 - File shares, accessible via SMB or NFS
- Storage tiers
 - Hot, cool, archive access tiers

Database

- Cosmos DB
 - Fully managed NoSQL. Ultra Low latency, APIs available
- Azure SQL Database
 - Fully managed PaaS database engine
- Azure Database for mySQL/PostgresSQL
 - Relational database service
- SQL Managed Instance
 - Broadest SQL server database engine compatibility with PaaS benefits

3 Describe core solutions and management tools on Azure

- 2 sections
 - Core solutions
 - Management tools
- Core solutions
 - o IoT
 - IoT Hub (bi-directional communication), IoT central (SaaS), Azure Sphere
 - Azure Synapse Analytics, HDInsight (Hadoop components), Databricks
 - DATA WAREHOUSE. SYNAPSE DATAAA
 - Azure ML, Cognitive Services, Bot Service
 - ML cloud based environment. Cognitive services are services with REST Apis to build applications.
 Five main pillars.
 - Serverless computing, Azure Functions, Logic Apps
 - SERVERLESS. Logicapp is service that helps workflow. Functions are compute-on-demand for code triggered events.
 - o Azure DevOps, GitHub, GitHub actions, DevTest Labs
 - DevOps is platform for Agile dev using CI/CD framework. Github is Git repository. Actions help automate workflow in Github.
- Management tools
 - o Azure Portal, PowerShell, CLI, Cloud Shell
 - Portal is the console. Cloud shell is browser-accessible shell.
 - Azure Advisor
 - Scans your configuration to recommend changes

- Azure Resource Manager ARM template
 - JSON file that defines the project infrastructure and config
- Azure monitor
- o Azure service health

4 Describe general security and network security features

- 2 sections
 - Security features
 - Network security

Security features

- o Azure Security Center
 - Unified security management. Security posture. JIT VM
- ★○ Key Vault
 - Securely store API keys, passwords, certificates
 - o Azure Sentinel
 - Security info event mgmt SIEM and security orchestration automated response SOAR solution
 - o Azure Dedicated Hosts
 - Dedicated physical server

Network security

- o Defense in depth
 - Concept: layered security approach
- ★○ Network Security Groups NSG
 - Contains Security rules to allow/deny traffic. Can be applied to subnet or network adapter
 - Azure Firewall
 - Fully stateful firewall service
 - Azure DDoS protection

5 Describe identity, governance, privacy, and compliance features

- 3 sections
 - Identity services
 - Authentication AUTHN (identity)/Authorization AUTHZ (access)
 - Azure Active Directory helps you sign in
 - Conditional Access, Multi-Factor Auth, Single Sign on SSO
 - Governance features
 - Role based Access Control RBAC
 - Resource locks (critical resources), tags
 - Azure Policy (definition of conditions), Initiative, Blueprints
 - Cloud Adoption Framework
 - Privacy and compliance resources
 - Security, Privacy, Compliance
 - MS Privacy statement, Online services term (commerical licensing), Data Protection Amendment DPA
 - Trust Center: 4 principles of TRUST. Regional requirements
 - Compliance complicance documentation
 - Azure soverign regions, US Gov, China, Germany

6 Describe Azure cost management and Service Level Agreements

- 2 sections
 - Planning and managing cost
 - Affect cost: resource types, services, location, traffic
 - Reduce cost: reserved instances (VMs)/capacity, hybrid use (licensing), spot pricing (90% discount for unused capacity)
 - Pricing calculator, Total cost of ownership calculator (pre-planning)
 - Azure cost management (after deploy) need an EA
 - Service Level Agreements SLAs
 - SLA purpose
 - Impact SLA (failing to deploy that meets SLA requirements)
 - Service lifecycle

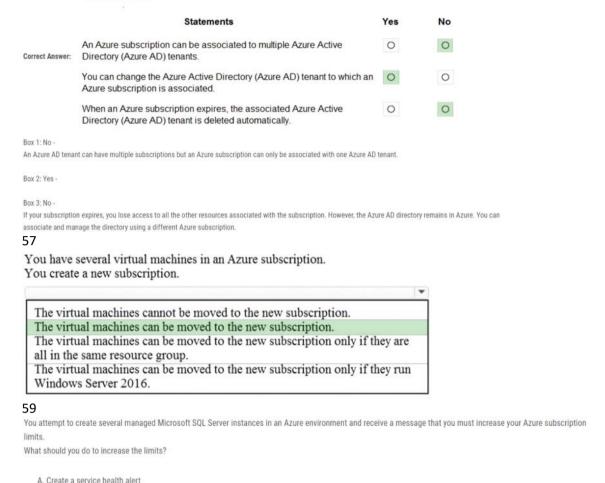
Paas - App service, SQL database, azure backup 23 **Answer Area** Statements Ves No A Platform as a Service (PaaS) solution provides full control of operating systems that host applications. Correct Answer: A Platform as a Service (PaaS) solution provides additional memory to apps by changing pricing tiers. A Platform as a Service (PaaS) solution can automatically scale the number of instances. 31 Statements No A platform as a service (PaaS) solution that hosts web apps in Azure provides full control of the operating systems that host applications. A Platform as a Service (PaaS) solution that hosts web apps in Azure can be provided with additional memory by changing the pricing tier. A Platform as a Service (PaaS) solution that hosts web apps in Azure can be configured to automatically scale the number of instances based on demand. 37 Statements Yes No You can create a resource group inside of an other resource group. 0 An Azure virtual machine can be in multiple resource groups. 0 A resource group can contain resources from multiple Azure regions. 47 You plan to store 20 TB of data in Azure. The data will be accessed infrequently and visualized by using Microsoft Power BI. You need to recommend a storage solution for the data. Which two solutions should you recommend? Each correct answer presents a complete solution. NOTE: Each correct selection is worth one point. A. Azure Data Lake B. Azure Cosmos DB C. Azure SOI. Data Warehouse D. Azure SQL Database E. Azure Database for PostgreSQL

53 - azure tenant is an organization!

Extra notes

laas - VM, Storage

Answer Area



A. Create a service health alert

B. Upgrade your support plan

C. Modify an Azure policy

D. Create a new support request



Correct Answer: D

Many Azure resource have quote limits. The purpose of the quota limits is to help you control your Azure costs. However, it is common to require an increase to the default quota.

You can request a quota limit increase by opening a support request. In the support request, select $\lambda \in \operatorname{Service}$ and subscription limits (quotas) $\lambda \in \operatorname{Service}$ for the Issue type, select your subscription and the service you want to increase the quota for. For this question, you would select $\lambda \in \operatorname{SQL}$ Database Managed Instance $\lambda \in \operatorname{SQL}$ as the quote type.

Reference:

https://docs.microsoft.com/en-us/azure/sql-database/sql-database-managed-instance-resource-limits#obtaining-a-larger-quota-for-sql-managed-instance

Azure Active Directory account to use

61. Availbilikty zones are unique physical locations in a single azure region

Answer Area

Statements Availability zones can be implemented in all Azure regions. Correct Answer: Only virtual machines that run Windows Server can be created in availability zones. Availability zones are used to replicate data and applications to multiple regions. Box 1: No -Not all Azure regions support availability zones.

Box 2: No -

Availability zones can be used with many Azure services, not just VMs.

Box 3: No -

Availability Zones are unique physical locations within a single Azure region.

62 Q.

You plan to create an Azure virtual machine.

You need to identify which storage service must be used to store the unmanaged data disks of the virtual machine. What should you identify?



Azure containers are the backbone of the virtual disks platform for Azure laaS. Both Azure OS and data disks are implemented as virtual disks where data is durably persisted in the Azure Storage platform and then delivered to the virtual machines for maximum performance. Azure Disks are persisted in Hyper-V VHD format and stored as a page blob in Azure Storage.

COSMOSDB is NOSQL

66 Subscription is like an account

Your company plans to migrate all its network resources to Azure.

You need to start the planning process by exploring Azure.

What should you create first?

A. a subscription B. a resource group

C. a virtual network

D. a management group

68 archive tier must be rehydrated **Answer Area**

Data that is stored in the Archive access tier of an Azure Storage account

can be accessed at any time by using azcopy.exe. can only be read by using Azure Backup. must be restored before the data can be accessed. must be rehydrated before the data can be accessed.

Which Azure service should you use to collect events from multiple resources into a centralized repository?

- A. Azure Event Hubs

 B. Azure Analysis Services
- C. Azure Monitor
- D. Azure Stream Analytics



Correct Answer: A

Azure Event Hubs is a big data streaming platform and event ingestion service. It can receive and process millions of events per second. Data sent to an event hub can be transformed and stored by using any real-time analytics provider or batching/storage adapters.

Azure Event Hubs can be used to ingest, buffer, store, and process your stream in real time to get actionable insights. Event Hubs uses a partitioned consumer model, enabling multiple applications to process the stream concurrently and letting you control the speed of processing.

Azure Event Hubs can be used to capture your data in near-real time in an Azure Blob storage or Azure Data Lake Storagex€‰for long-term retention or micro-batch processing.

72

Answer Area

Statements	Yes	No
Data that is stored in an Azure Storage account automatically has at least three copies.	0	0
All data that is copied to an Azure Storage account is backed up automatically to another Azure data center.	0	0
An Azure Storage account can contain up to 2 TB of data and up to one million files.	0	0

77 HUB bidirectional

Answer Area

IoT Hub	A managed service that provides bidirectional communication between IoT devices and Azure
IoT Central	A fully managed software as a service (SaaS) solution to connect, monitor, and manage IoT devices at scale
Azure Sphere	A software and hardware solution that provides communication and security features for IoT devices

87

Azure Functions	Provides the platform for serverless code
Azure Databricks	A big data analysis service for machine learning
Azure Application Insights	Detects and diagnoses anomalies in web apps
Azure App Service	Hosts web apps

88 DEVTEST labs creates pre-configured bases

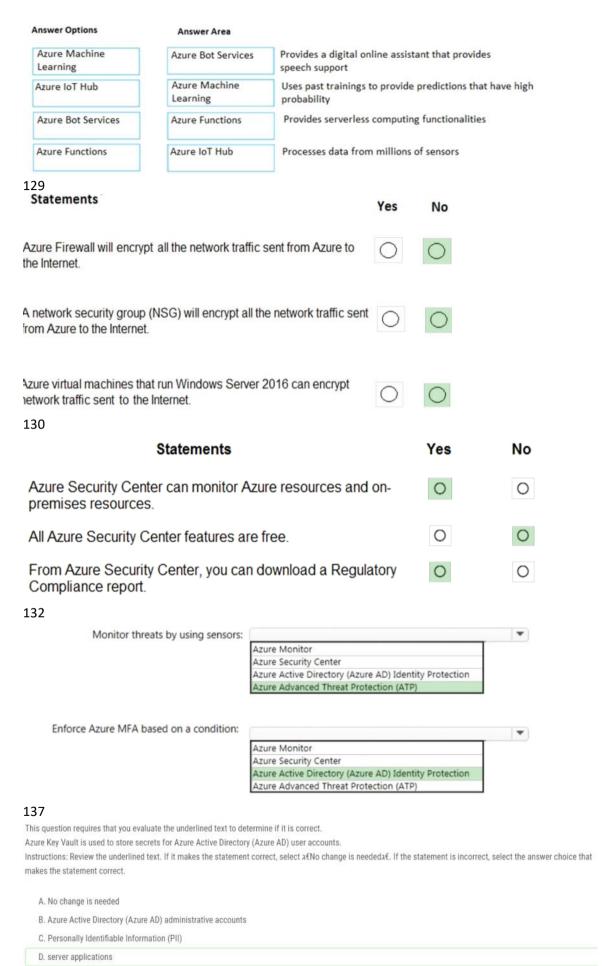
A team of developers at your company plans to deploy, and then remove, 50 customized virtual machines each week. Thirty of the virtual machines run Windows Server 2016 and 20 of the virtual machines run Ubuntu Linux.

You need to recommend which Azure service will minimize the administrative effort required to deploy and remove the virtual machines. What should you recommend?

- A. Azure Reserved Virtual Machines (VM) Instances
- B. Azure virtual machine scale sets
- C. Azure DevTest Labs
- D. Microsoft Managed Desktop

PowerApps - Not used for VMs

Azure SQL Database	A managed relational cloud database service.
Azure SQL Synapse Analytics	A cloud-based service that leverages massively parallel processing (MPP) to quickly run complex queries across petabytes of data in a relational database.
Azure Data Lake Analytics	Can run massively parallel data transformation and processing programs across petabytes of data
Azure HDInsight	An open-source framework for the distributed processing and analysis of big data sets in clusters
107 - logic apps help schedu	ule and automate
You have an on-premises ap	plication that sends email notifications automatically based on a rule.
You plan to migrate the appli	cation to Azure.
You need to recommend a se	erverless computing solution for the application.
What should you include in t	ne recommendation?
A. a web app	
B. a server image in Azu	re Marketplace
C. a logic app	
D. an API app	
112	
Azure Advisor can generate a Azure Backup.	ist of Azure virtual machines that are protected by
If you implement the security re- your company's secure score v	commendations provided by Azure Advisor, vill decrease.
To maintain Microsoft support, provided by Azure Advisor with	you must implement the security recommendations in a period of 30 days.
Azure Functions SERVERLES 117	S
Statements	Yes No
Azure Advisor provide how to improve the se Directory (Azure AD) e	curity of an Azure Active
Azure Advisor provide how to reduce the cost machines.	s recommendations on to frunning Azure virtual
Azure Advisor provide how to configure the n virtual machines.	s recommendations on etwork settings on Azure



139 NSG controls access

γ	ou plan to deploy several Azure virtua ou need to control the ports that devi What should you use?	Il machines. ces on the Internet can use to access the virtual machines.			
	A. a network security group (NSG)				
	B. an Azure Active Directory (Azure	e AD) role			
	C. an Azure Active Directory group				
	D. an Azure key vault				
1	44				
١		analyze security events from Azure Active Directory (Azure Al	0).		
	A. Azure Sentinel				
	B. Azure Synapse Analytics				
	C. Azure AD Connect				
	D. Azure Key Vault				
1	55				
-	Answer Area				
-		al network named VNET1 in a resource group name	ned RG1	ľ	
	You assign the Azure Po Type and specify that vir type in RG1. VNET1	olicy definition of Not Allowed Resource tual networks are not an allowed resource is deleted automatically. is moved automatically to another resource group. continues to function normally. is now a read-only object.	•		
Yo A Yo	company policy states that administrat	that contains resources in several regions. ors must only be allowed to create additional Azure resources in a at must be used to meet the policy requirement.	region in th	he country where t	heir office is located.
	B. an Azure policy				
	C. a management group				
1	D. a reservation 58 NYN? AZURE AD				
		Statements	Yes	No	
Y	ou can create Group Poli	ces in Azure Active Directory (Azure AD).	0	0	
Y	ou can join Windows 10 o	levices to Azure Active Directory (Azure AD)	. 0	0	
Y	ou can join Android devic	es to Azure Active Directory (Azure AD).	0	0	
	62 Answer Area				
	Resource groups Management groups Azure policies Azure App Service plans	provide organizations with the ability to manage compliance of Azure resources across multiple s		ions.	

Answer Area Statements Yes No General Data Protection Regulation (GDPR) defines data protection and privacy rules. General Data Protection Regulation (GDPR) applies to companies that offer goods or services to individuals in the EU. Azure can be used to build a General Data Protection Regulation (GDPR)-compliant infrastructure. 164 Statements No Yes You can add an Azure Resource Manager template to an Azure blueprint. You can assign an Azure blueprint to a resource group. You can use Azure Blueprints to grant permissions to a resource. 165 Statements No Azure China is operated by Microsoft. Azure Government is operated by Microsoft. Azure Government is available only to US government agencies and their partners. 166. Also locks apply to admins as well **Answer Area** Statements Yes No 0 0 An Azure resource can have multiple Delete locks. An Azure resource inherits locks from its resource group. 0 If an Azure resource has a Read-only lock, you can add a Delete 0 lock to the resource. 167 Your company plans to migrate all on-premises data to Azure. You need to identify whether Azure complies with the companya€™s regional requirements. What should you use? A. the Knowledge Center B. Azure Marketplace C. the MyApps portal D. the Trust Center 168 other accounts can access Azure Yes Statements Authorization to access Azure resources can be provided only to Azure Active Directory (Azure AD) users. Identities stored in Azure Active Directory (Azure AD), third-party cloud services, and onpremises Active Directory can be used to access Azure resources. Azure has built-in authentication and authorization services that provide secure access to Azure resources.

SECURITY CENTER for compliance

1/3				
Statem	nents	Yes	No	
Azure Active Directory (Azure AD) recontrollers on Azure virtual machine	equires the implementation of domain s.	0	0	
Azure Active Directory (Azure AD) p hosted in Azure and Microsoft 365.	rovides authentication services for resou	rces	0	
Each user account in Azure Active Done license.	Directory (Azure AD) can be assigned only	9	0	
Statements			Yes	No
To implement an Azure Multi-Factor sync on-premises identities to the clo	Authentication (MFA) solution, you must ud.		0	0
Two valid methods for Azure Multi-Fidentification and a passport number	actor Authentication (MFA) are picture		0	0
Azure Multi-Factor Authentication (Nadministrative user accounts.	MFA) can be required for administrative ar	nd non-	0	0
GDPR Is European 179				
Azure Government	ISO	_		that defines international all industries.
GDPR	NIST			that defines standards used by government.
ISO	GDPR	A Europe and data		cy that regulates data privacy ion.
NIST	Azure Government			ic cloud for federal and state nited States.
What should you use? A. a lock B. an Azure role C. a tag D. an Azure policy Hide Solution Discussion Correct Answer: D	ines only in RG1. The solution must ensure that other o			
Azure Policy is a service in Azure that you use t	to create, assign, and manage policies. These policies of	enforce differen	t rules and ef	fects over your resources, so those

185. Transfers are not free. R/W also not free

Therefore, an Azure Policy is a better solution.

In this question, we would create an Azure policy assigned to the resource group that denies the creation of virtual machines in the resource group.

You could place a read-only lock on the resource group. However, that would prevent the creation of any resources in the resource group, not virtual machines only.

Statements	Yes	No	
Storing 1 TB of data in Azure Blob storage will always cost the same, regardless of the Azure region in which the data is located.	0	0	
When you use a general-purpose v2 Azure Storage account, you are only charged for the amount of data that is stored. All read and write operations are free.	0	0	
Transferring data between Azure Storage accounts in different Azure regions is free.	0	0	
187. To azure costs 0, but FROM azure costs \$\$ Statements Yes No			
Adding resource groups in an Azure subscription generates additional costs.			
Copying 10 GB of data to Azure from an on- premises network over a VPN generates additional Azure data transfer costs.			
Copying 10 GB of data from Azure to an onpremises network over a VPN generates additional Azure data transfer costs.			
190. First one debated			
Statements	Yes	No	
If your company uses an Azure free account, you will only be able to use a subset of Azure services.	0	0	
All Azure free accounts expire after a specific period.	0	0	
You can create up to 10 Azure free accounts by using the same Microsoft account.	0	0	
191 Previews			
Statements Yes	No		
All Azure services in private preview must be accessed by using a separate Azure portal.	0		
Azure services in public preview can be used in production environments.	0		
Azure services in public preview are subject to a Service Level Agreement (SLA).	0		
192			
Your company has 10 offices. You plan to generate several billing reports from the Azure portal. Each report will of Which Azure Resource Manager feature should you use before you generate the reports?	contain the Azure	esource utilization (of each office
A. tags			
B. templates			
C. locks			
D. policies			
193 basic -> standard -> premier			
Statements	Yes	No	
A Standard support plan is included in an Azure free account.	0	0	
A Premier support plan can only be purchased by companies that have an Enterprise Agreement (EA).	0	0	
Support from MSDN forums is only provided to companies that have a pay-as-you-go subscription.	0	0	
195			

	Statements Ye	es	No
A user who is assigned the subscription.	e Owner role can transfer ownership of an Azure	0	0
You can convert the Azure Pay-As-You-Go.	subscription of your company from Free Trial to		0
The Azure spending limit i	s fixed and cannot be increased or decreased.		0
Unused user accounts, 215	network interfaces are not charged. IP address	ses are.	
What is required to use Azure Cos	t Management?		
A. a Dev/Test subscription			
B. Software Assurance			
C. an Enterprise Agreement (E	EA)		
D. a pay-as-you-go subscription	on		
216			
Your Azure trial account e	evnired last week		
You are now unable to		■ ▼	
	Create additional Azure Active Directory (Azure AD) user	accounts	
	start an existing Azure virtual machine access your data stored in Azure		
	access the Azure portal		
240			
218	4 A A A A A A A A A A A A A A A A A A A		
Your company has a Software Assur You plan to deploy SQL Server on Az	rance agreement that includes Microsoft SQL Server licenses.		
What should you do to minimize lice			
What should you do to millimize hot	nising costs for the deployment:		
A. Deallocate the virtual machin	es during off hours.		
B. Use Azure Hybrid Benefit.			
C. Configure Azure Cost Manage	ement hudgets		
D. Use Azure reservations.	onen sudgeto.		
220			
220	Statements	,	/es
			-
An Azure free account h	nas a spending limit.		0
An Azure free account h	nas a limit of 2TB of data that can be uploaded to A	Azure.	0
An Azure free account of	an contain an unlimited number of web apps.		0
224 CLA in water divine			
224 SLA is product	atio assuminad of an Assur with any that have a Constant	a Laurel A	
You have an application th	at is comprised of an Azure web app that has a Servic	e Level Agr	eeme

percent and an Azure SQL database that has an SLA of 99.99 percent.

The composite SLA for the application is

the product of both SLAs, which equals 99.94 percent the lowest SLA associated to the application, which is 99.95 percent the highest SLA associated to the application, which is 99.99 percent the difference between the two SLAs, which is 0.05 percent

Statements	Yes	No	
From the Azure portal, you can distinguish between services that are generally available and services that are in public preview.	0	0	
After an Azure service becomes generally available, the service is no longer updated with new features.	0	0	
When you create Azure resources for a service in public preview, you must recreate the resources once the service becomes generally available.	0	0	
230			
230			
Statements		Yes	No
	ta	Yes	No
Statements When using an Azure ExpressRoute connection, inbound dat			