ITS

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Exam AZ-301: Microsoft Azure Architect Design

Audience Profile

Candidates for this exam are Azure Solution Architects who advise stakeholders and translates business requirements into secure, scalable, and reliable solutions.

Candidates should have advanced experience and knowledge across various aspects of IT operations, including networking, virtualization, identity, security, business continuity, disaster recovery, data management, budgeting, and governance. This role requires managing how decisions in each area affects an overall solution.

Candidates must be proficient in Azure administration, Azure development, and DevOps, and have expert-level skills in at least one of those domains.

Determine workload requirements (10-15%)

Gather information and requirements

- identify compliance requirements
- identify identity and access management infrastructure
- identify service-oriented architectures
- identify accessibility requirements
- identify availability requirements
- identify capacity planning and scalability requirements
- identify deployability requirements
- identify configurability
- identify governance requirements
- identify maintainability requirements
- identify security requirements
- identify sizing requirements
- recommend changes during project execution
- evaluate products and services to align with solution
- create testing scenarios

Optimize consumption strategy

- optimize app service costs
- optimize compute costs
- optimize identity costs
- optimize network costs
- optimize storage costs

Design an auditing and monitoring strategy

- define logical groupings (tags) for resources to be monitored
- determine levels and storage locations for logs
- plan for integration with monitoring tools
- recommend appropriate monitoring tool(s) for a solution
- specify mechanism for event routing and escalation
- design auditing for compliance requirements
- design auditing policies and traceability requirements

Design for identity and security (20-25%)

Design identity management

- choose an identity management approach
- design an identity delegation strategy
- design an identity repository
- design self-service identity management
- design user and persona provisioning
- define personas
- define roles
- recommend appropriate access control strategy

Design authentication

- choose an authentication approach
- design a single-sign on approach
- design for IPSec authentication
- design for logon authentication
- design for multi-factor authentication
- design for network access authentication
- design for remote authentication

Design authorization

- choose an authorization approach
- define access permissions and privileges
- design secure delegated access
- recommend when and how to use API Keys

Design for risk prevention for identity

- design a risk assessment strategy
- evaluate agreements involving services or products from vendors and contractors
- update solution design to address and mitigate changes to existing security policies,
- standards, guidelines and procedures

Design a monitoring strategy for identity and security

- design for alert notifications
- design an alert and metrics strategy
- recommend authentication monitors

Design a data platform solution (15-20%)

Design a data management strategy

- choose between managed and unmanaged data store
- choose between relational and non-relational databases
- design a data auditing strategy
- design a data caching strategy
- identify data attributes
- recommend database service tier sizing
- design a data retention policy
- design for data availability
- design for data consistency
- design for data durability
- design a data warehouse strategy

Design a data protection strategy

- recommend geographic data storage
- design an encryption strategy for data at rest
- design an encryption strategy for data in transmission
- design an encryption strategy for data in use
- design a scalability strategy for data
- design secure access to data
- design a data loss prevention (DLP) policy

Design and document data flows

- identify data flow requirements
- create a data flow diagram
- design a data flow to meet business requirements
- design data flow solutions
- design a data import and export strategy

Design a monitoring strategy for the data platform

- design for alert notifications

- design an alert and metrics strategy
- monitor Azure Data Factory pipelines

Design a business continuity strategy (10-15%)

Design a site recovery strategy

- design a recovery solution
- design a site recovery replication policy
- design for site recovery capacity
- design for storage replication
- design site failover and failback
- design the site recovery network
- recommend recovery objectives (Azure, on-prem, hybrid, Recovery Time Objective (RTO),
- Recovery Level Objective (RLO), Recovery Point Objective (RPO))
- identify resources that require site recovery
- identify supported and unsupported workloads
- recommend a geographical distribution strategy

Design for high availability

- design for application redundancy
- design for autoscaling
- design for data center and fault domain redundancy
- design for network redundancy
- identify resources that require high availability
- identify storage types for high availability
- design a disaster recovery strategy for individual workloads
- design failover/failback scenarios
- document recovery requirements
- identify resources that require backup
- recommend a geographic availability strategy

Design a data archiving strategy

- recommend storage types and methodology for data archiving
- identify business compliance requirements for data archiving
- identify requirements for data archiving
- identify SLA(s) for data archiving

Design for deployment, migration, and integration (10-15%)

Design deployments

- design a compute deployment strategy
- design a container deployment strategy
- design a data platform deployment strategy
- design a messaging solution deployment strategy
- design a storage deployment strategy
- design a web app and service deployment strategy

Design migrations

- recommend a migration strategy
- design data import/export strategies during migration
- determine the appropriate application migration method
- determine the appropriate data transfer method
- determine the appropriate network connectivity method
- determine migration scope, including redundant, related, trivial, and outdated data
- determine application and data compatibility

Design an API integration strategy

- design an API gateway strategy
- determine policies for internal and external consumption of APIs
- recommend a hosting structure for API management

Design an infrastructure strategy (15-20%)

Design a storage strategy

- design a storage provisioning strategy
- design storage access strategy
- identify storage requirements
- recommend a storage solution
- recommend storage management tools

Design a compute strategy

- design a compute provisioning strategy
- design a secure compute strategy
- determine appropriate compute technologies
- design an Azure HPC environment
- identify compute requirements
- recommend management tools for compute

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Design a networking strategy

- design a network provisioning strategy
- design a network security strategy
- determine appropriate network connectivity technologies
- identify networking requirements
- recommend network management tools
- recommend network security solutions

Design a monitoring strategy for infrastructure

- design for alert notifications
- design an alert and metrics strategy