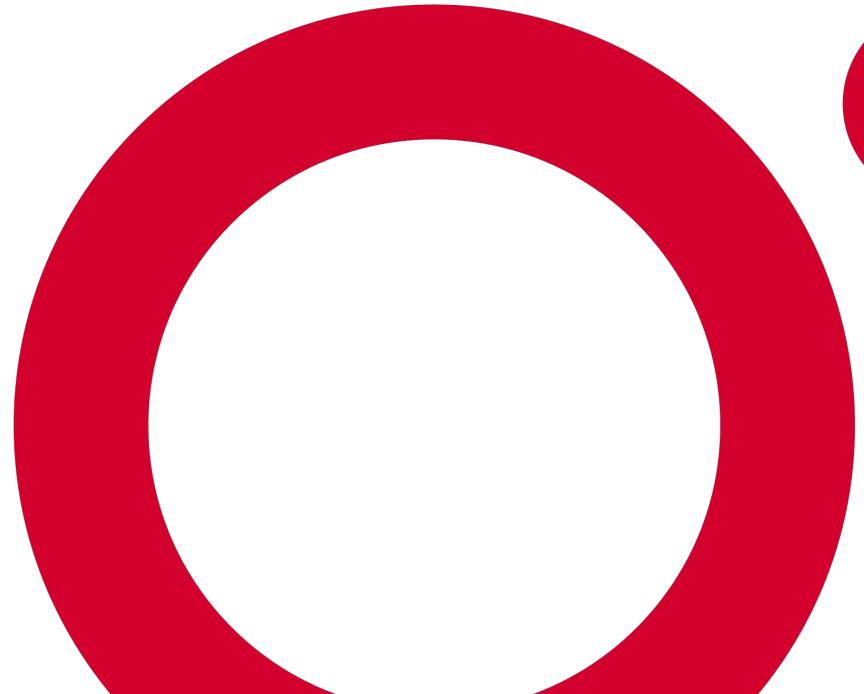




Exam AZ-305: Microsoft Azure Solutions Architect Expert Bootcamp

Earn Your Azure Solutions Architect Expert Badge



Reza Salehi

Cloud Consultant and Trainer



[@zaalion](https://twitter.com/zaalion)



Azure Cookbook

<https://learning.oreilly.com/library/view/azure-cookbook/9781098135782/>

<https://www.amazon.ca/Azure-Cookbook-Recipes-Maintain-Solutions/dp/1098135792/>

<https://www.amazon.com/Azure-Cookbook-Recipes-Maintain-Solutions/dp/1098135792>

O'REILLY®

Azure Cookbook

Recipes to Create and Maintain Cloud Solutions
in Azure



Course Overview

AZ-305 Bootcamp

- Day 1
 - Design identity, governance, and monitoring solutions
 - Design data storage solutions



AZ-305 Bootcamp

- Day 2
 - Design business continuity solutions
 - Design infrastructure solutions



Course Repository

<https://github.com/zaalion/oreilly-az-305>

Congratulations, you passed!

You've renewed your Microsoft Certified: Azure Security Engineer Associate and have extended it by one year.



[See your results](#)

 main 

 1 branch  0 tags

Go to file

Add file 

 Code 

 rezasalehinewsig Slide deck for December 22

 OReilly-AZ-500-Slide-Deck.pptx Slide deck for December 22

 README.md Initial commit

README.md

oreilly-az-500

Local

Codespaces 

 Clone 

[HTTPS](#) [SSH](#) [GitHub CLI](#)

<https://github.com/zaalion/oreilly-az-500.git> 

Use Git or checkout with SVN using the web URL.

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Open with Visual Studio

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EXAMS

Exam AZ-305: Designing Microsoft Azure Infrastructure Solutions



Candidates for this exam should have subject matter expertise in designing cloud and hybrid solutions that run on Microsoft Azure, including compute, network, storage, monitoring, and security.

Responsibilities for this role include advising stakeholders and translating business requirements into designs for secure, scalable, and reliable Azure solutions.

An Azure solutions architect partners with developers, administrators, and other roles responsible for implementing solutions on Azure.

A candidate for this exam should have advanced experience and knowledge of IT operations, including networking, virtualization, identity, security, business continuity, disaster recovery, data platforms, and governance. A professional in this role should

A candidate for this exam should have advanced experience and knowledge of IT operations, including networking, virtualization, identity, security, business continuity, disaster recovery, data platforms, and governance. A professional in this role should manage how decisions in each area affect an overall solution. In addition, they should have experience in Azure administration, Azure development, and DevOps processes.

Important

The English language version of this exam was updated on October 28, 2022. Review the study guide linked in the "Tip" box for details about the latest changes. If a localized version of this exam is available, it will be updated approximately eight weeks after this date. While Microsoft makes every effort to update localized versions as noted, there may be times when the localized versions of this exam are not updated on this schedule.

Passing score: 700. [Learn more about exam scores](#).

Tip

- Watch [AZ-305 exam prep videos](#) on Learn
- Review the [AZ-305 study guide](#) to help you prepare for the exam
- Demo the exam experience by visiting our [exam sandbox](#)

Part of the requirements for: [Microsoft Certified: Azure Solutions Architect Expert](#)

Related exams: none

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Two ways to prepare

Self-paced

Instructor-led

Items in this collection

LEARNING PATH

AZ-305 Microsoft Azure Architect Design Prerequisites

10 Modules

Intermediate • Solution Architect • Storage



Start

⊕ Save

LEARNING PATH

AZ-305: Design identity, governance, and monitor solutions

3 Modules

Advanced • Solution Architect • Azure



⊕ Save

LEARNING PATH

Day 1

Microsoft Azure Solutions Architect Expert Bootcamp

- Design identity, governance, and monitoring solutions (25–30%)
- Design data storage solutions (25–30%)

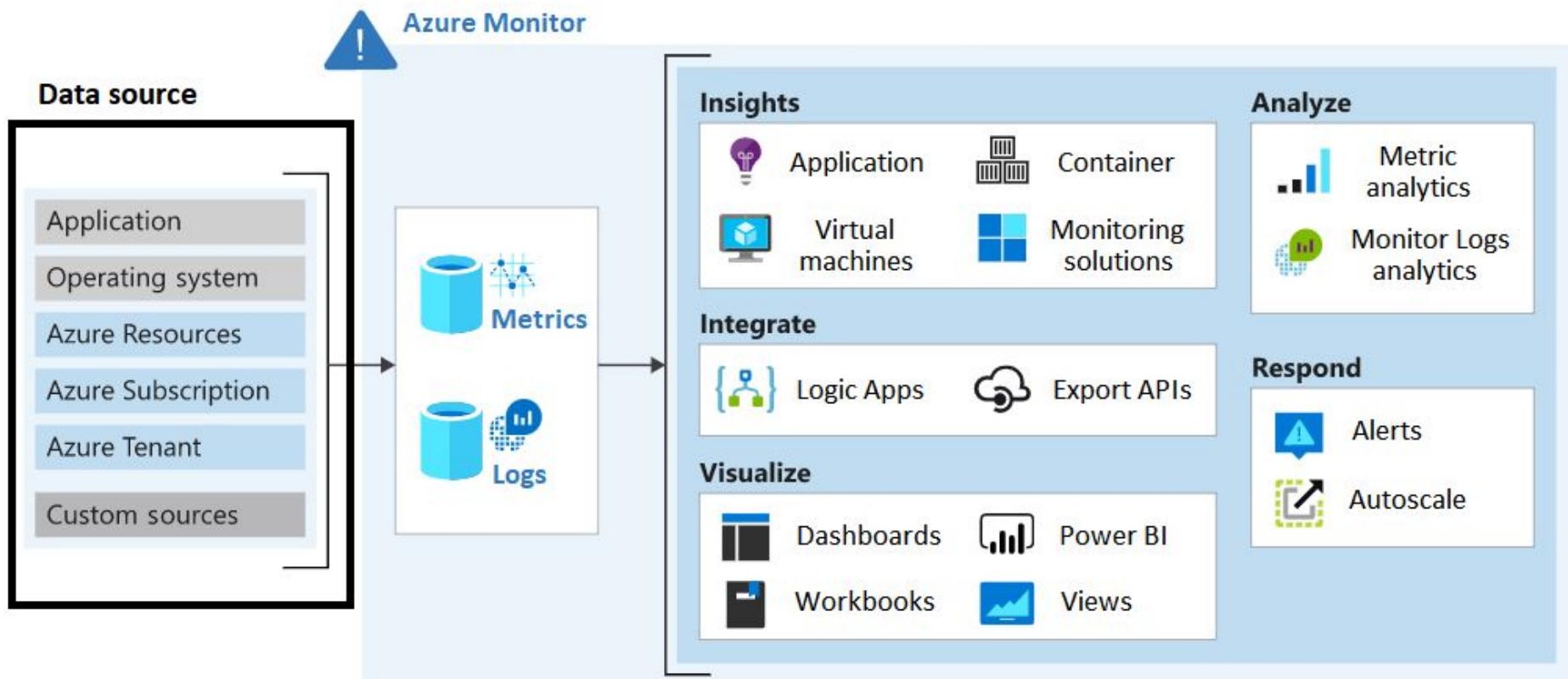
Design Identity, Governance, and Monitoring Solutions

- Design a solution for logging and monitoring
- Design authentication and authorization solutions
- Design governance
- Design identities and access for applications

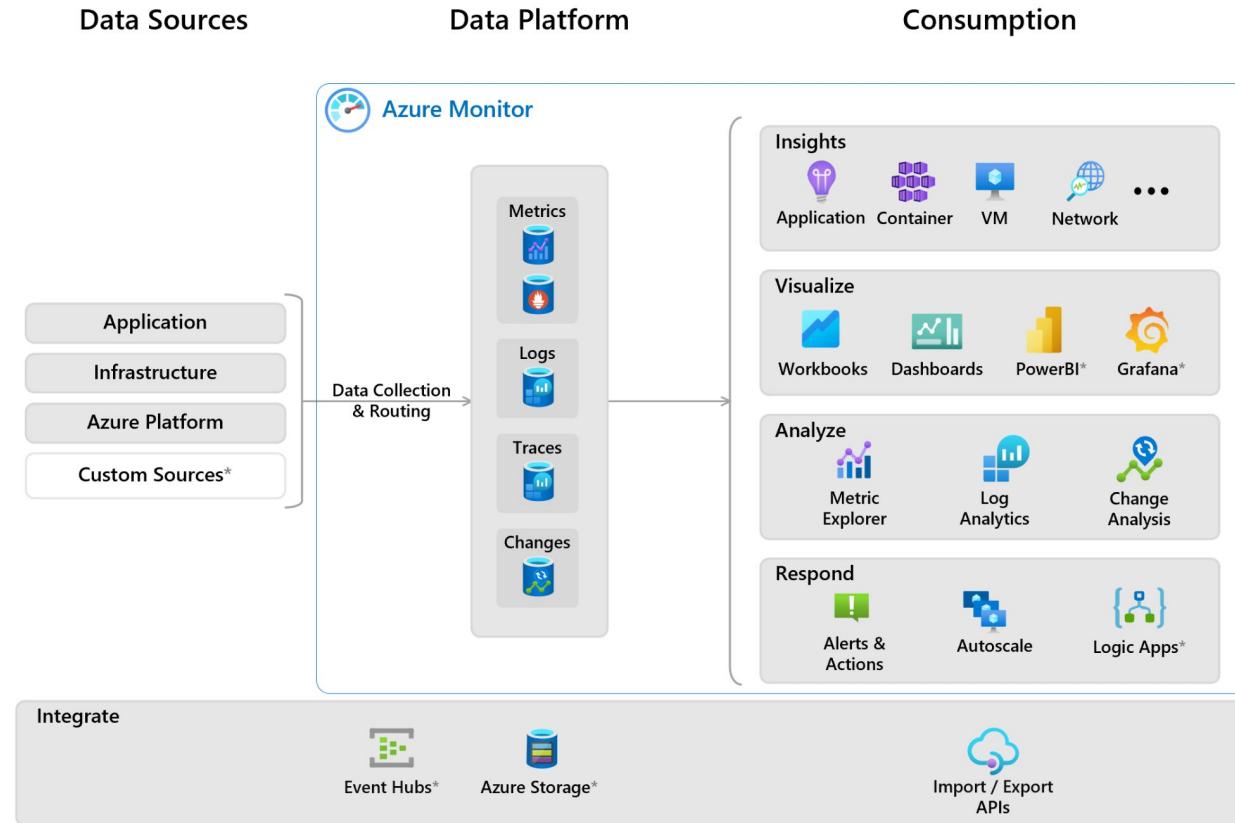
Design a Solution for Logging and Monitoring

- Design a log routing solution [see [1](#) [2](#)]
- Recommend an appropriate level of logging [see [1](#)]
- Recommend monitoring tools for a solution [see [1](#)]

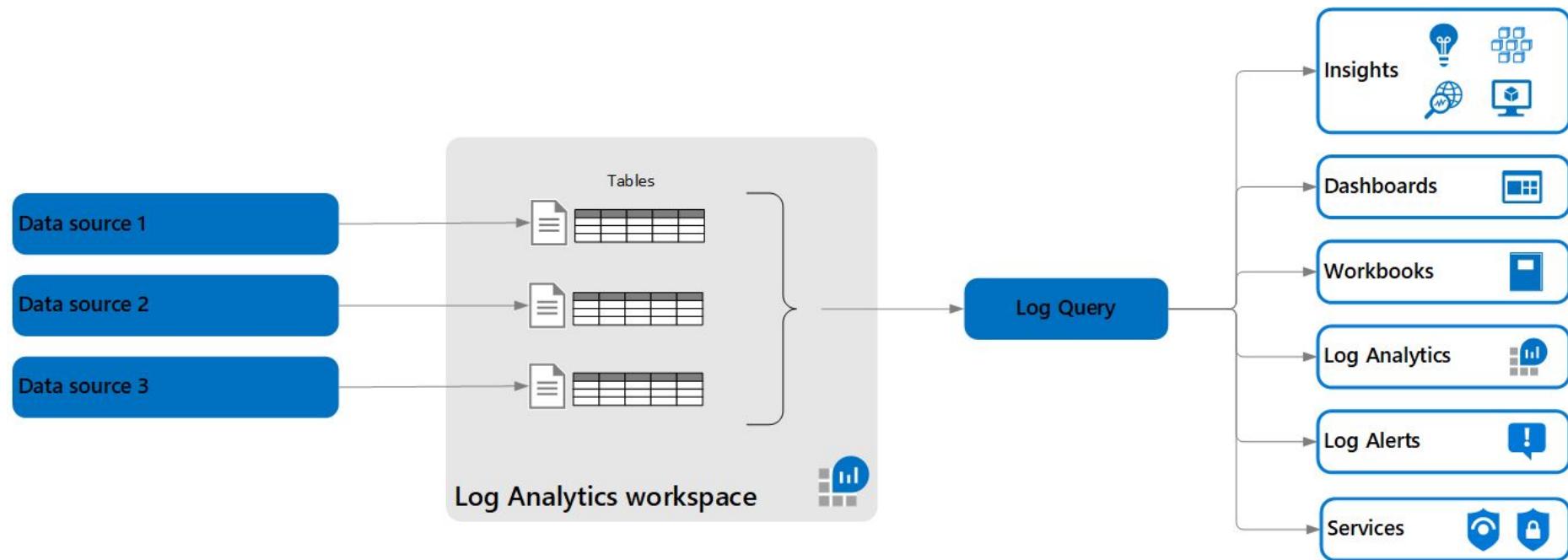
Logging and Monitoring: Azure Monitor Data Sources



Logging and Monitoring: Azure Monitor Data Sources



Logging and Monitoring: Log Analytics Workspace



Logging and Monitoring: Workbooks

Home > Monitor

Monitor | Workbooks | Gallery ⚡ ...

Microsoft

Search (Ctrl+)

+ New ⌂ Refresh ⌂ Feedback ⌂ Help ⌂ Community Git repo ⌂ Browse across galleries

All Workbooks Public Templates My Templates

Filter by name or category Subscription : CyberSecSOC Resource Group : All Reset filters

Quick start

Empty A completely empty workbook.

Recently modified workbooks (8)

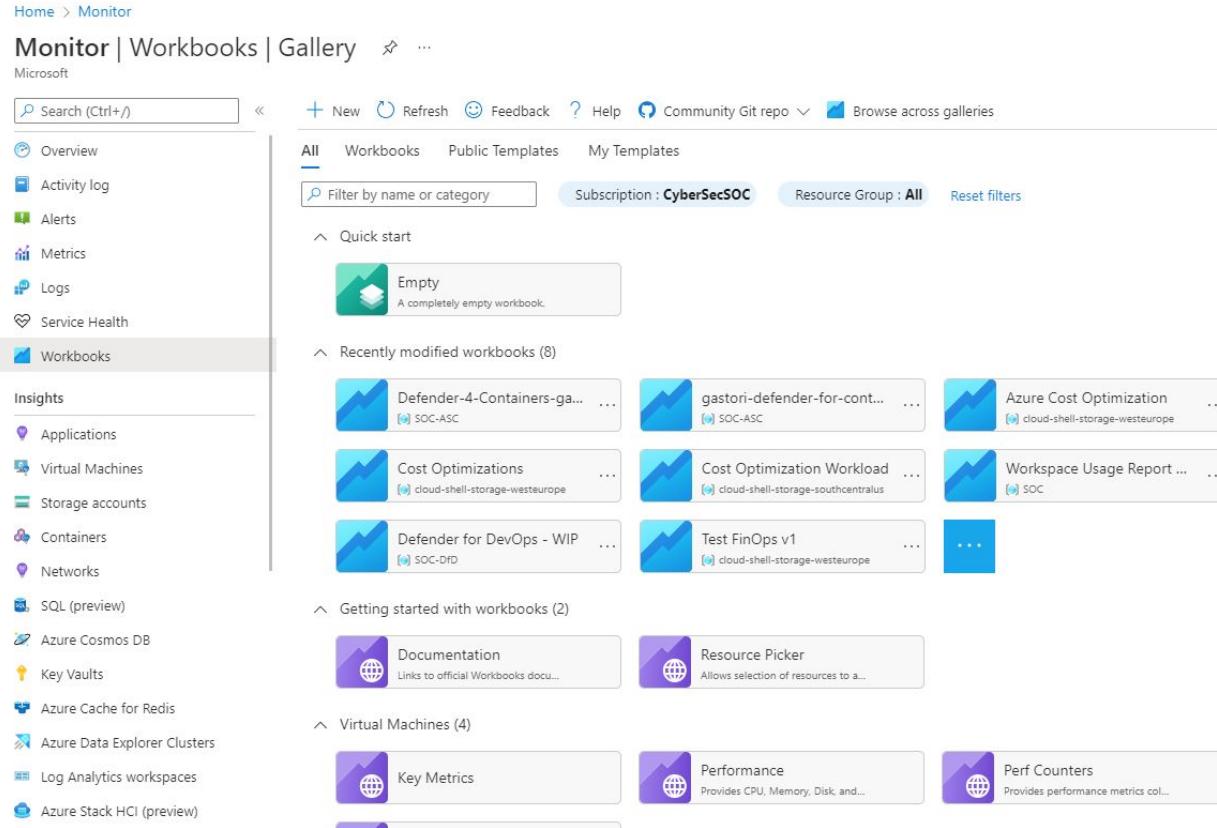
- Defender-4-Containers-ga... [SOC-ASC]
- gastori-defender-for-cont... [SOC-ASC]
- Azure Cost Optimization ... [cloud-shell-storage-westeurope]
- Cost Optimizations ... [cloud-shell-storage-westeurope]
- Cost Optimization Workload ... [cloud-shell-storage-southcentralus]
- Workspace Usage Report ... [SOC]
- Defender for DevOps - WIP ... [SOC-DFD]
- Test FinOps v1 ... [cloud-shell-storage-westeurope]

Getting started with workbooks (2)

- Documentation Links to official Workbooks docu...
- Resource Picker Allows selection of resources to a...

Virtual Machines (4)

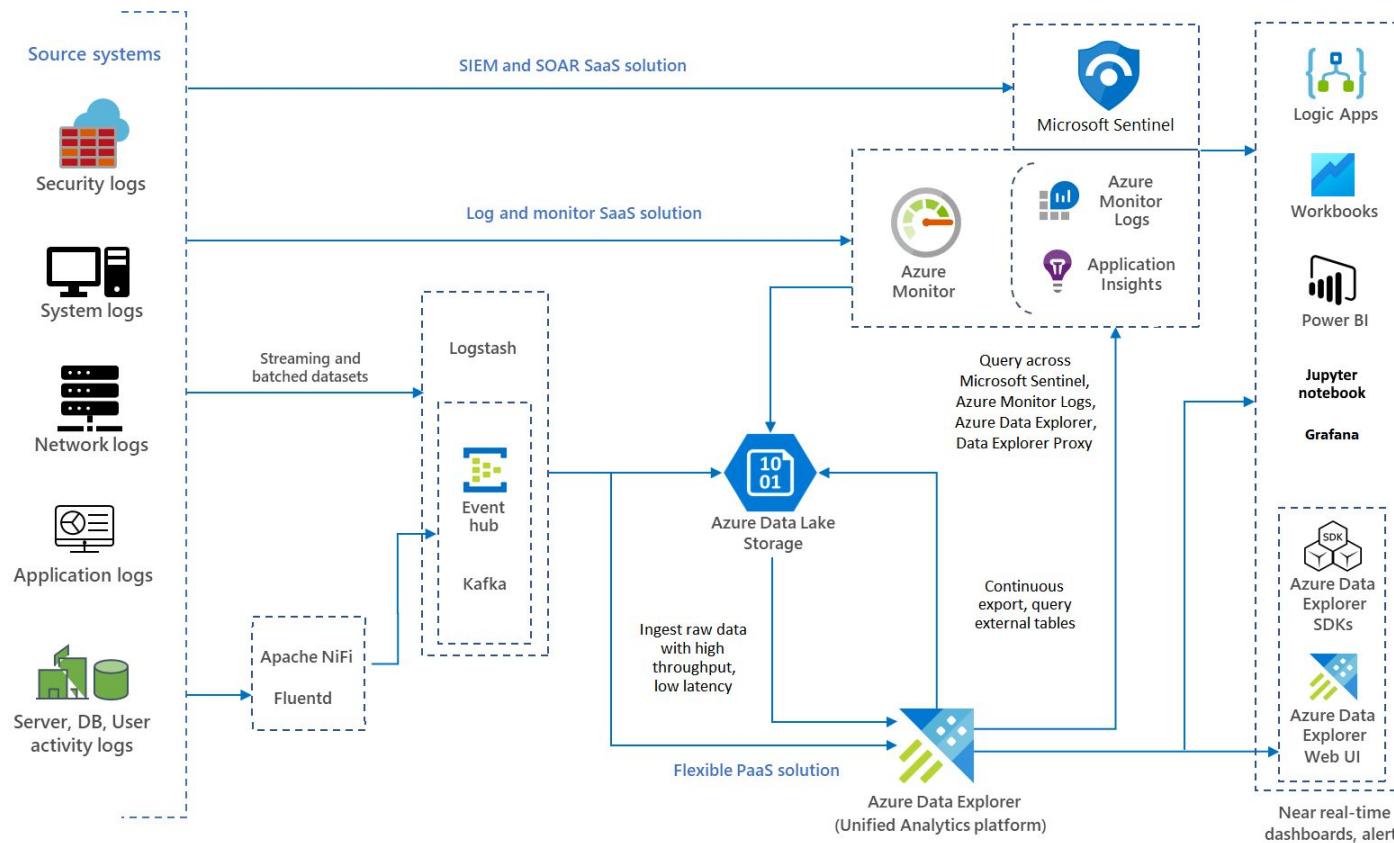
- Key Metrics
- Performance Provides CPU, Memory, Disk, and...
- Perf Counters Provides performance metrics col...



Logging and Monitoring: Insights

- [Application Insights](#)
- [Container insights](#)
- [Networks insights](#)
- [Resource group insights](#)
- [Virtual machine insights](#)
- [Azure Cache for Redis insights](#)
- [Azure Cosmos DB insights](#)
- [Azure Key Vault insights](#)
- [Azure Storage insights](#)

Logging and Monitoring: Azure Data Explorer



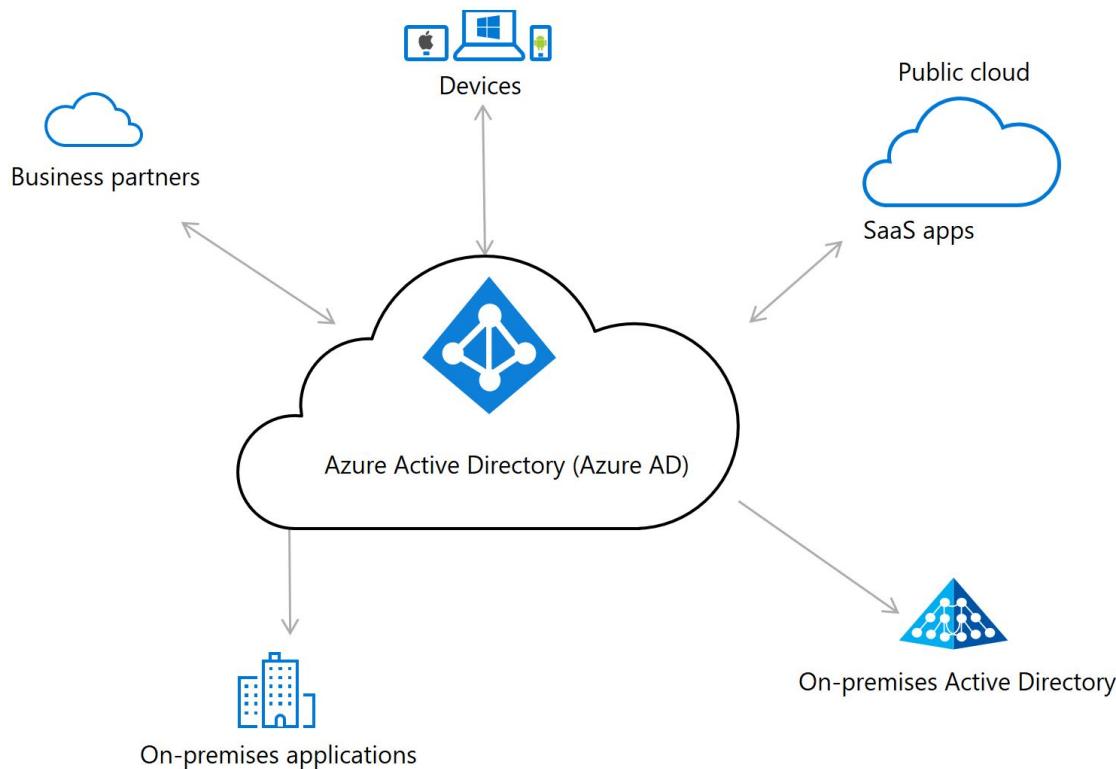
Design Authentication and Authorization Solutions

- Recommend a solution for securing resources with role-based access control [see [1](#)]
- Recommend an identity management solution [see [1](#) [2](#) [3](#) [4](#)]
- Recommend a solution for securing identities [see [1](#) [2](#)]

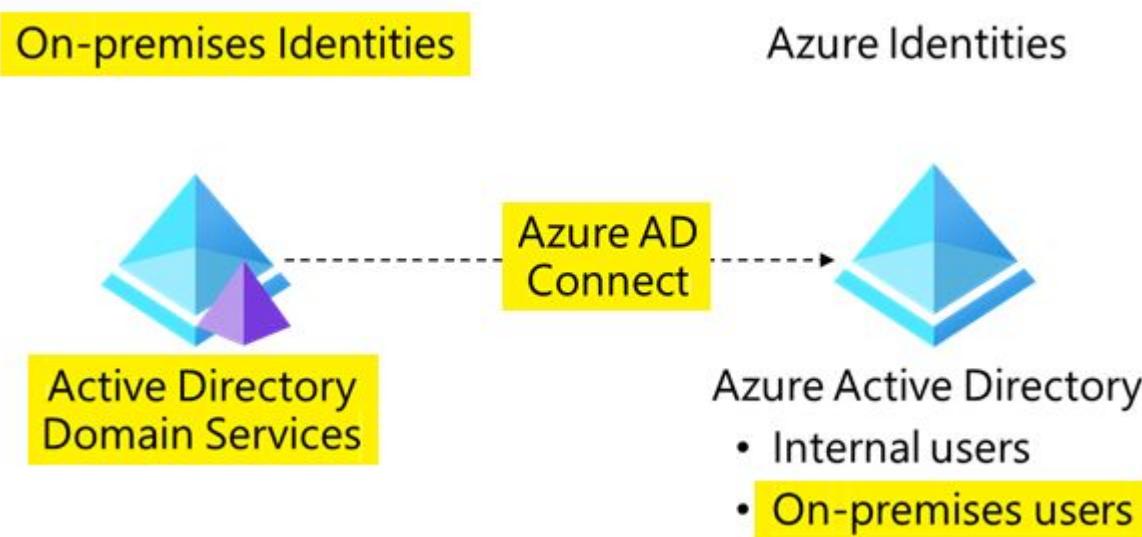
Design Identities and Access for Applications

- Recommend solutions to allow applications to access Azure resources [see [1](#) [2](#) [3](#)]
- Recommend a solution that securely stores passwords and secrets [see [1](#)]
- Recommend a solution for integrating applications into Microsoft Azure Active Directory (Azure AD), part of Microsoft Entra [see [1](#)]
- Recommend a user consent solution for applications [see [1](#)]

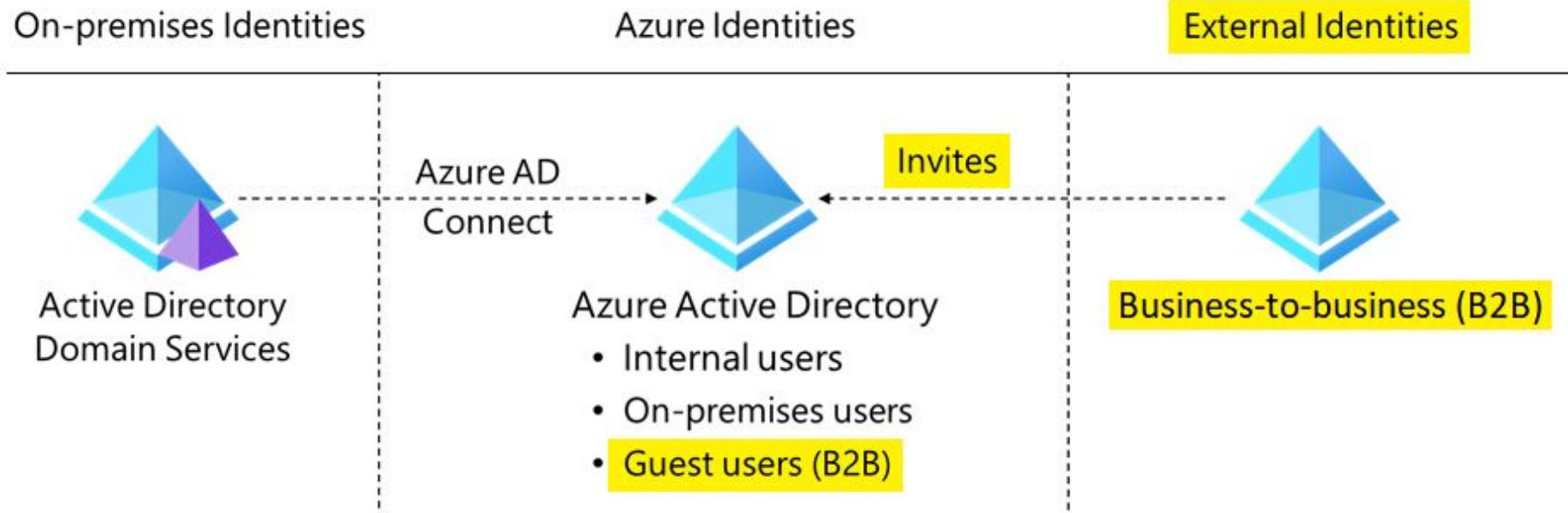
Authentication and Authorization: IAM



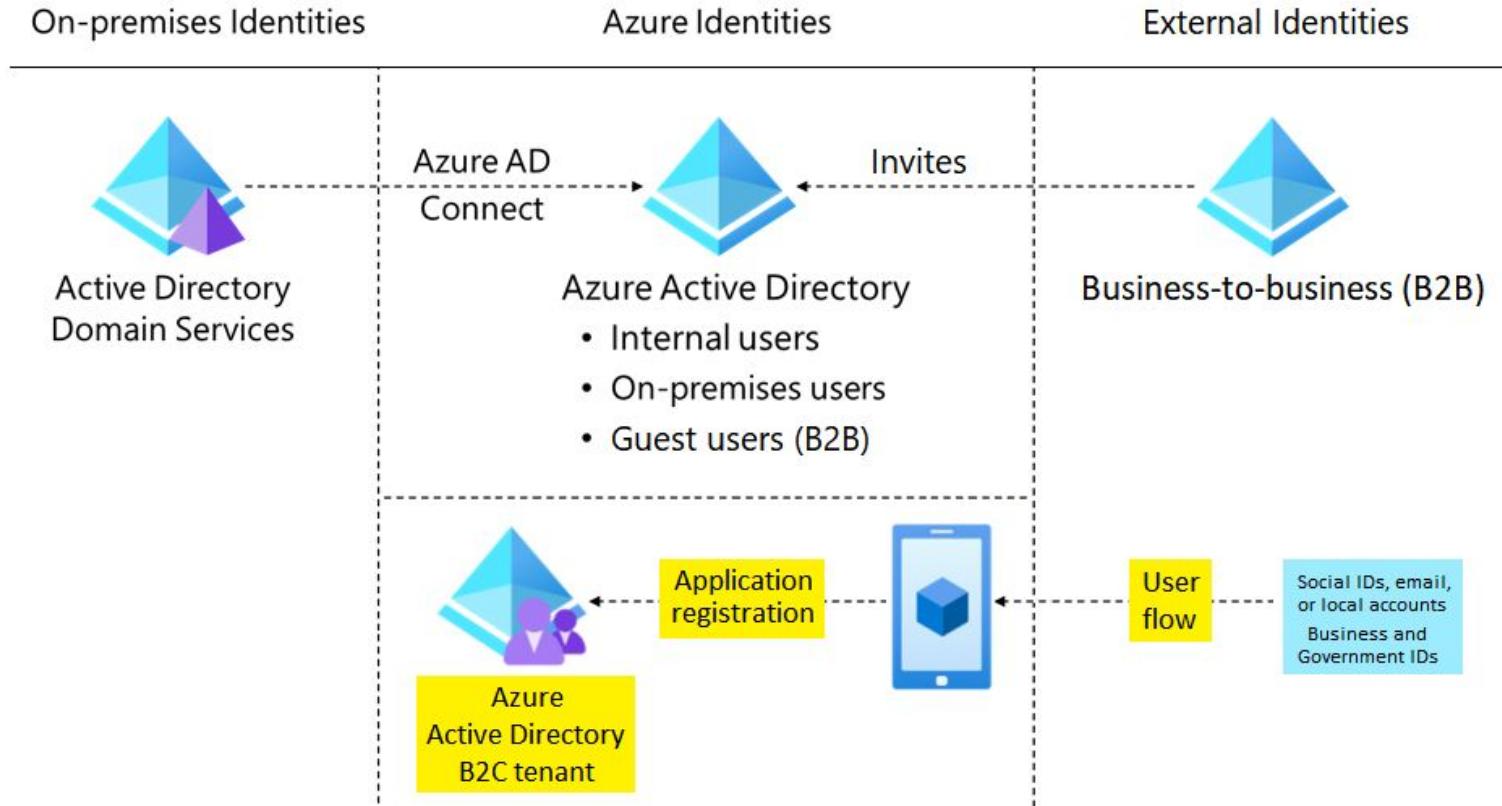
Authentication and Authorization: Azure AD



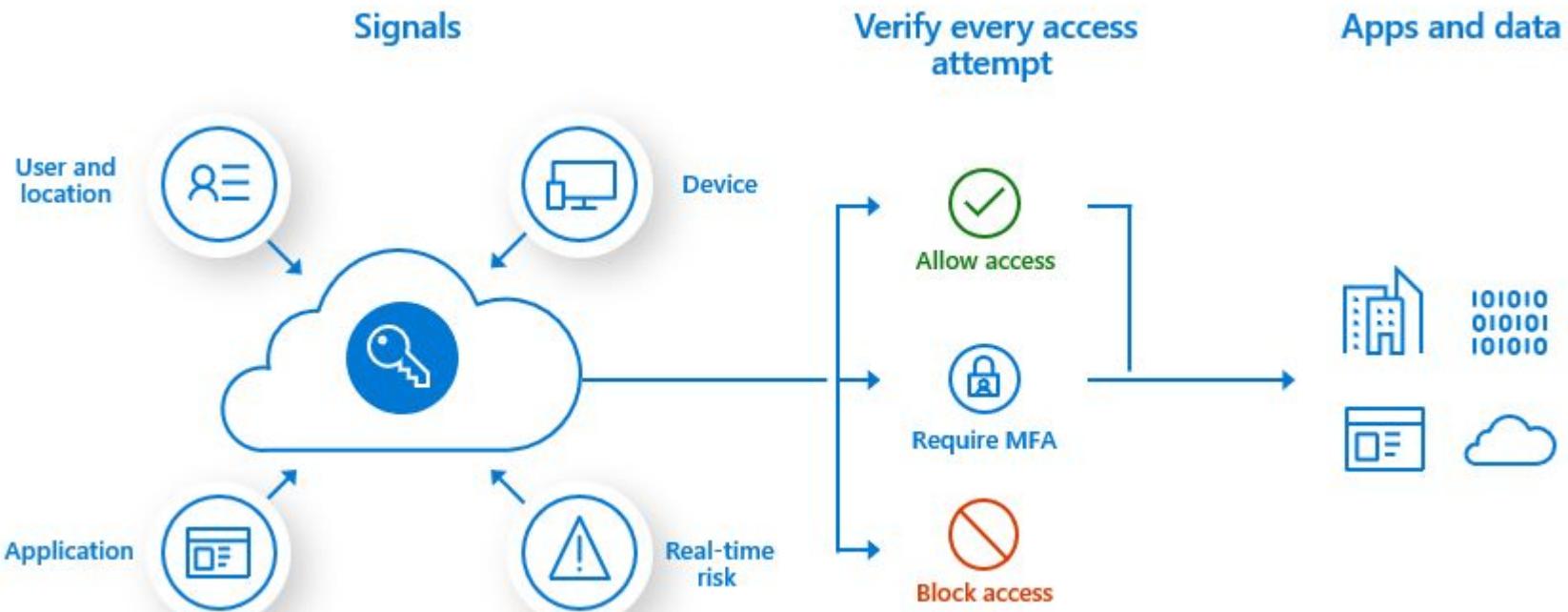
Authentication and Authorization: Azure AD B2B



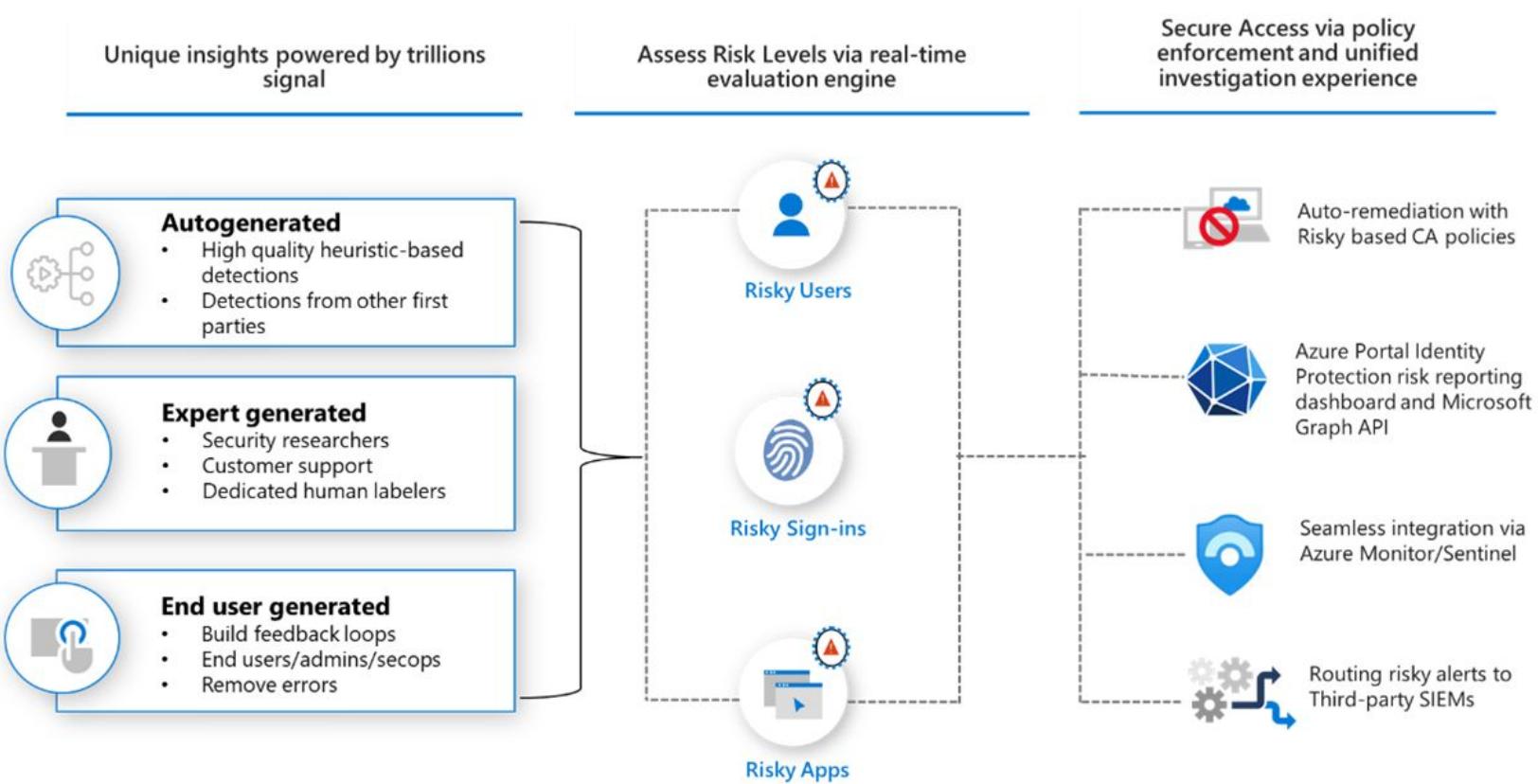
Authentication and Authorization: Azure AD B2C



Authentication and Authorization: Conditional Access

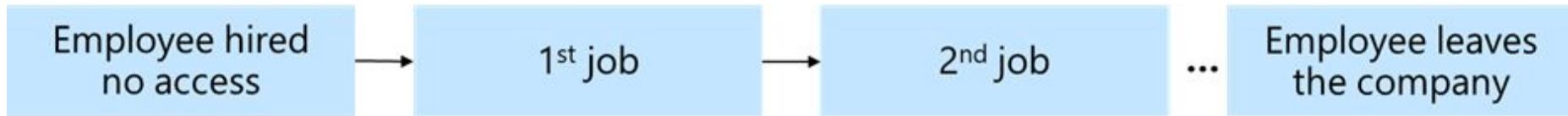


Authentication and Authorization: Identity Protection

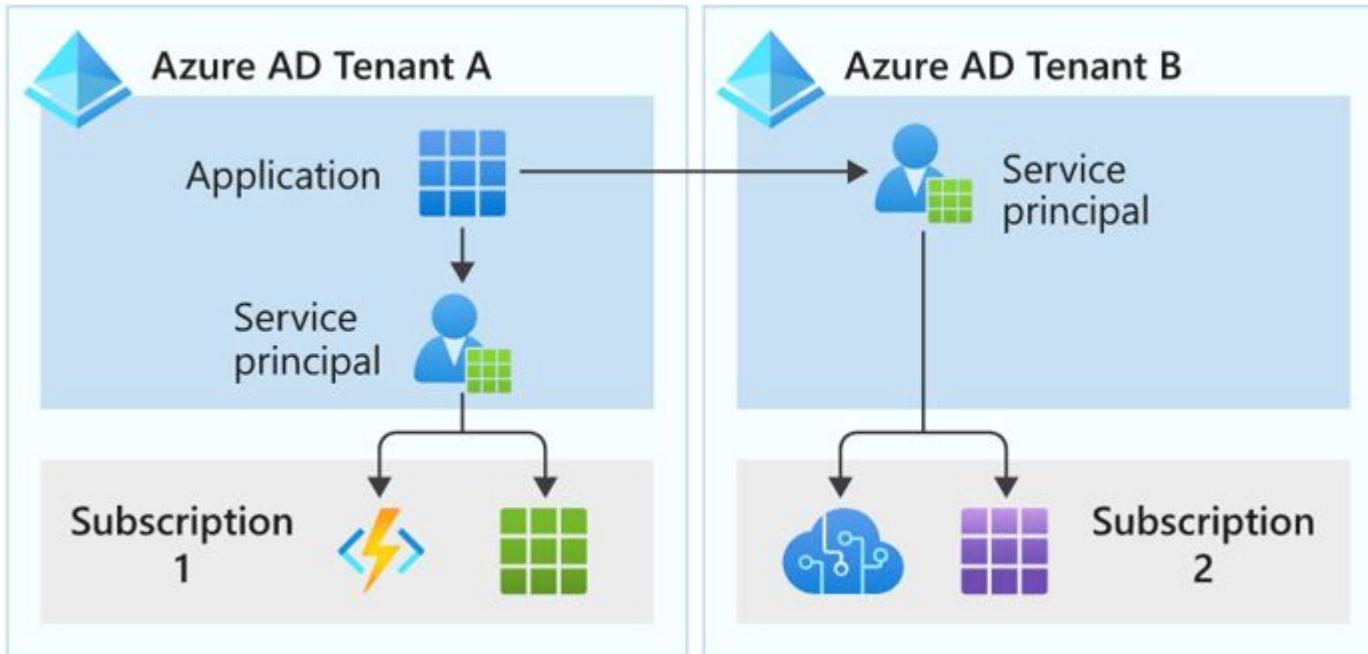


Authentication and Authorization: Access Reviews

- Enables organizations to efficiently manage group memberships, access to enterprise applications, and role assignments.



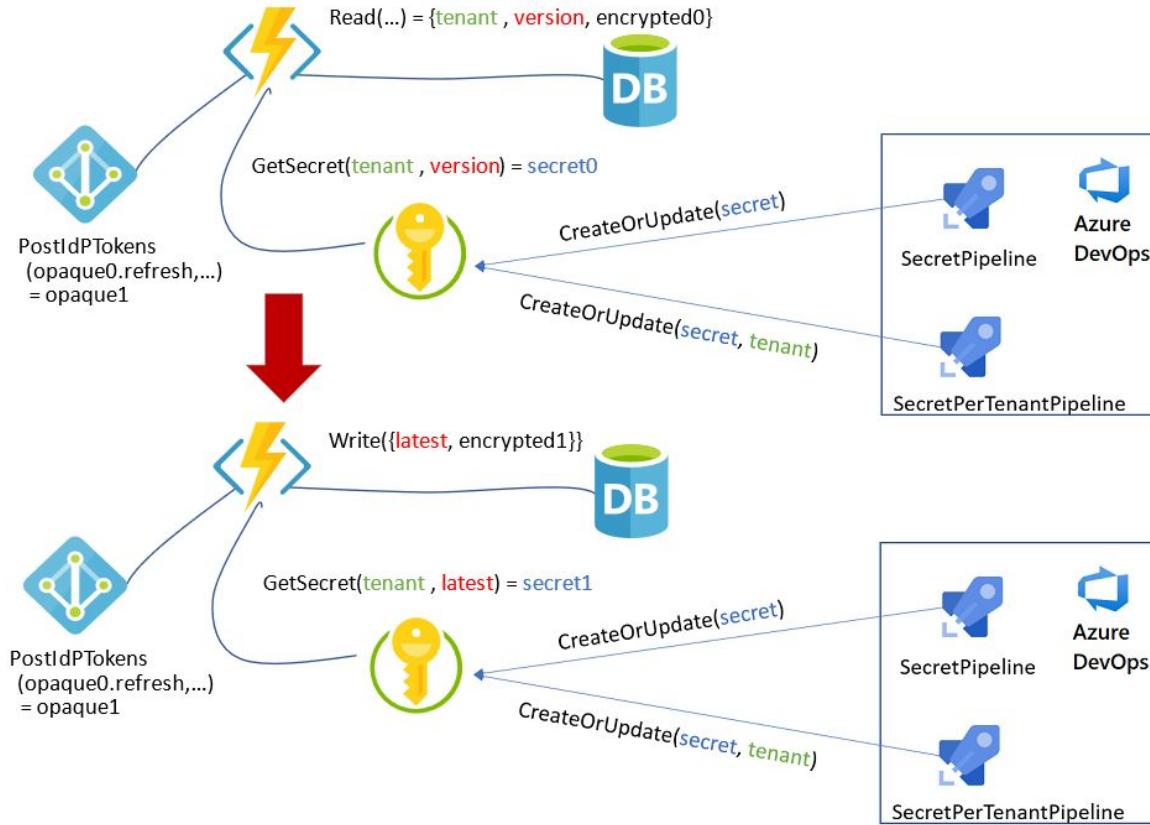
Authentication and Authorization: Service Principals



Authentication and Authorization: Managed Identity

- A common challenge for developers is the management of secrets, credentials, certificates, and keys used to secure communication between services. Managed identities eliminate the need for developers to manage these credentials.

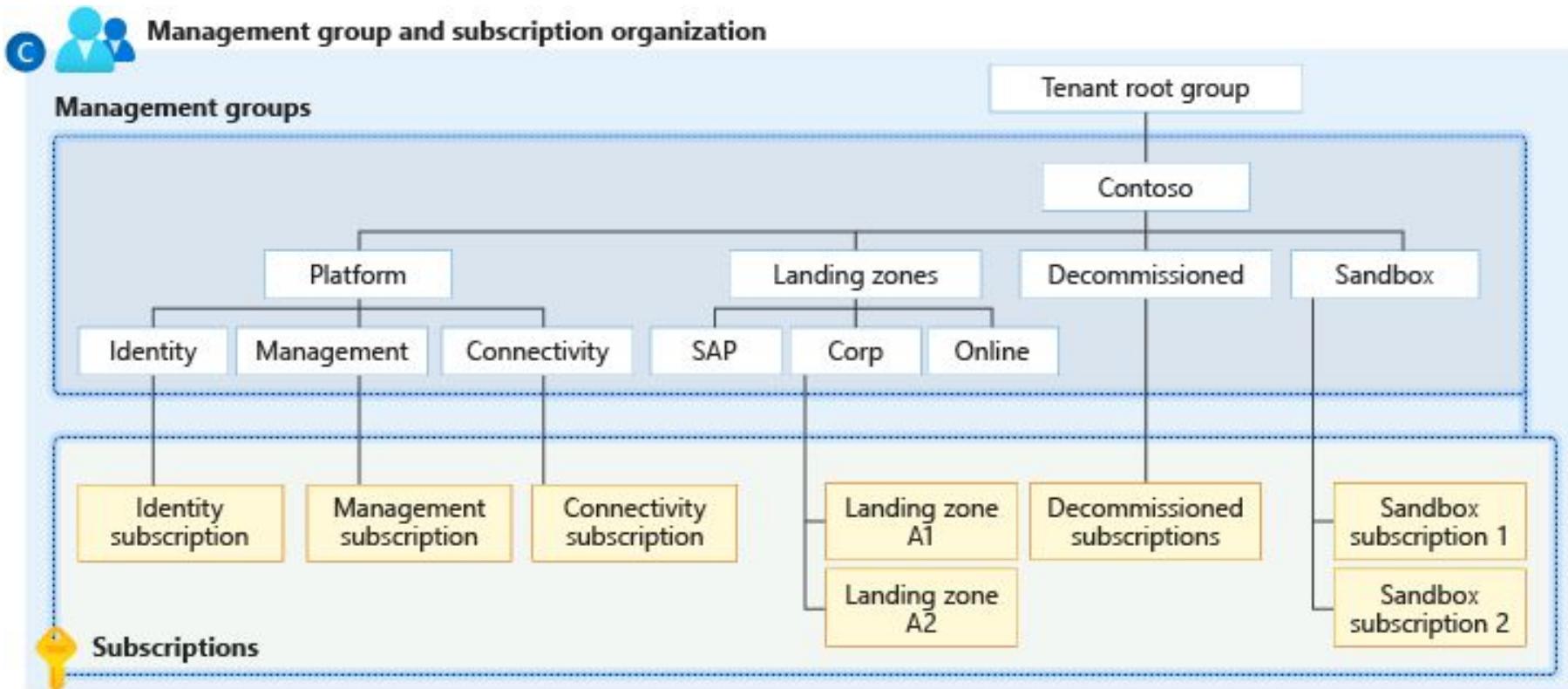
Authentication and authorization: Azure key vault



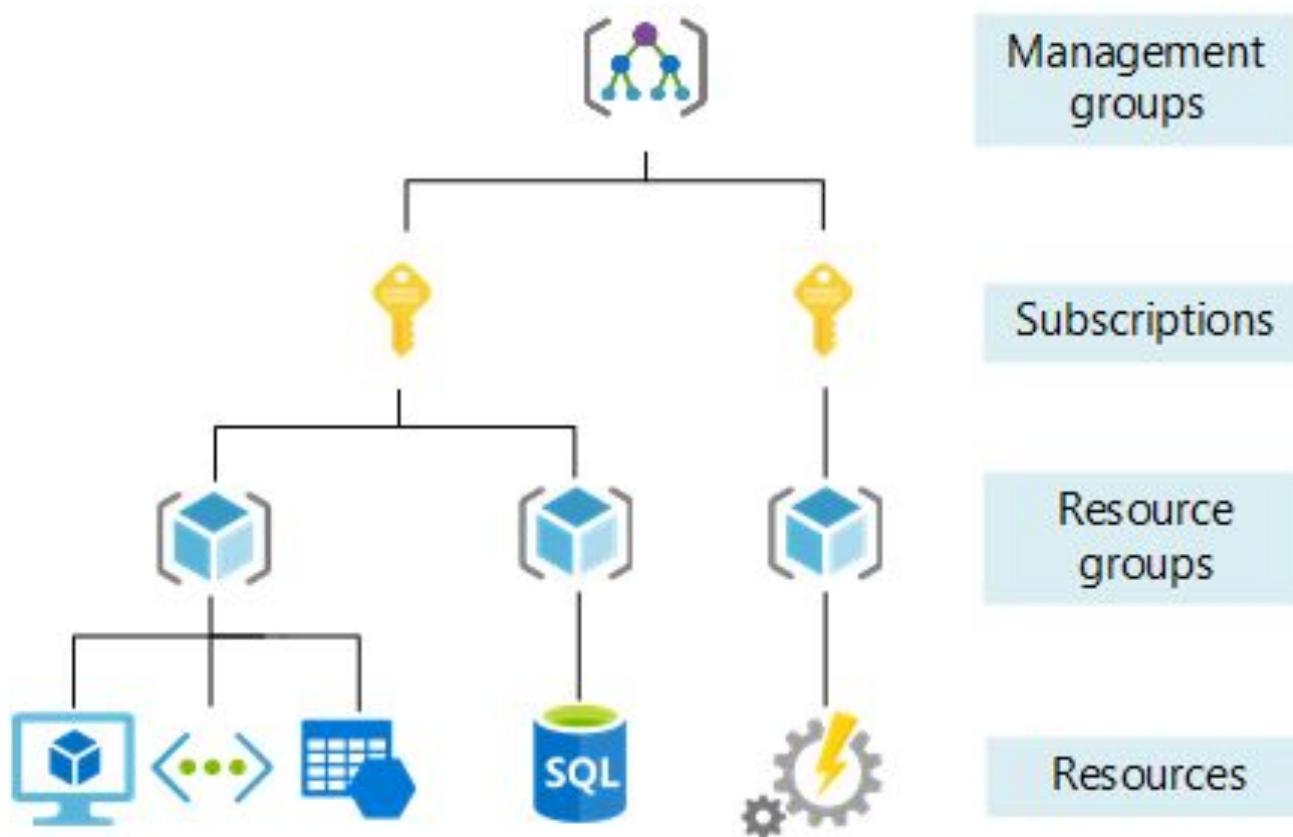
Design Governance

- Recommend an organizational and hierarchical structure for Azure resources [see [1](#)]
- Recommend a solution for enforcing and auditing compliance [see [1](#) [2](#)]

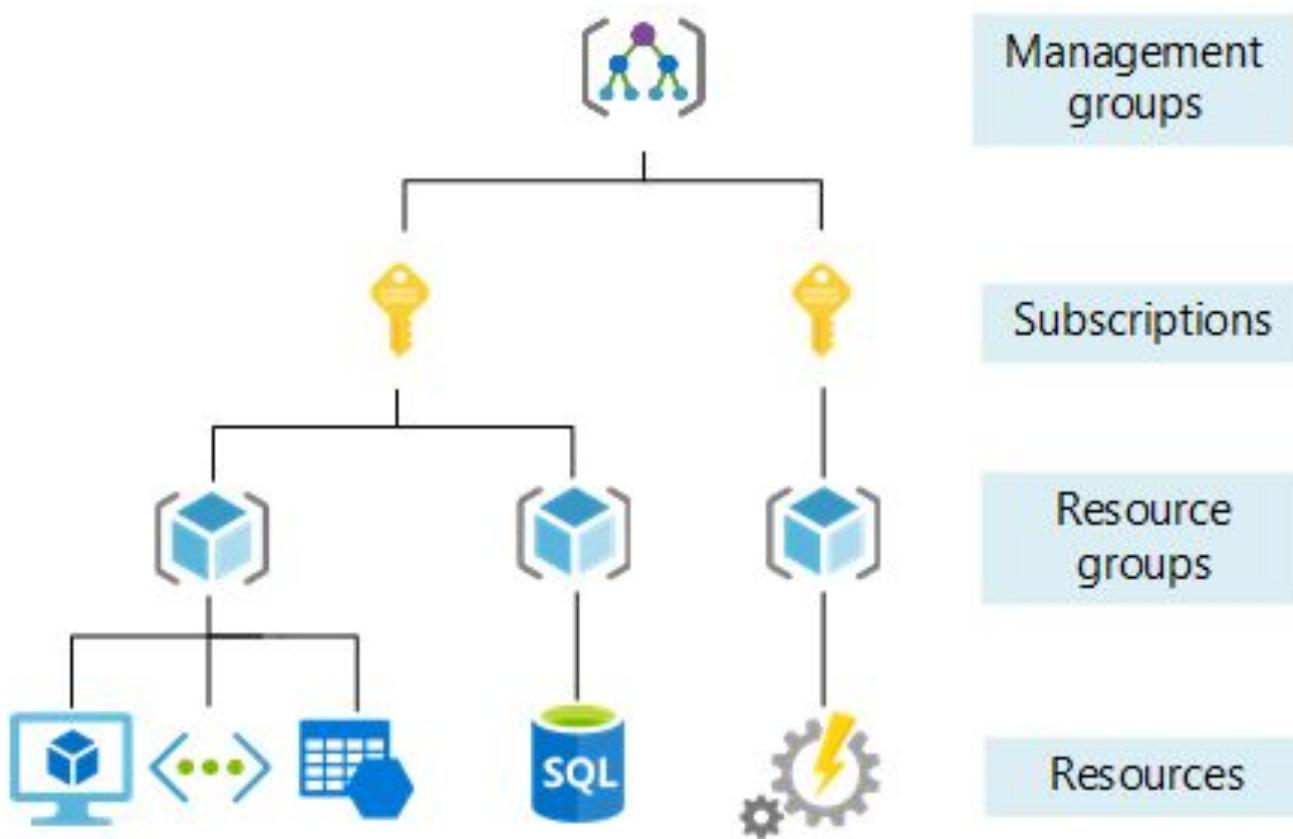
Design Governance: Management Groups



Design Governance: Subscriptions



Design Governance: Resource Groups



Design Governance: Resource Tags

Edit tags

Tags are name/value pairs that enable you to categorize resources and view consolidated billing by applying the same tag to multiple resources and resource groups. Tag names are case-insensitive and tag values are case-sensitive. [Learn more about tags](#)

Tags

Name ⓘ

Value ⓘ

Dept

Finance



...

 :

Resource



demoGroup (Resource group)

1 to be added ⓘ

Design Governance: Azure Policy

Tracking virtual machine compliance



Design Governance: RBAC (Role-based Access Control)

1 Security principal



2 Role definition

Owner
Contributor
Reader
...
Backup Operator
Security Reader
User Access Administrator
Virtual Machine Contributor

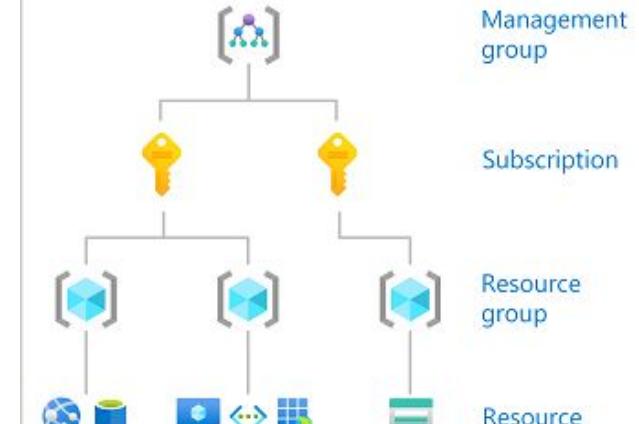
Built-in

Reader Support Tickets
Virtual Machine Operator

Custom

```
Contributor
{
  "Actions": [
    "*"
  ],
  "NotActions": [
    "Authorization/*/Delete",
    "Authorization/*/Write",
    "Authorization/elevateAccess/Action"
  ],
  "DataActions": [],
  "NotDataActions": [],
  "AssignableScopes": [
    "/"
  ]
}
```

3 Scope



Design Governance: Azure Blueprints

Blueprint definition

A blueprint is composed of *artifacts*. Azure Blueprints currently supports the following resources as artifacts:

Resource	Hierarchy options	Description
Resource Groups	Subscription	Create a new resource group for use by other artifacts within the blueprint. These placeholder resource groups enable you to organize resources exactly the way you want them structured and provides a scope limiter for included policy and role assignment artifacts and ARM templates.
ARM template	Subscription, Resource Group	Templates, including nested and linked templates, are used to compose complex environments. Example environments: a SharePoint farm, Azure Automation State Configuration, or a Log Analytics workspace.
Policy Assignment	Subscription, Resource Group	Allows assignment of a policy or initiative to the subscription the blueprint is assigned to. The policy or initiative must be within the scope of the blueprint definition location. If the policy or initiative has parameters, these parameters are assigned at creation of the blueprint or during blueprint assignment.
Role Assignment	Subscription, Resource Group	Add an existing user or group to a built-in role to make sure the right people always have the right access to your resources. Role assignments can be defined for the entire subscription or nested to a specific resource group included in the blueprint.

Design Governance: Landing Zones

- Provides an infrastructure environment for hosting your workloads
- Ensure key foundational principles are put in place before you deploy services.
- Scale, security governance, networking, and identity

Design Data Storage Solutions

- Design a data storage solution for relational data
- Design data integration
- Recommend a data storage solution
- Design a data storage solution for non-relational data

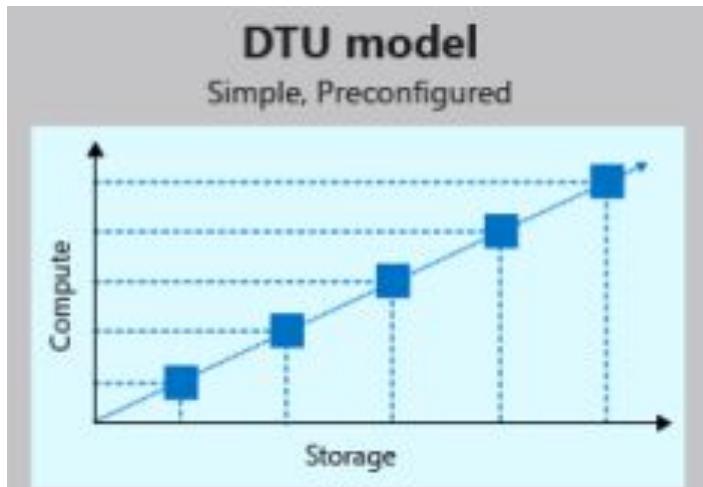
Design a Data Storage Solution for Relational Data

- Recommend database service tier sizing [see [1](#) [2](#) [3](#) [4](#)]
- Recommend a solution for database scalability [see [1](#) [2](#) [3](#) [4](#)]
- Recommend a solution for encrypting data at rest, data in transmission, and data in use [see [1](#) [2](#) [3](#)]

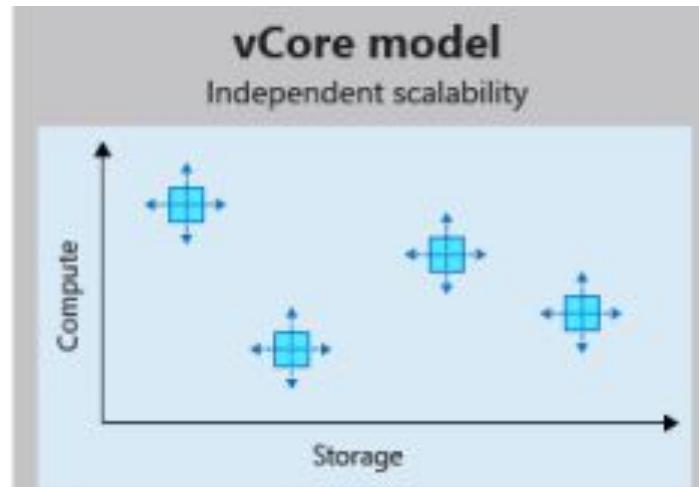
Recommend a Data Storage Solution

- Recommend a solution for storing relational data [see [1](#) [2](#)]
- Recommend a solution for storing semi-structured data [see [1](#)]
- Recommend a solution for storing non-relational data [see [1](#)]

Design Relational Data: Azure SQL Database



- Bundled measure of compute, storage and IO resources
- Best for simple, preconfigured resource options
- DTU = Database Transaction Unit

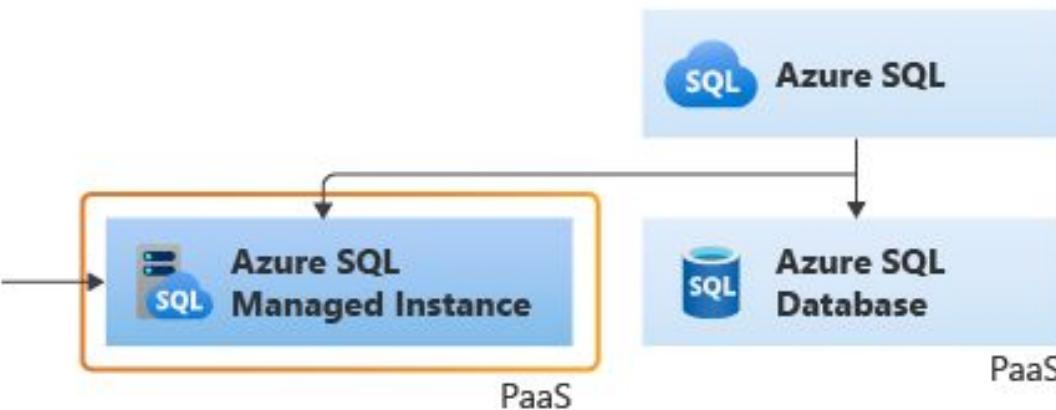


- Independent scaling of compute, storage and IO resources
- Best for flexibility, control, transparency
- Use Azure Hybrid Benefit for SQL Server to gain cost savings

Design Relational Data: Azure SQL Managed Instance

What is SQL Managed Instance?

Deployment option that enables **frictionless migration** for SQL apps and **modernization** in a fully managed service



Easy lift and shift

Fully-fledged SQL instance with nearly 100% compatibility with on-premises

Fully managed PaaS

Built on the same PaaS service infrastructure
All PaaS features

Full isolation and security

Native VNet implementation
Private IP addresses

Design Relational Data: SQL Server on Azure Virtual Machines



Customer challenge

I want to migrate to the cloud as fast as possible but maintain operating system control and complete SQL Server functionality



Solution

SQL Server on Azure Virtual Machines combines SQL performance, security, and analytics with the flexibility, security, and hybrid connectivity of Azure

Key features

- SQL Server and OS server access
- Expansive SQL and OS versions
- Windows, Linux, Containers
- File stream, DTC, and Simple Recovery model
- SSAS, SSRS, and SSIS

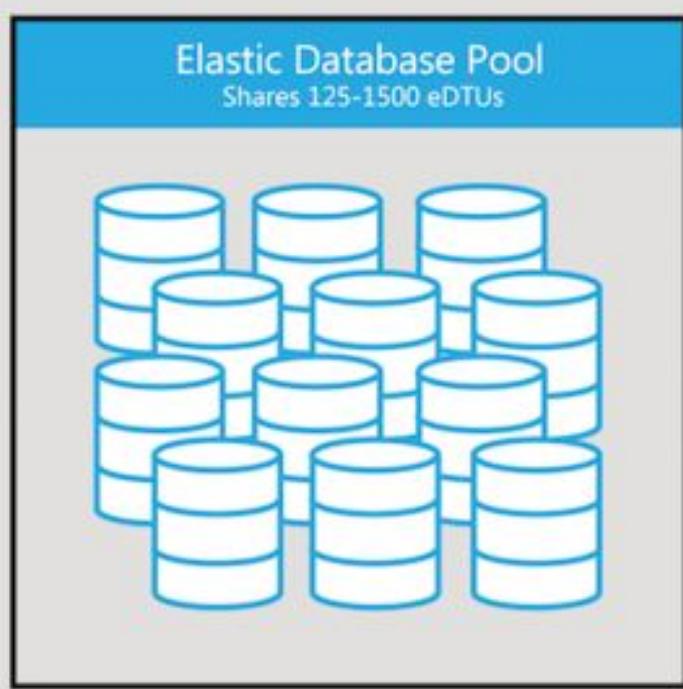
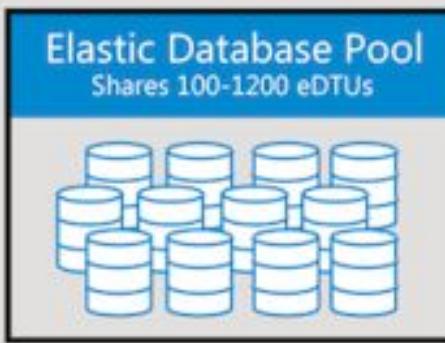
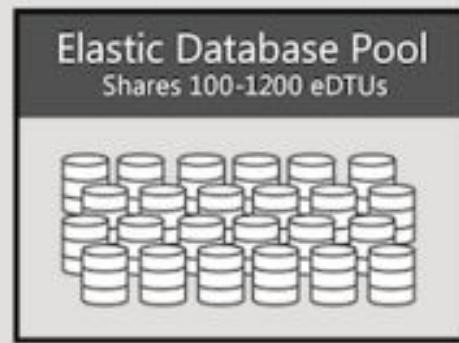
Azure differentiators

- Free Extended Security Updates for SQL Server 2008 R2
- Automated backups, security updates
- Azure Backup Point-in-time restore
- Accelerated storage performance with Azure Blob Caching
- 435 % overall return on an Azure IaaS investment over five years

Design Relational Data: database scalability

Elastic pools

Azure SQL Database elastic pools are a simple, cost-effective solution for scaling multiple databases when you have unpredictable and variable usage demands.

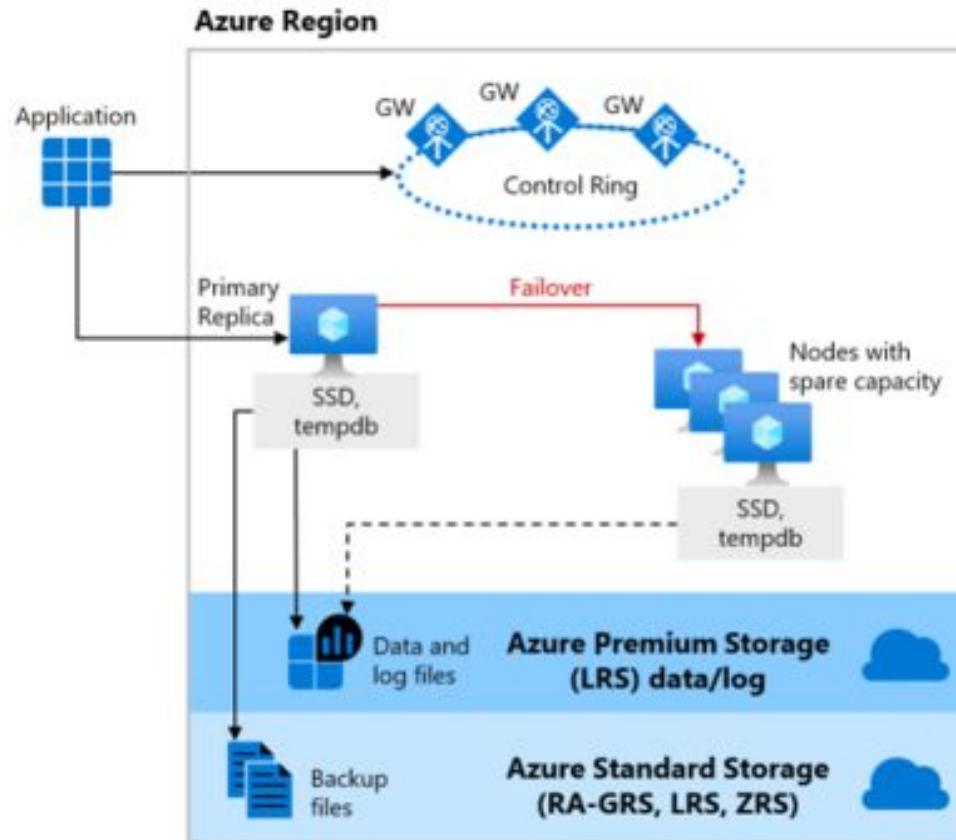


BASIC

STANDARD

PREMIUM

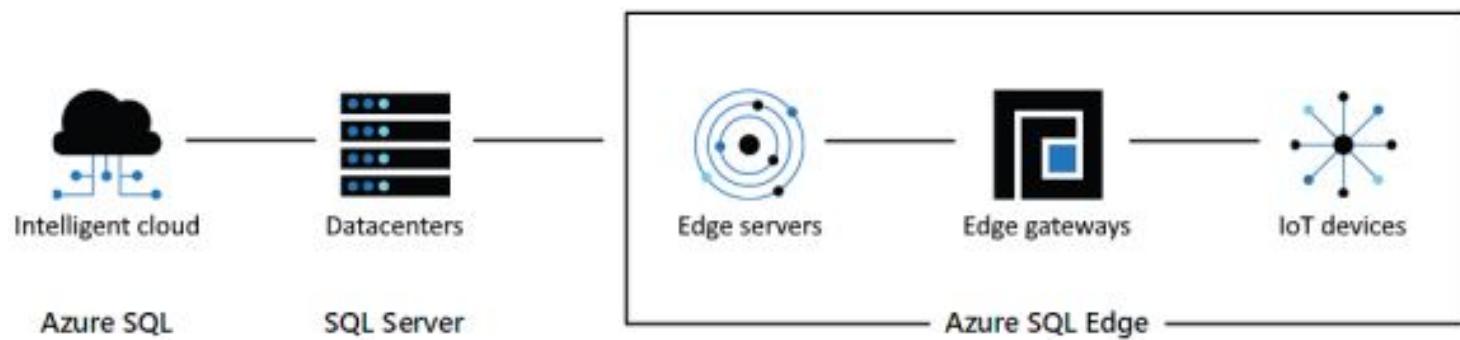
Design Relational Data: Database Availability



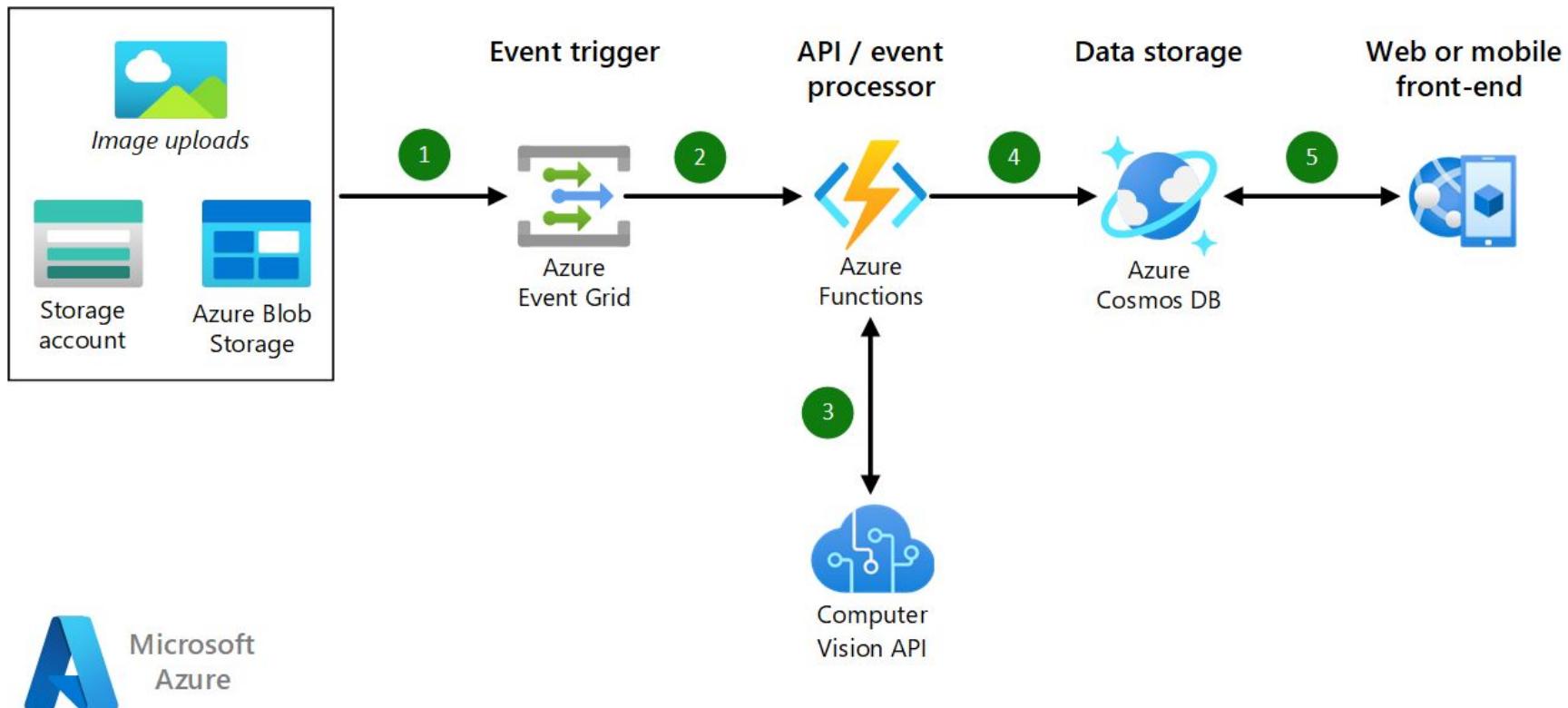
Design Relational Data: Data Security

- Encryption for data at rest and TDE
- Encryption for data in motion
- Encryption for data-in-use and dynamic data masking

Design Relational Data: Azure SQL Edge



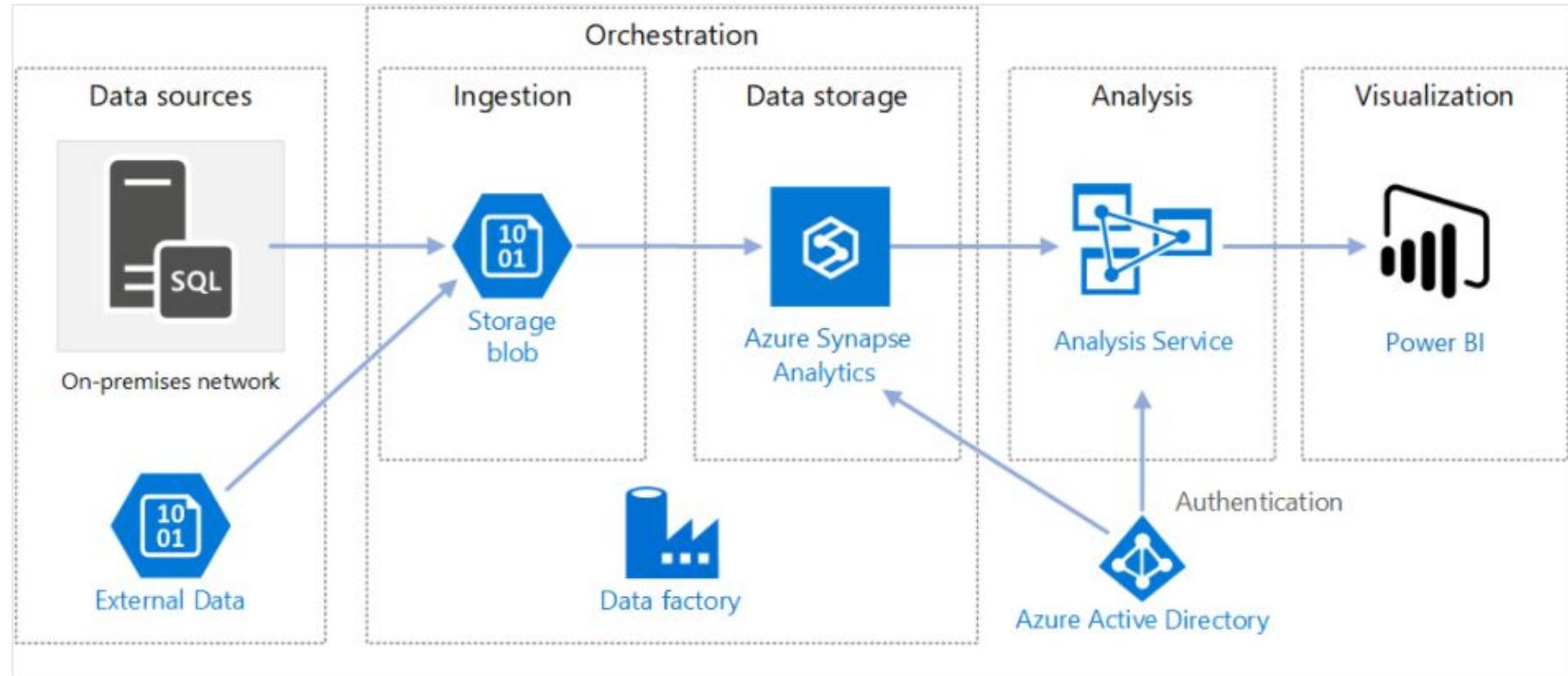
Design Relational Data: Azure Cosmos DB and Table Storage



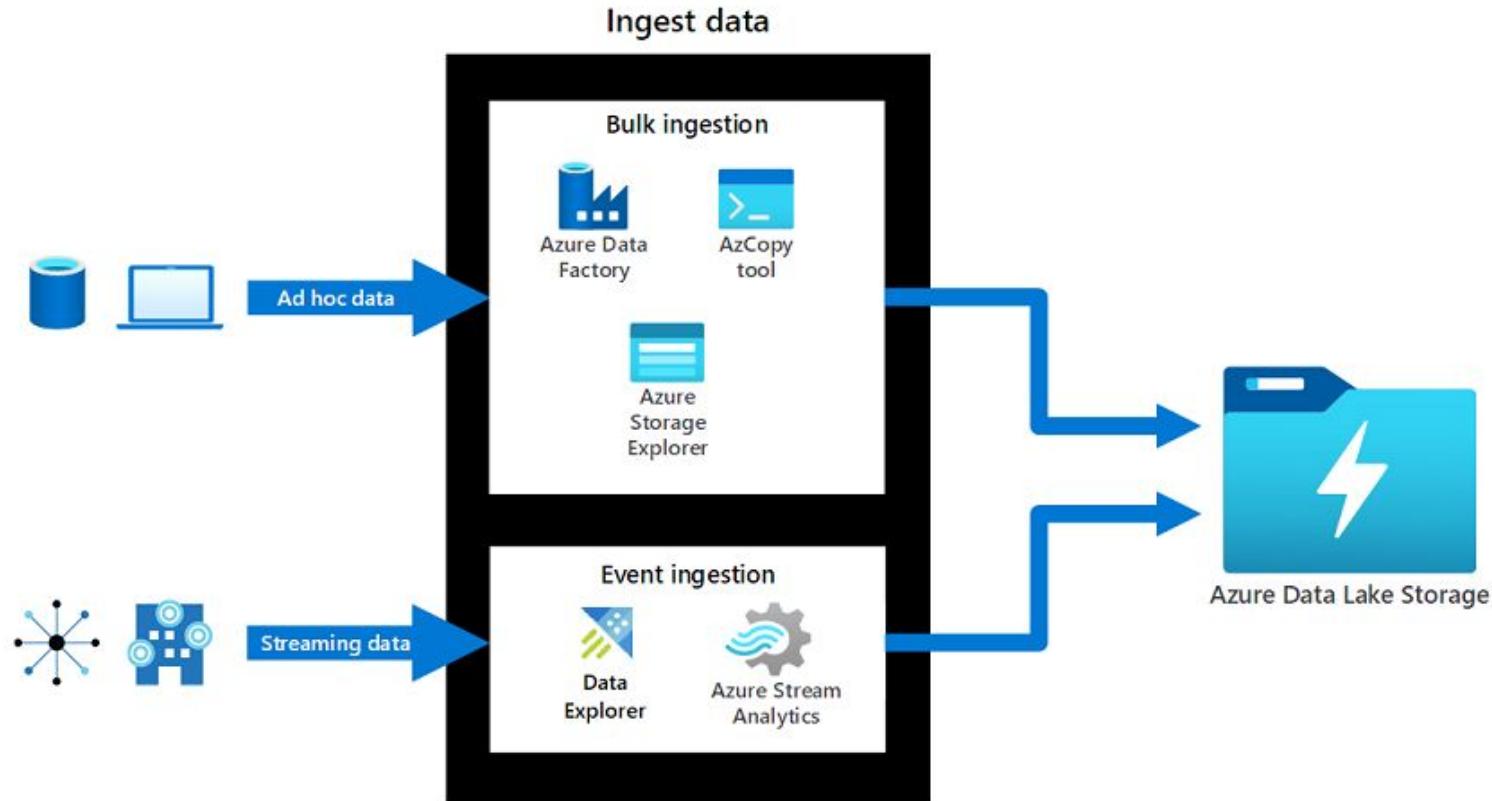
Design Data Integration

- Recommend a solution for data integration [see [1](#) [2](#) [3](#) [4](#) [5](#) [6](#)]
- Recommend a solution for data analysis [see [1](#) [2](#) [3](#) [4](#)]

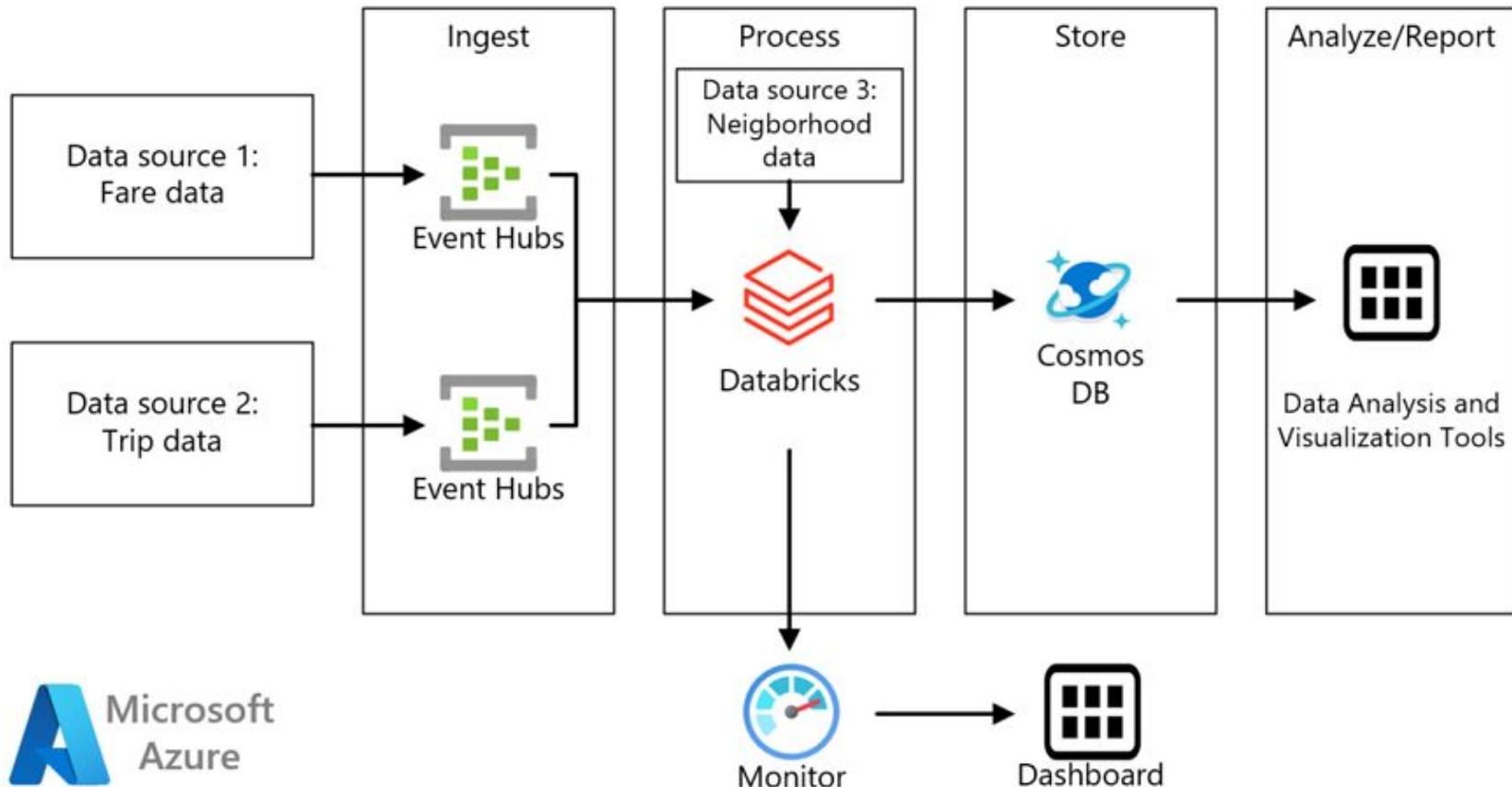
Design Data Integration: Azure Data Factory



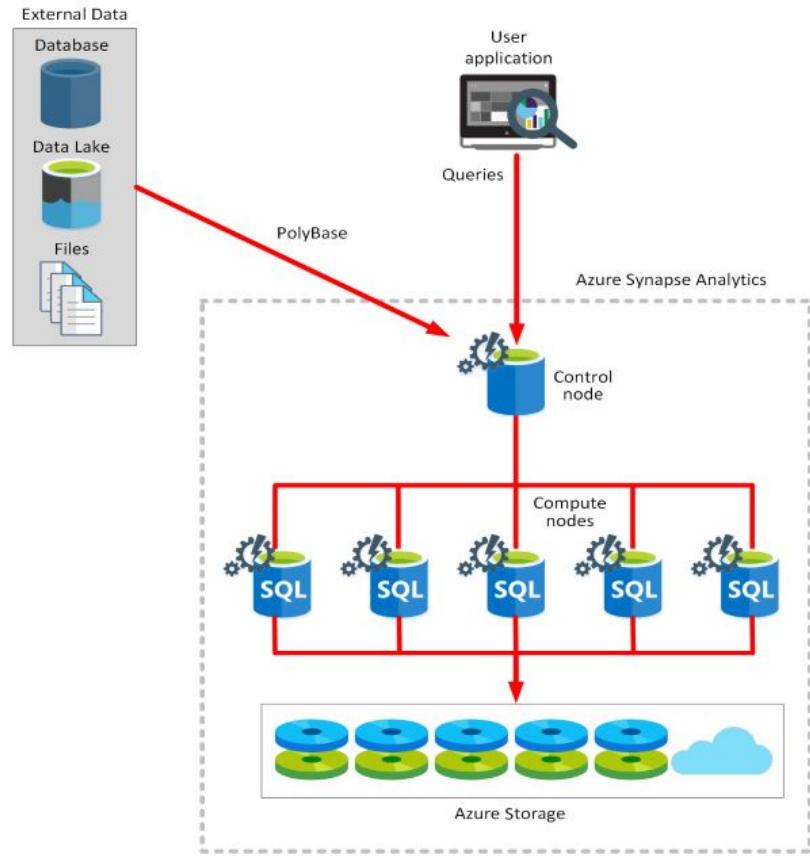
Design Data Integration: Azure Data Lake Storage



Design Data Integration: Azure Databricks



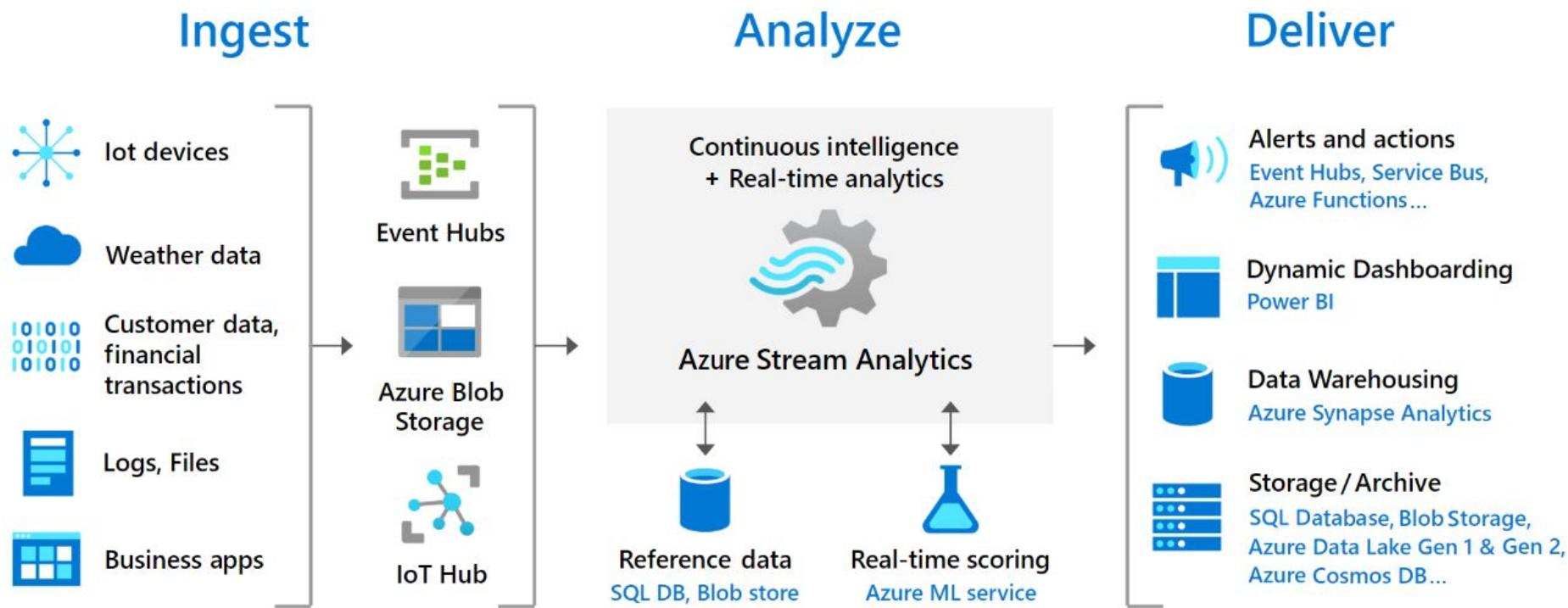
Design Data Integration: Azure Synapse Analytics



Design Data Integration: Hot, Warm, and Cold Data Paths

- Warm data path
- Cold data path
- Hot data path

Design Data Integration: Azure Stream Analytics



Design a Data Storage Solution for Non-relational Data

- Recommend access control solutions to data storage [see [1](#)]
- Recommend a data storage solution to balance features, performance, and cost [see [1](#)]
- Design a data solution for protection and durability [see [1](#) [2](#) [3](#)]

Non-relational Data: Design for Data Storage

- Structured data
- Semi-structured data
- Unstructured data

Non-relational Data: Design for Storage Accounts

You need to analyze and partition your data.

What should you consider?

- location
- compliance
- cost sensitivity
- storage replication
- administrative overhead
- data sensitivity



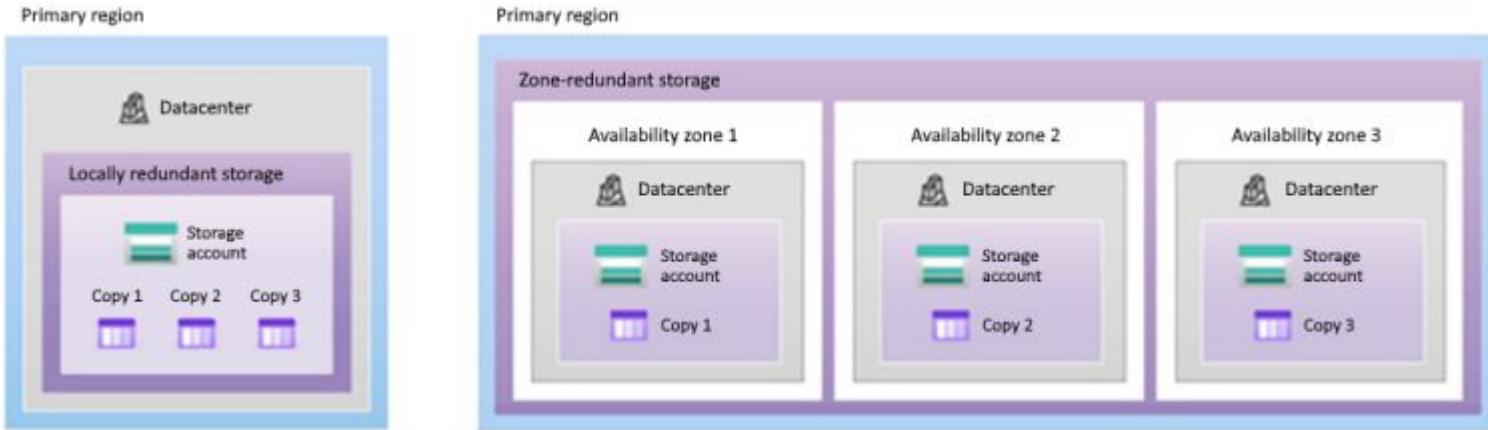
Storage account

Subscription: Production
Location: West US
Performance: Standard
Replication: GRS
Access tier: Hot
Secure transfer: Enabled
Virtual networks: Disabled

Storage account

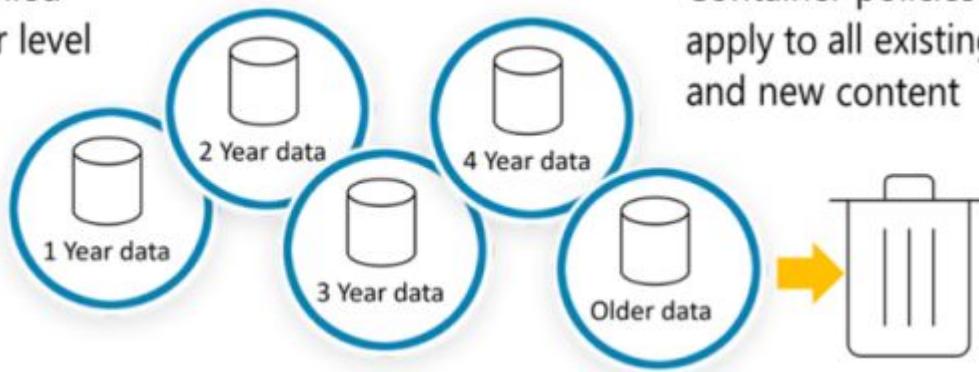
Subscription: Production
Location: North Europe
Performance: Standard
Replication: GRS
Access tier: Hot
Secure transfer: Enabled
Virtual networks: Disabled

Non-relational Data: Design for Data Redundancy



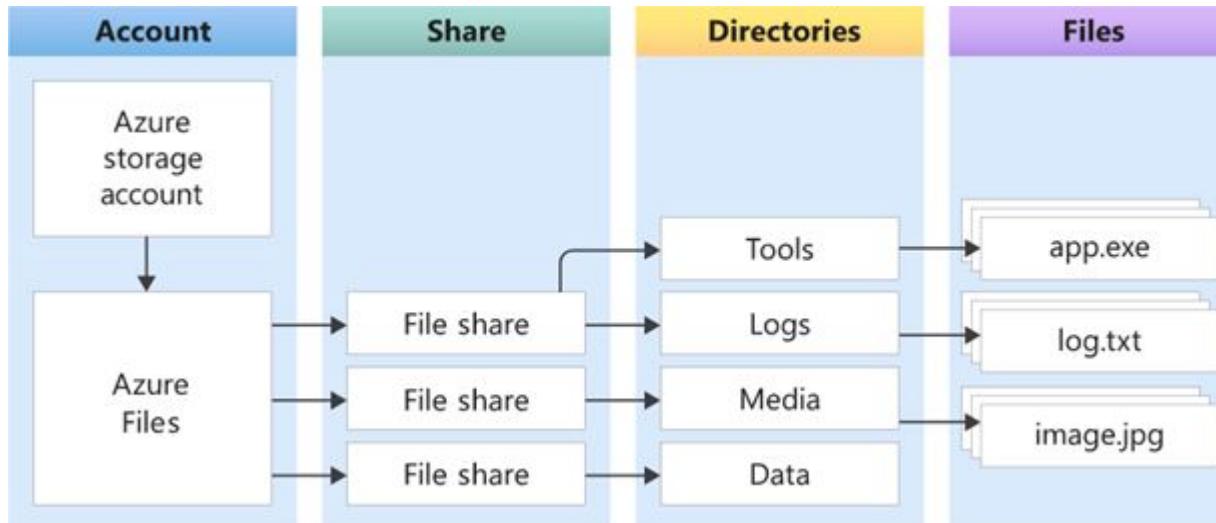
Non-relational Data: Design for Azure Blob Storage

Policies are applied
at the container level
and audit logs
are available

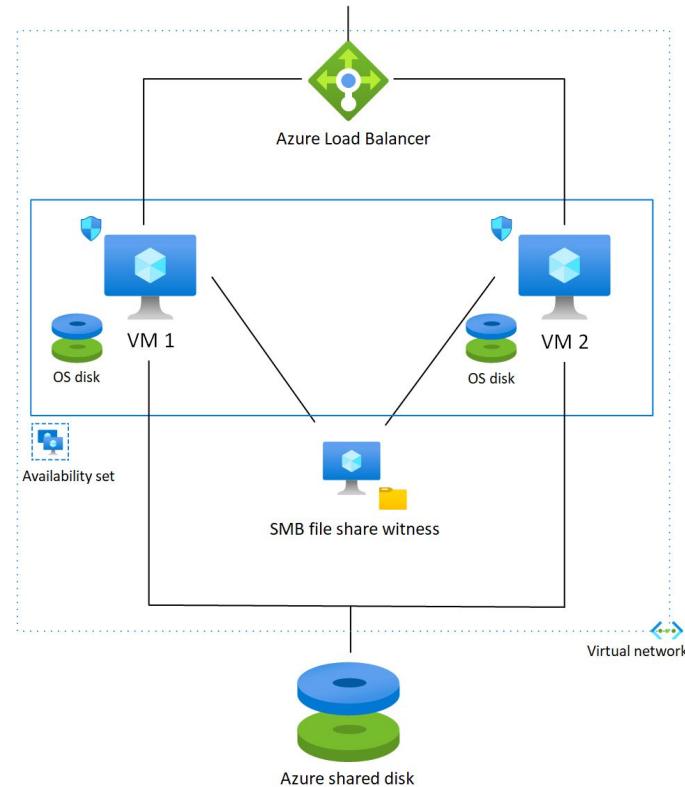


Container policies
apply to all existing
and new content

Non-relational Data: Design for Azure Files



Non-relational Data: Design for Azure Managed Disks



Non-relational data: Protect Data



Firewall policies
Enable secure transfer



Customer-managed keys
Shared access signatures



Service endpoints
Private endpoints



Storage accounts

Day 2

Microsoft Azure Solutions Architect Expert Bootcamp

- Design business continuity solutions (10–15%)
- Design infrastructure solutions (25–30%)

Design Business Continuity Solutions

- Design a solution for backup and disaster recovery
- Design for high availability

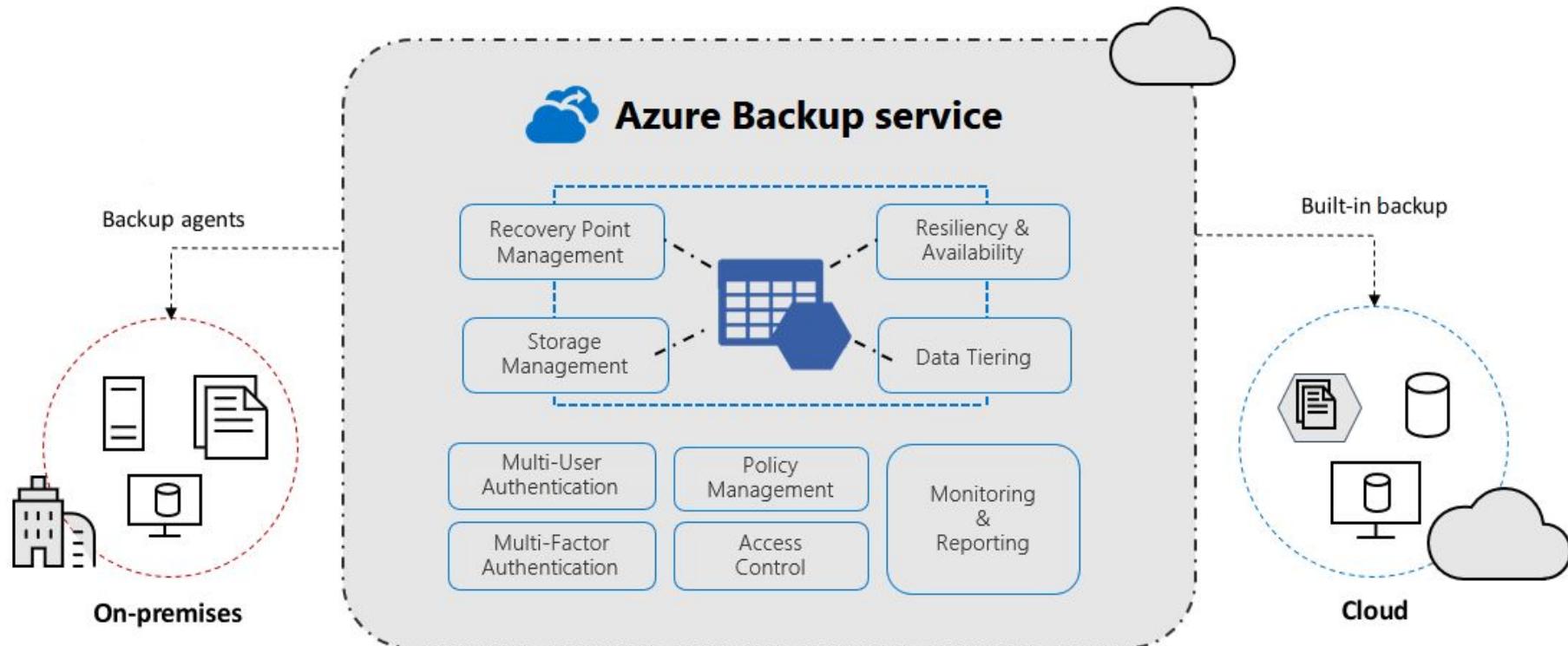
Design a Solution for Backup and Disaster Recovery

- Recommend a recovery solution for Azure, hybrid, and on-premises workloads that meets recovery objectives (Recovery Time Objective [RTO], Recovery Level Objective [RLO], Recovery Point Objective [RPO]) [see [1](#) [2](#) [3](#)]
- Understand the recovery solutions for containers [see [1](#) [2](#) [3](#)]
- Recommend a backup and recovery solution for compute [see [1](#) [2](#) [3](#)]
- Recommend a backup and recovery solution for databases [see [1](#) [2](#) [3](#) [4](#)]
- Recommend a backup and recovery solution for unstructured data [see [1](#) [2](#) [3](#) [4](#) [5](#) [6](#)]

Backup, Disaster Recovery

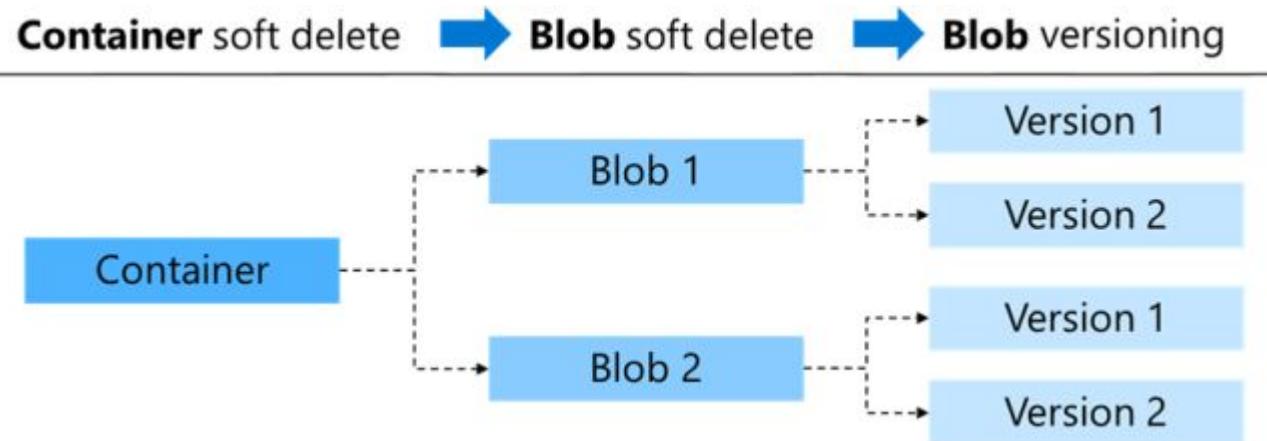
- Recovery objectives (Recovery Time Objective [RTO], Recovery Level Objective [RLO], Recovery Point Objective [RPO])

Backup, Disaster Recovery: Azure Backup

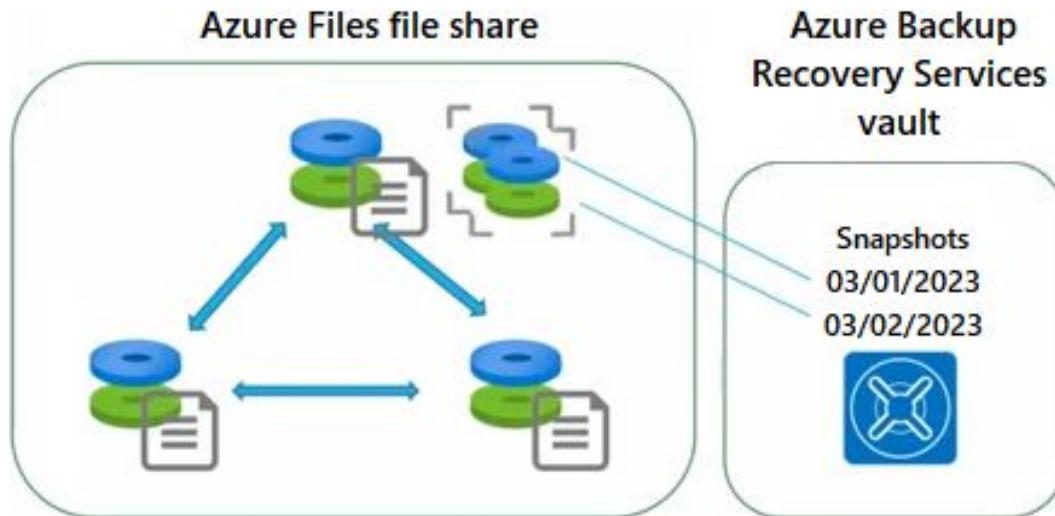


Central management

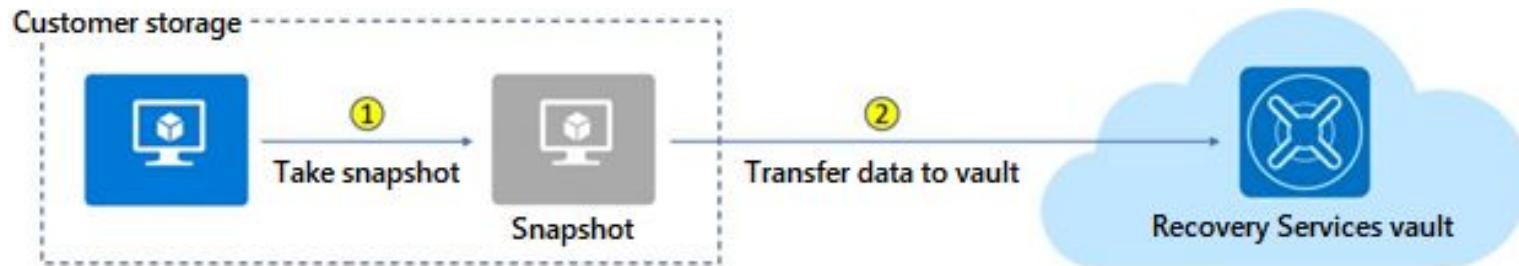
Backup, Disaster Recovery: Azure Blobs Backup and Recovery



Backup, Disaster Recovery: Azure File Shares Backup and Recovery



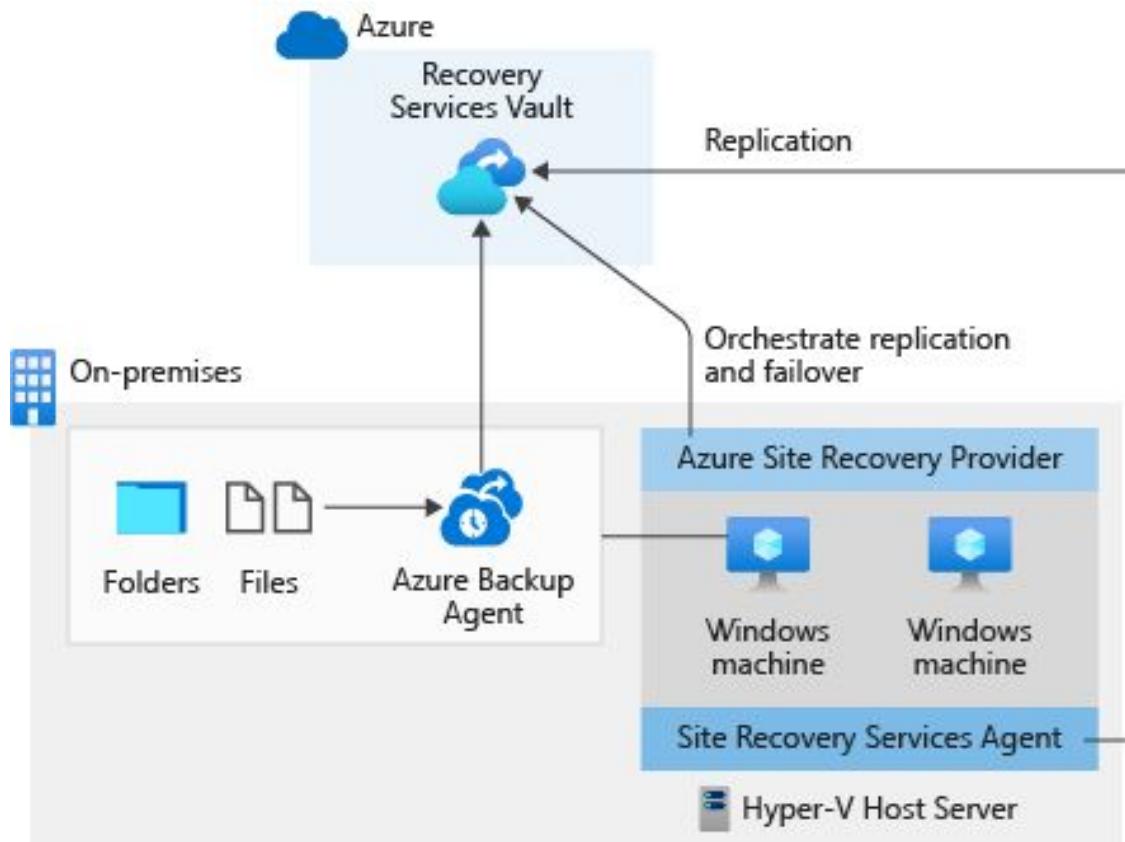
Backup, Disaster Recovery: Azure Virtual Machine Backup and Recovery



Backup, Disaster Recovery: Azure SQL Backup and Recovery



Backup, Disaster Recovery: Azure Site Recovery



Design for High Availability

- Identify the availability requirements of Azure resources [see [1](#) [2](#) [3](#)]
- Recommend a high availability solution for compute [see [1](#) [2](#) [3](#) [4](#) [5](#) [6](#)]
- Recommend high availability solution for non-relational data storage [see [1](#)]
- Recommend a high availability solution for relational data storage [see [1](#) [2](#)]

High Availability: Recovery Time Objective and Recovery Point Objective

- Recovery Time Objective
- Recovery Point Objective

High Availability: Disaster Recovery Options For PaaS

[Licensing Resources and Documents](#) > [Licensing Use Rights](#) > Service Level Agreements (SLA) for Online Services

Service Level Agreements (SLA) for Online Services

The Service Level Agreements (SLA) describe Microsoft's commitments for uptime and connectivity for Microsoft Online Services. The current and archived editions of the SLA are available for download and they cover Azure, Dynamics 365, Office 365, and Intune.

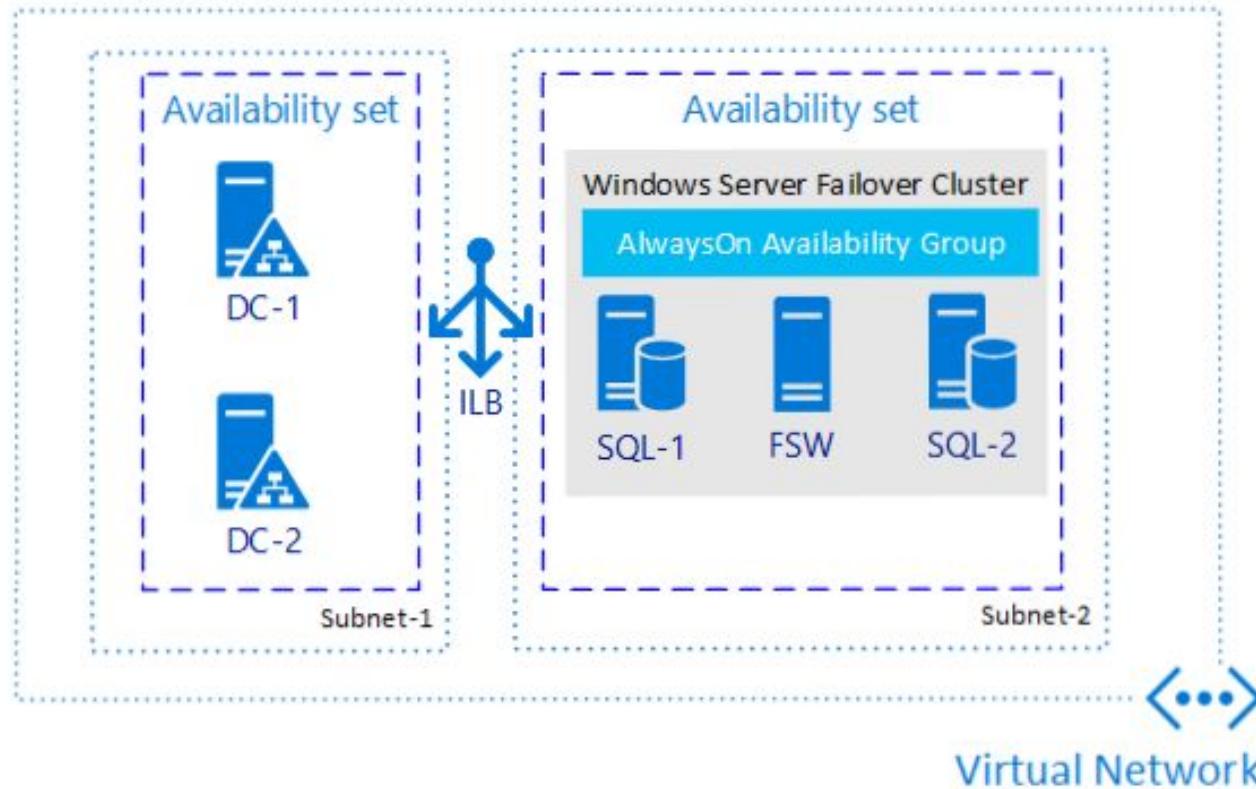
Download the most recent version (English) (May 2023):
Service Level Agreement for Microsoft Online Services (WW)

[Download](#)

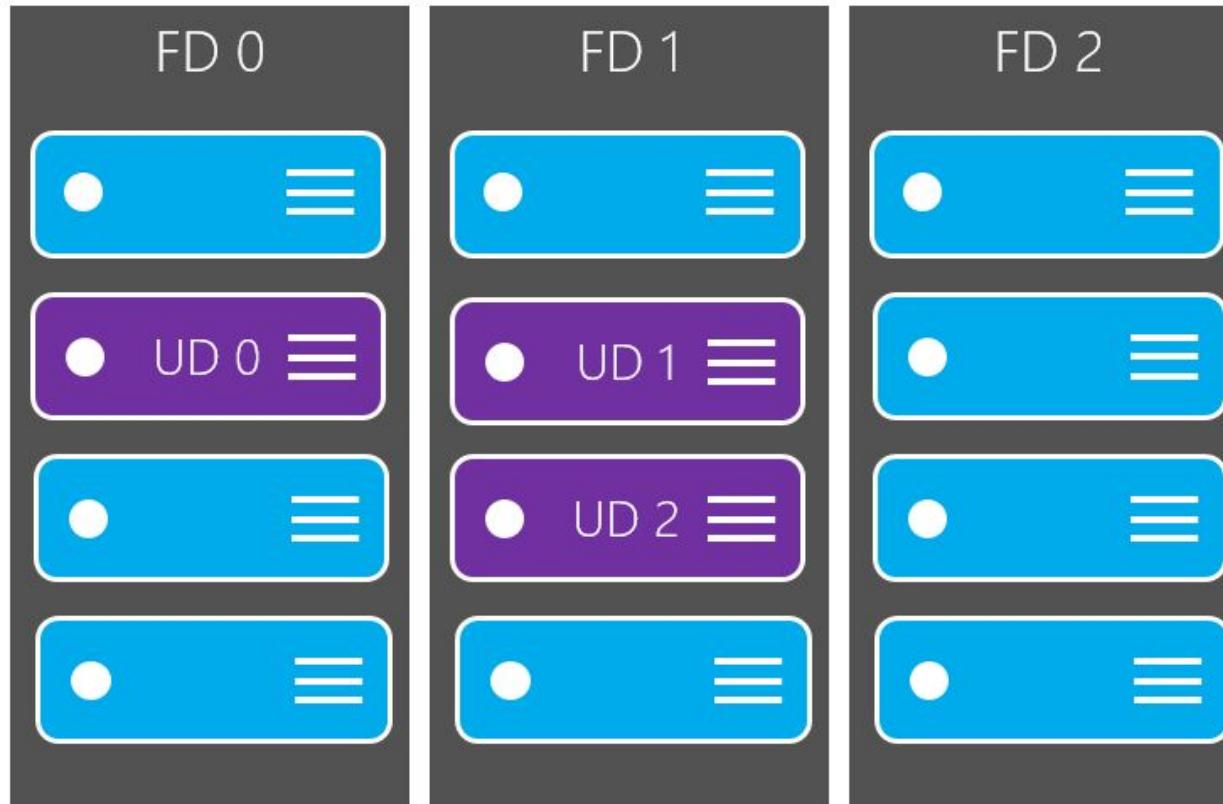
Year	Language	Asset Types
All Years	English	All Asset types

Resource Name	Type	Month
Service Level Agreement for Microsoft Online Services (WW)		May
Service Level Agreement for Microsoft Online Services (WW)		April
Service Level Agreement for Microsoft Online Services (WW)		March
Service Level Agreement for Microsoft Online Services (WW)		March
Service Level Agreement for Microsoft Online Services (WW)		February
Service Level Agreement for Microsoft Online Services (WW)		December
Service Level Agreement for Microsoft Online Services (WW)		June

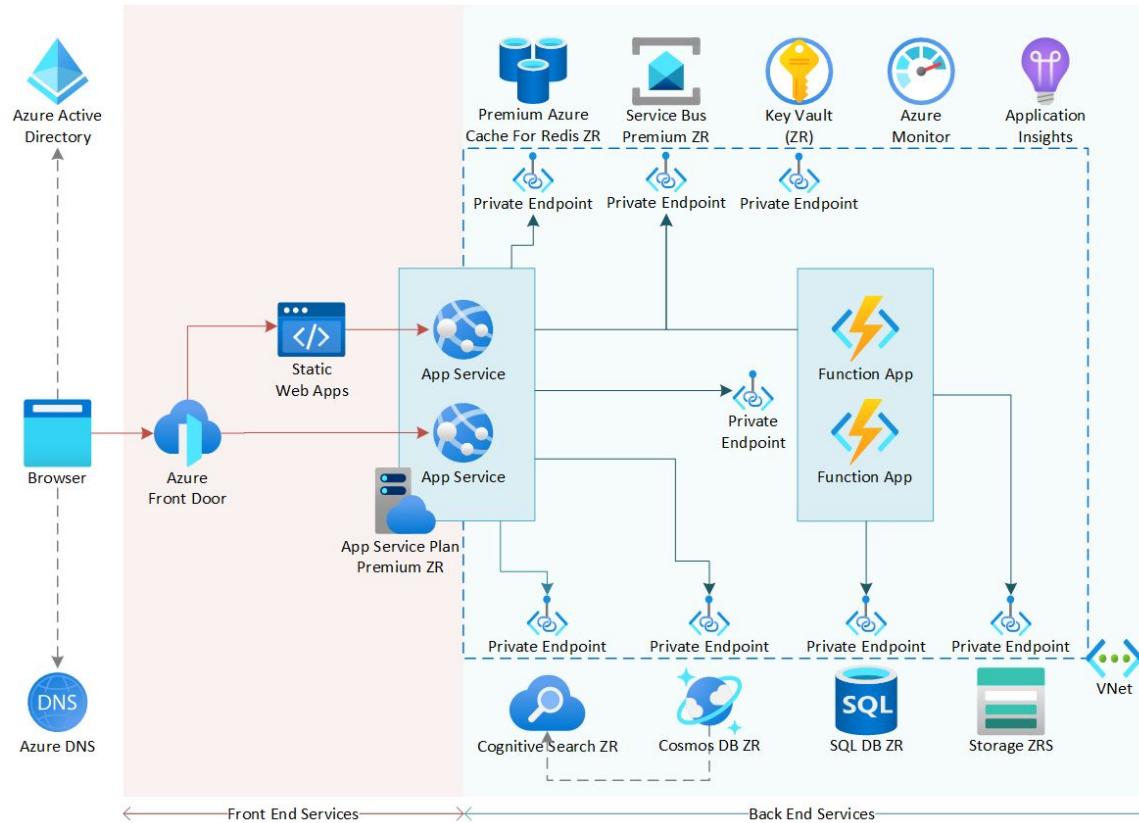
High Availability: Disaster Recovery Options For PaaS



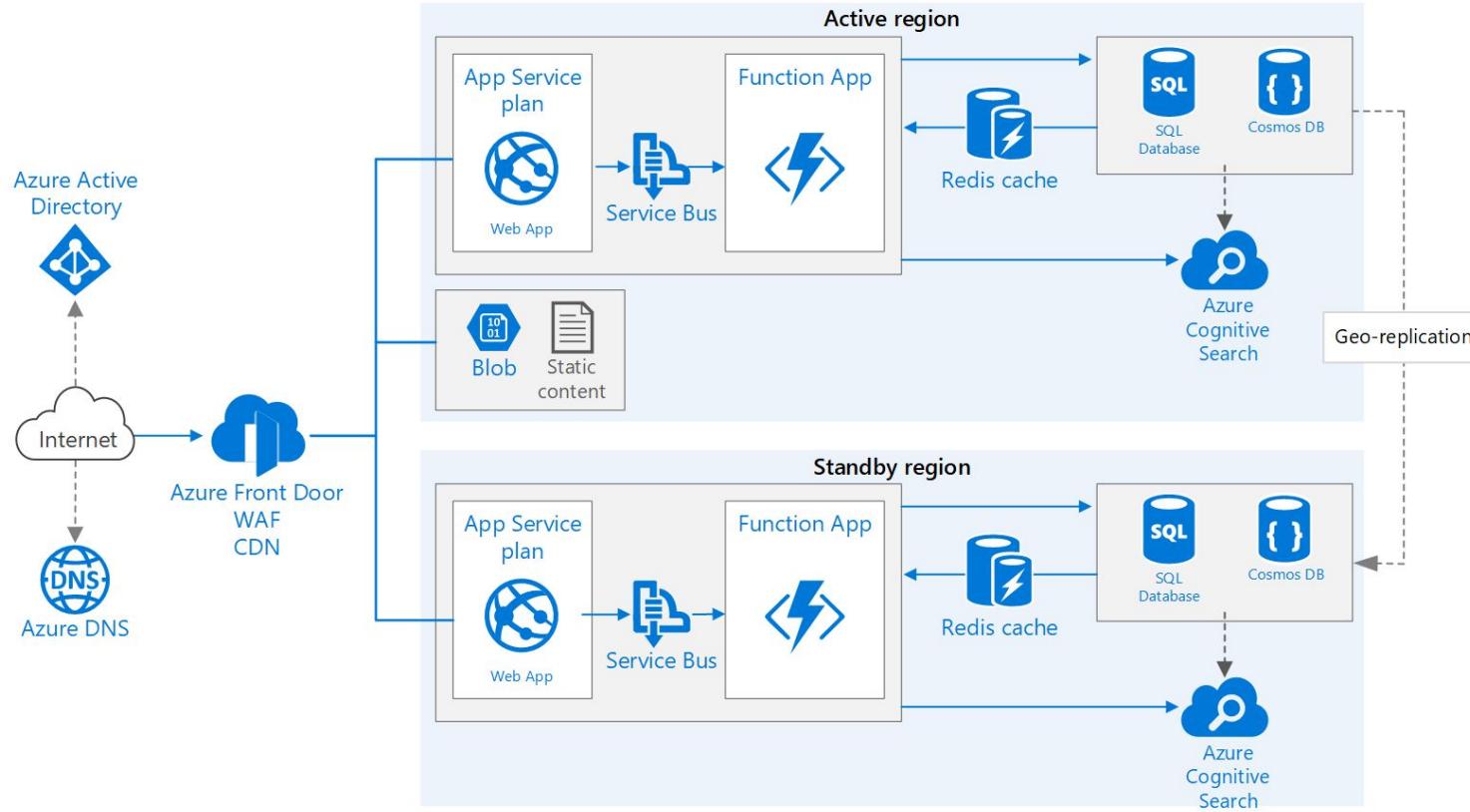
High Availability: Disaster Recovery Features for Azure Virtual Machines



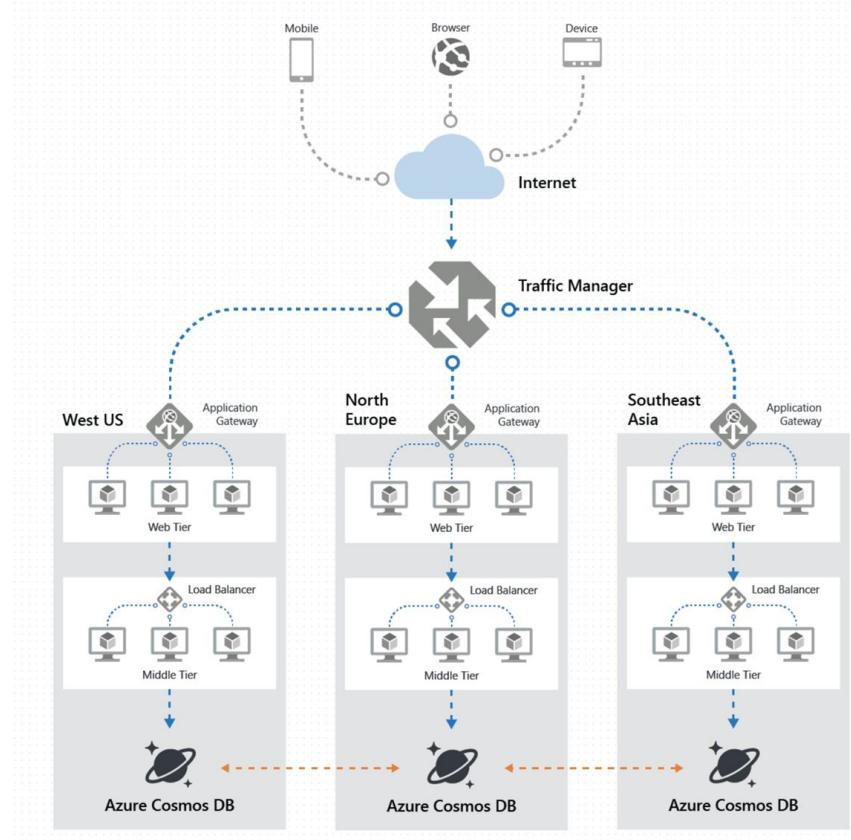
High Availability: Disaster Recovery Features for Azure App Services



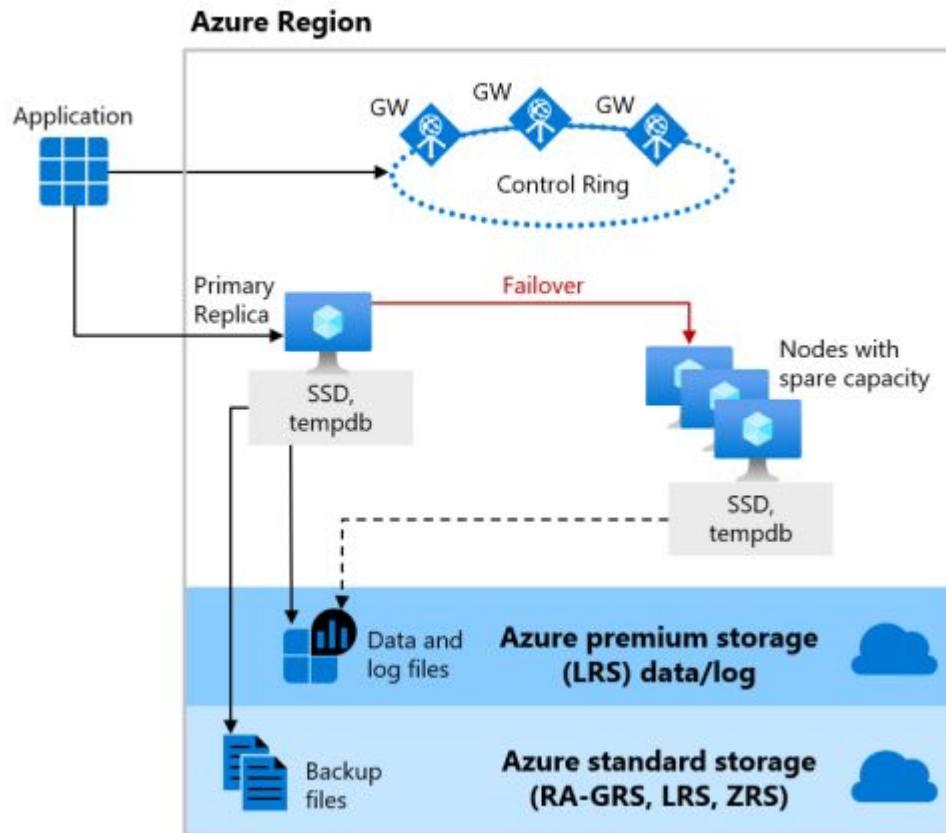
High Availability: Disaster Recovery Features for Azure App Services



High Availability: Cosmos DB



High Availability: Azure SQL



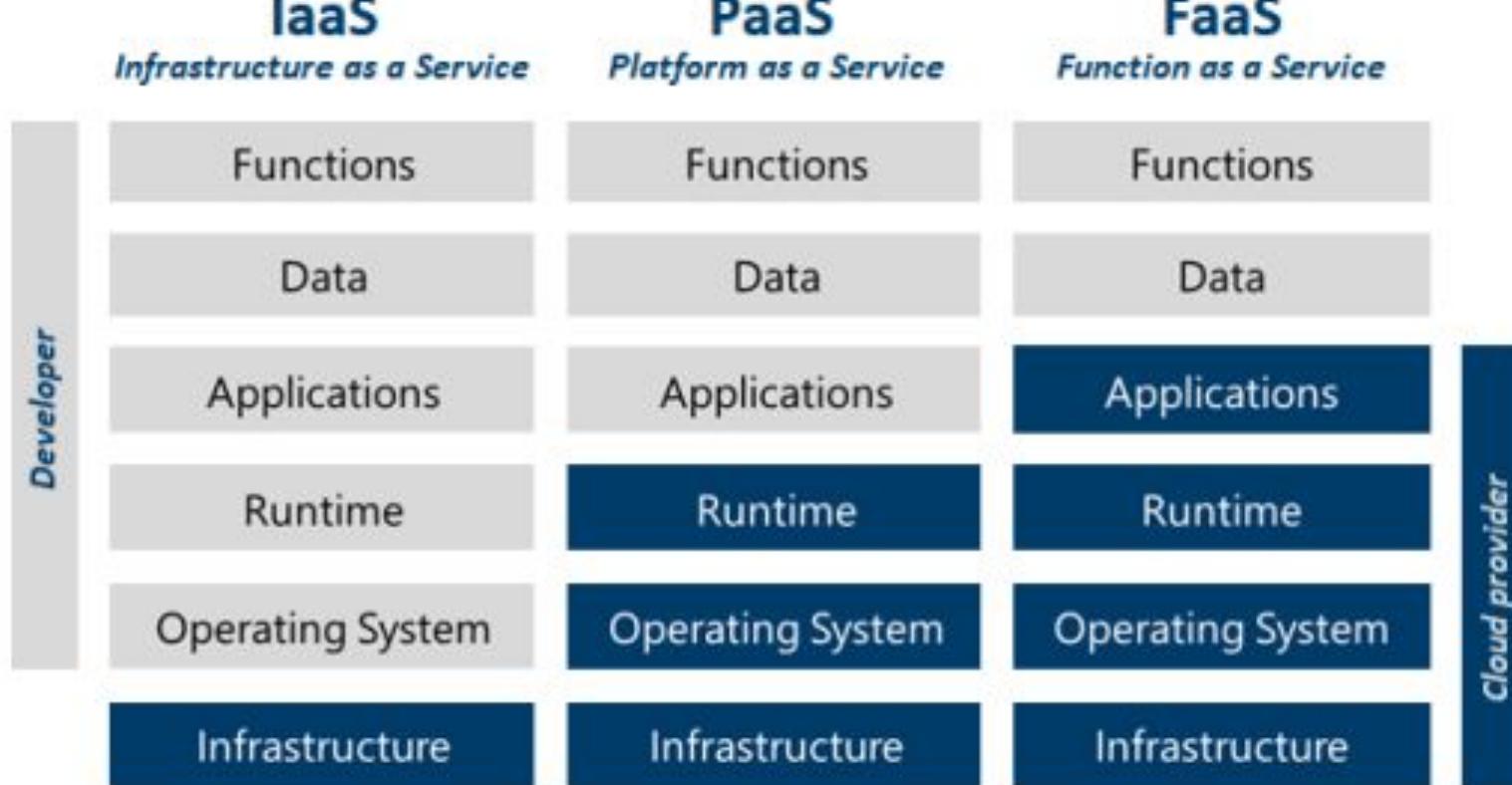
Design Infrastructure Solutions

- Design a compute solution
- Design an application architecture
- Design migrations
- Design network solutions

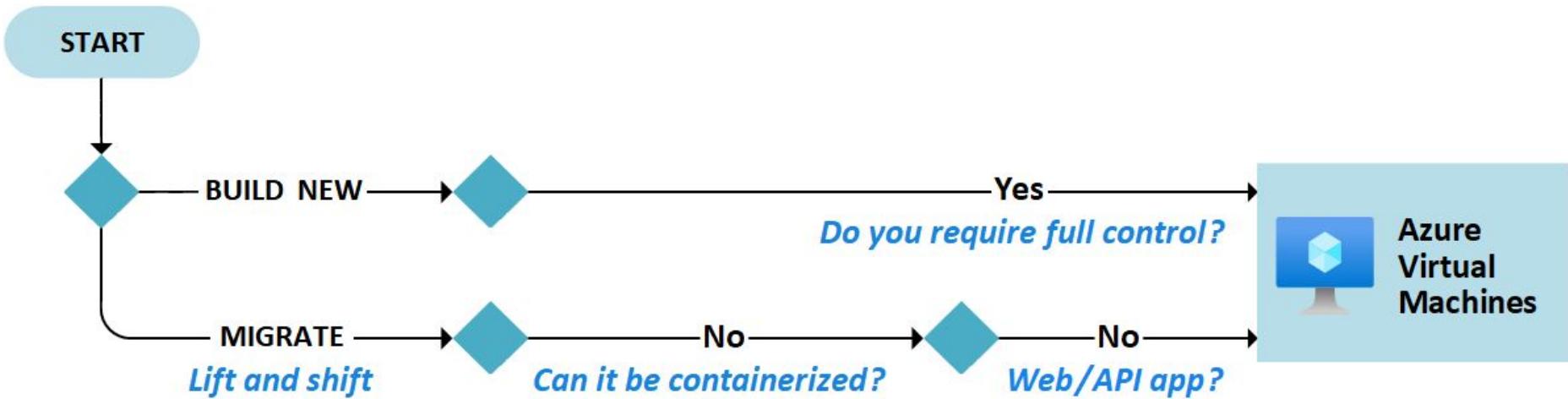
Design a Compute Solution

- Recommend a virtual machine–based compute solution [see [1](#) [2](#)]
- Recommend an appropriately sized compute solution based on workload requirements [see [1](#) [2](#) [3](#) [4](#)]
- Recommend a container-based compute solution [see [1](#) [2](#) [3](#)]
- Recommend a serverless-based compute solution [see [1](#) [2](#) [3](#) [4](#) [5](#)]

Compute Solution: Choose an Azure Compute Service



Compute Solution: Azure Virtual Machines Solutions



Compute Solution: Azure Virtual Machines Solutions

The screenshot shows the Azure TCO Calculator landing page. At the top, there's a navigation bar with the Azure logo, a search bar, and links for Learn, Support, Contact Sales, Free account, and Sign in. Below the navigation is a dark header with the title "Total Cost of Ownership (TCO) Calculator" and a subtext "Estimate the cost savings you can realize by migrating your workloads to Azure". A blue banner below the header asks "Help us improve. Is the TCO calculator helpful?" with "Yes" and "No" buttons. The main content area has three numbered steps: 1. Define your workloads, 2. Adjust assumptions, and 3. View report. At the bottom, there are links for Bulk Upload, My saved reports, and Sign In.

Azure Explore ▾ Products ▾ Solutions ▾ Pricing ▾ Partners ▾ Resources ▾

Search

Learn Support Contact Sales **Free account** Sign in

Total Cost of Ownership (TCO) Calculator

Estimate the cost savings you can realize by migrating your workloads to Azure

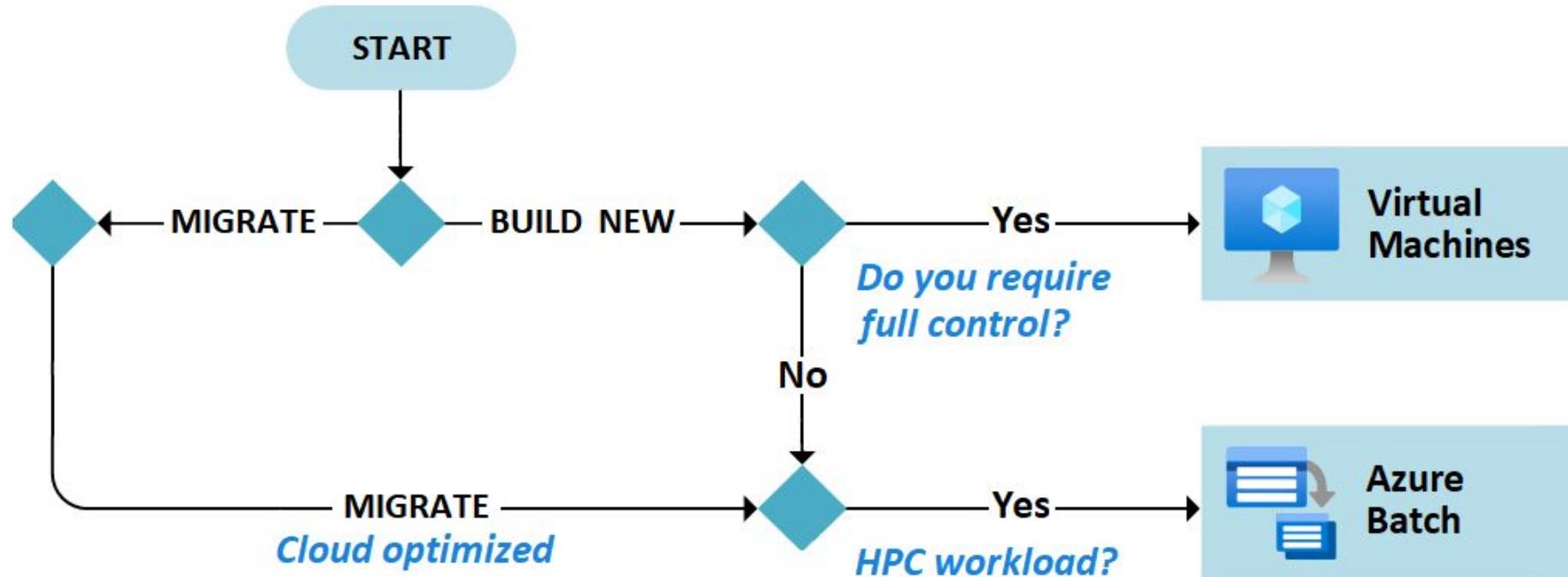
Help us improve. Is the TCO calculator helpful?

Yes No

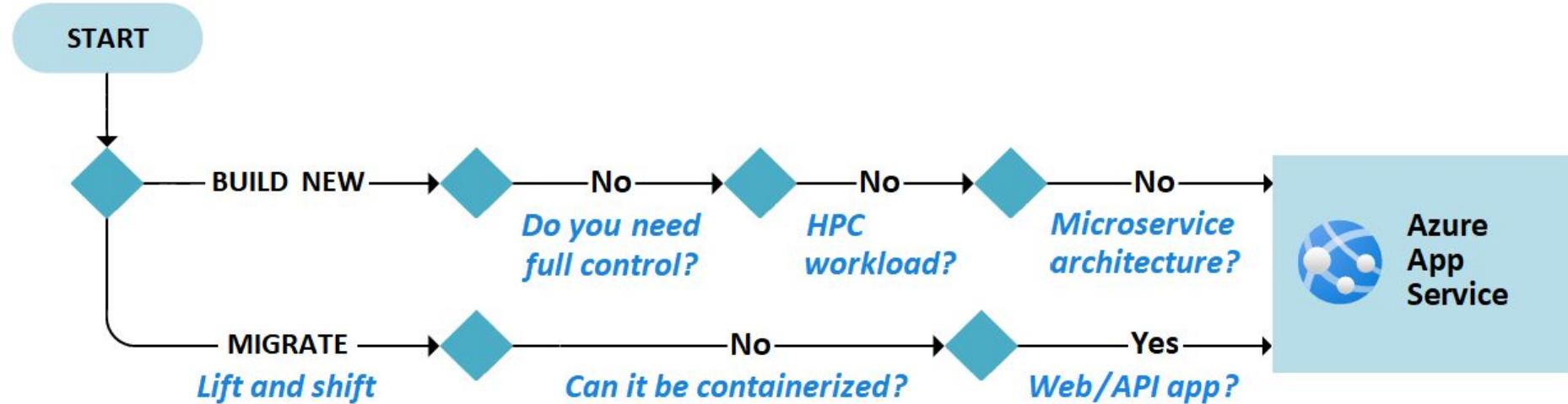
1 Define your workloads 2 Adjust assumptions 3 View report

Bulk Upload My saved reports Sign In

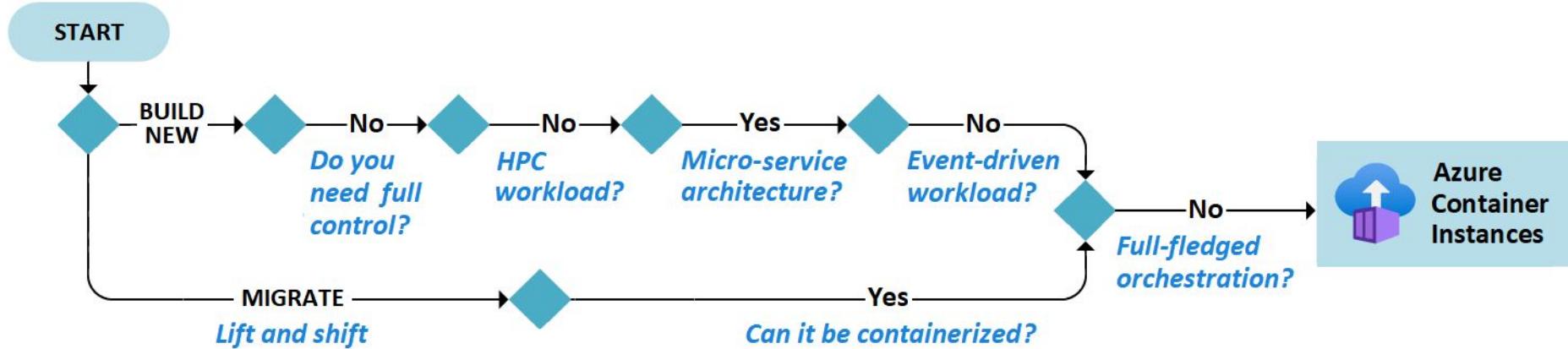
Compute Solution: Azure Batch Solutions



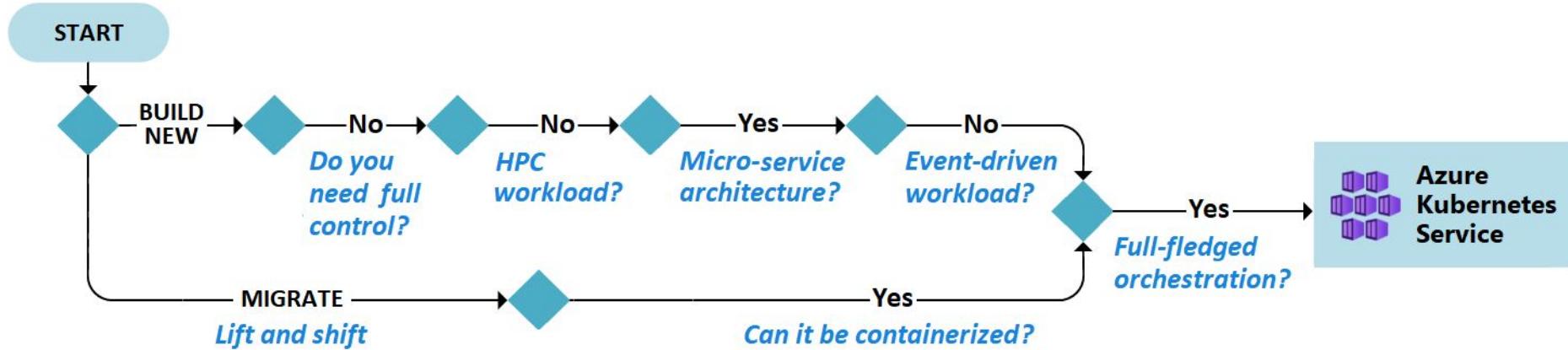
Compute Solution: Azure App Service Solutions



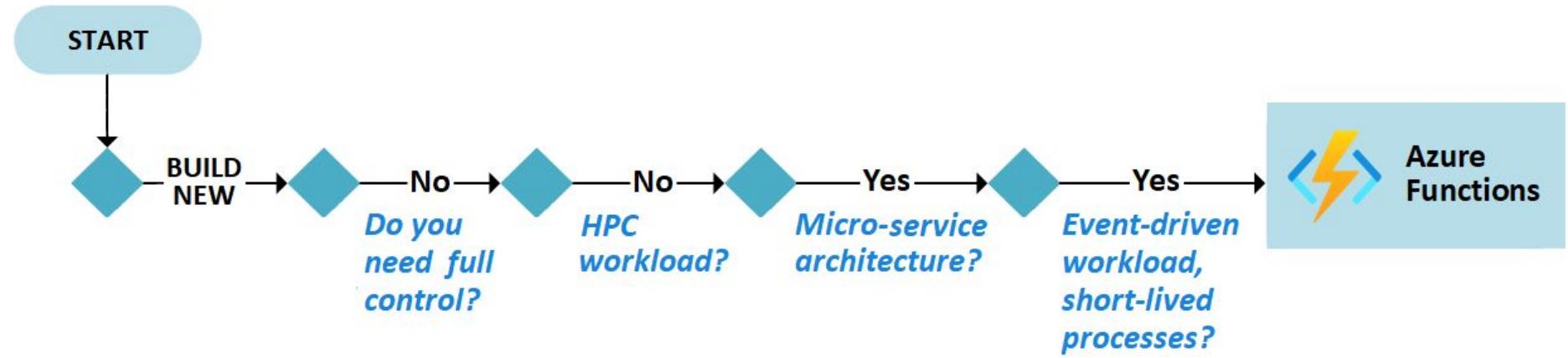
Compute Solution: Azure Container Instances Solutions



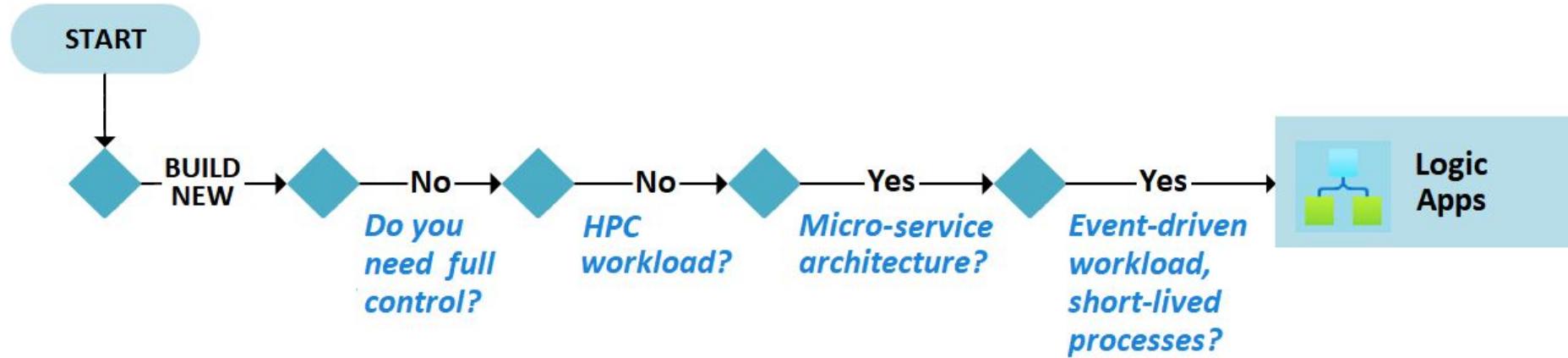
Compute Solution: Azure Kubernetes Service Solutions



Compute Solution: Azure Functions Solutions



Compute Solution: Azure Logic Apps Solutions



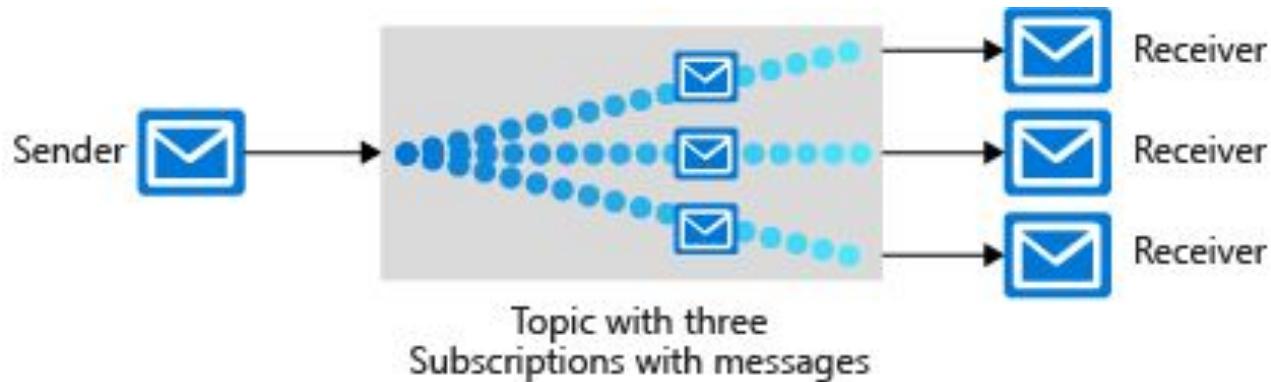
Design an Application Architecture

- Recommend a caching solution for applications [see [1](#) [2](#) [3](#) [4](#) [5](#)]
- Recommend a messaging architecture [see [0](#) [1](#) [2](#) [3](#) [4](#) [5](#)]
- Recommend an event-driven architecture [see [1](#) [2](#)]
- Recommend an automated deployment solution for your applications [see [1](#) [2](#) [3](#) [4](#)]
- Recommend an application configuration management solution [see [1](#) [2](#) [3](#)]
- Recommend a solution for API integration [see [1](#) [2](#)]

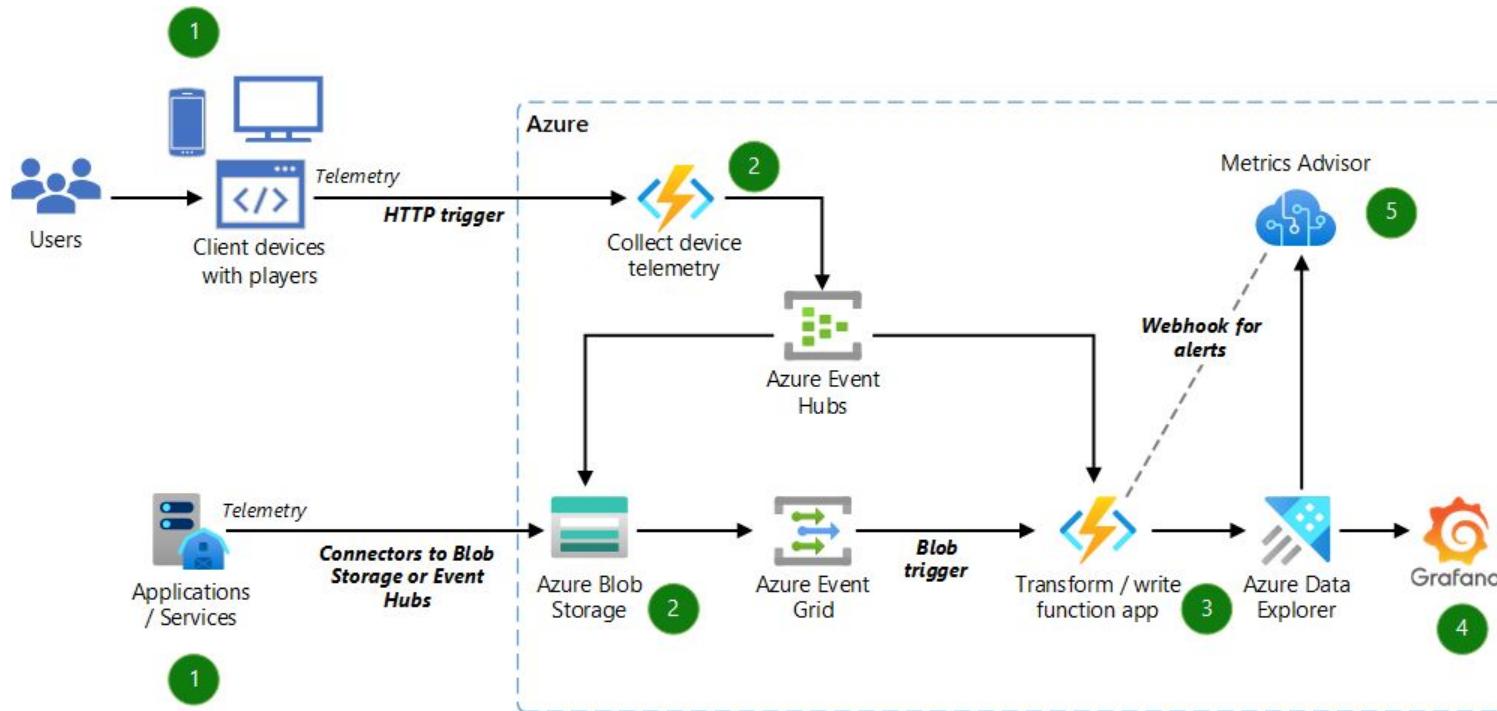
Application Architecture: Message and Event

- Event vs Message
 - Azure Event Grid
 - Azure Event Hubs
 - Azure Service Bus

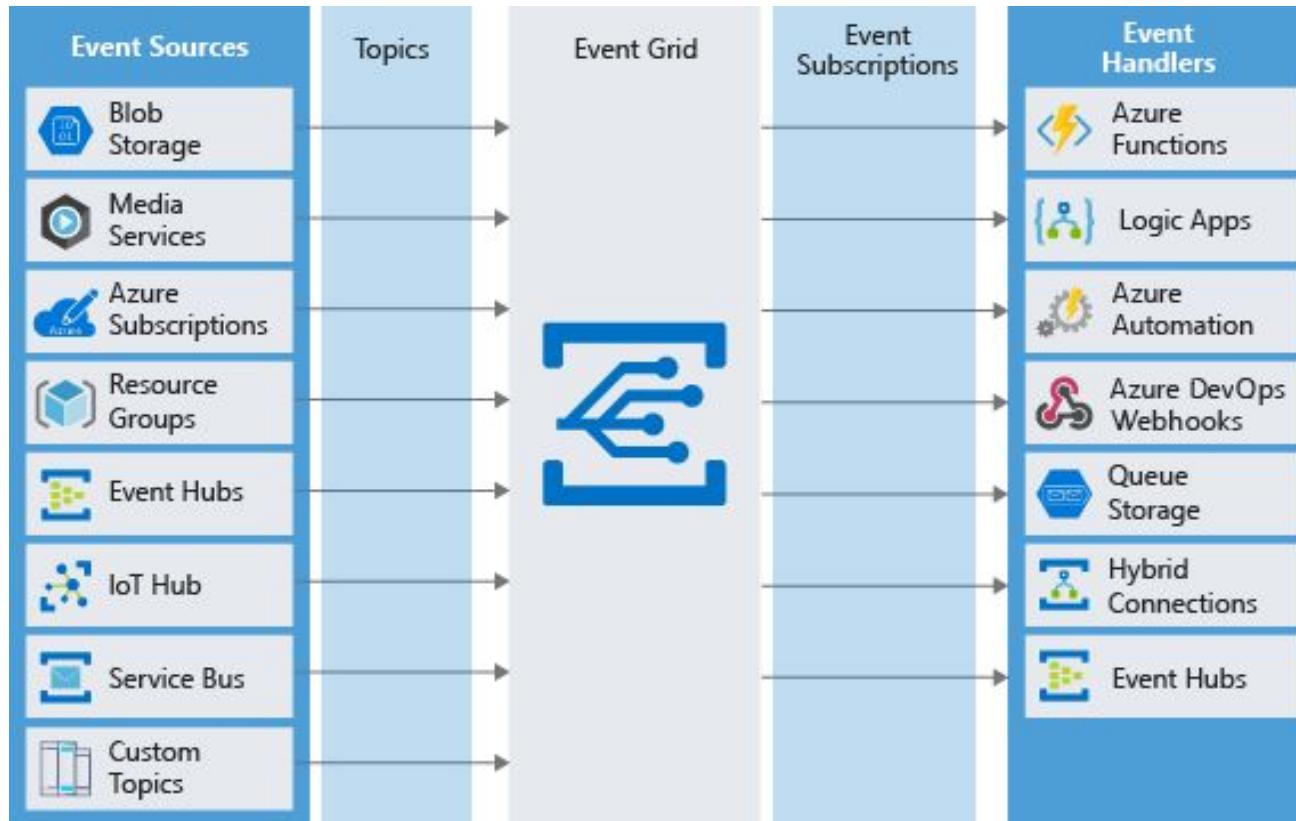
Application Architecture: Design a Messaging Solution



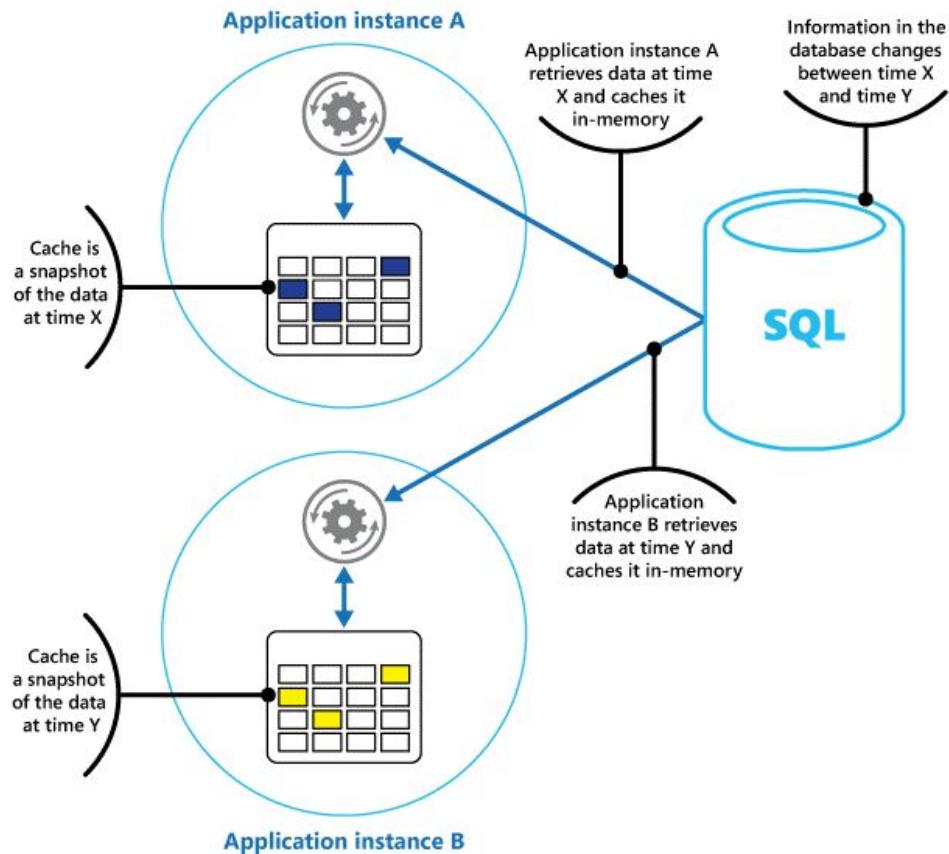
Application Architecture: Design an Azure Event Hubs Solution



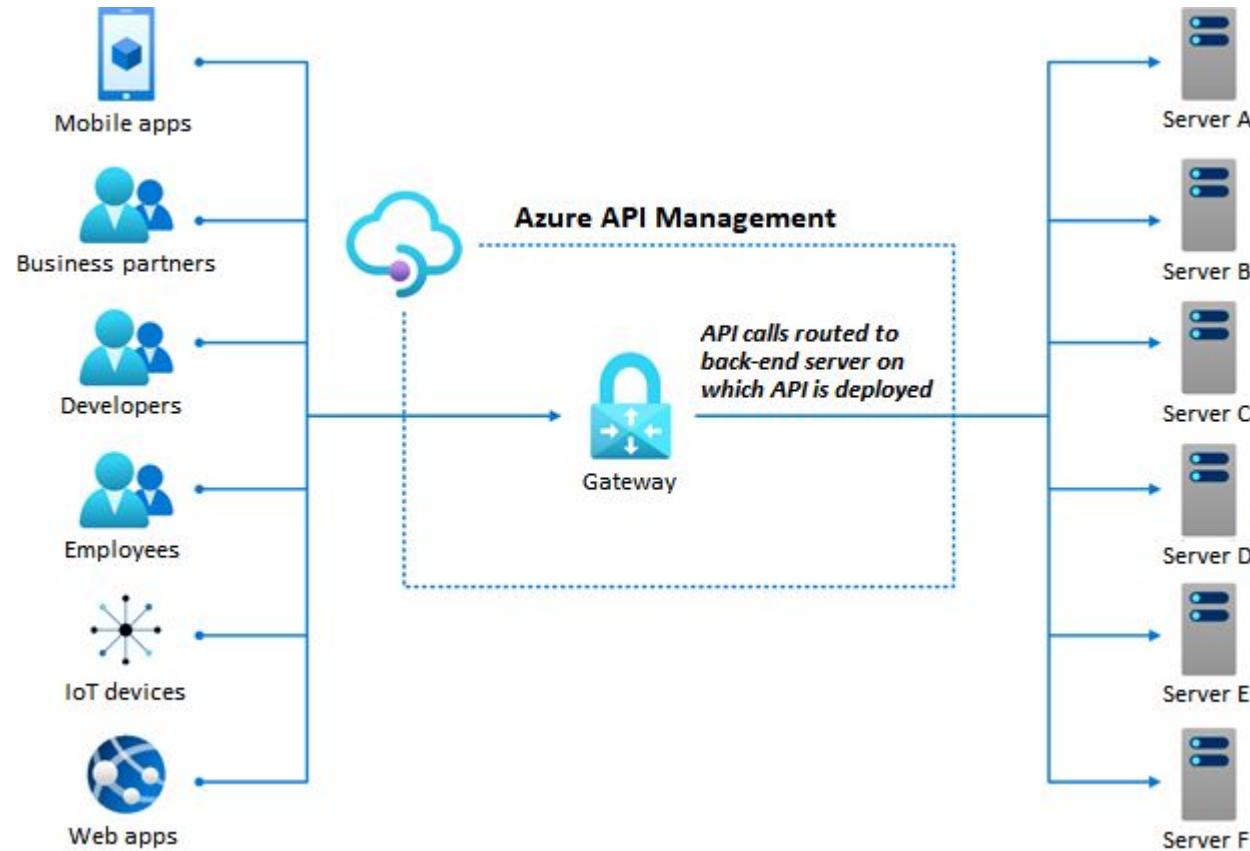
Application Architecture: Design an Event-driven Solution



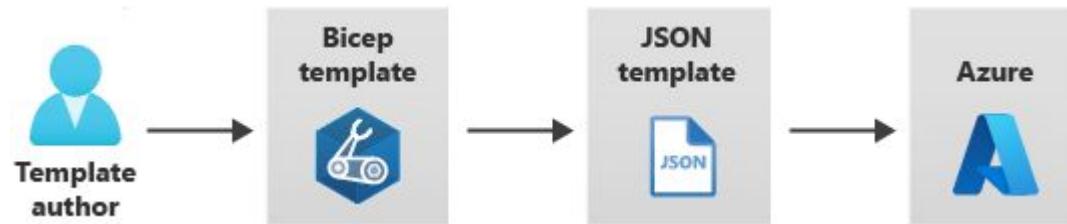
Application Architecture: Design a Caching Solution



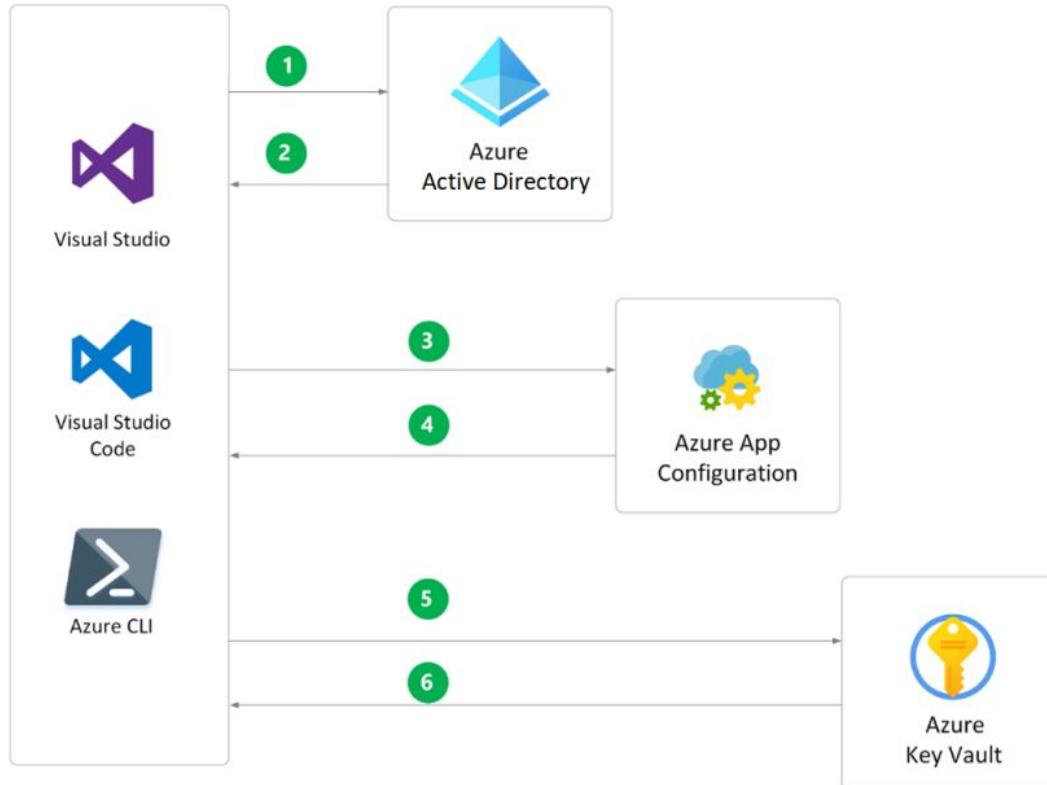
Application Architecture: Design an API Solution



Application Architecture: Design an Automated App Deployment Solution



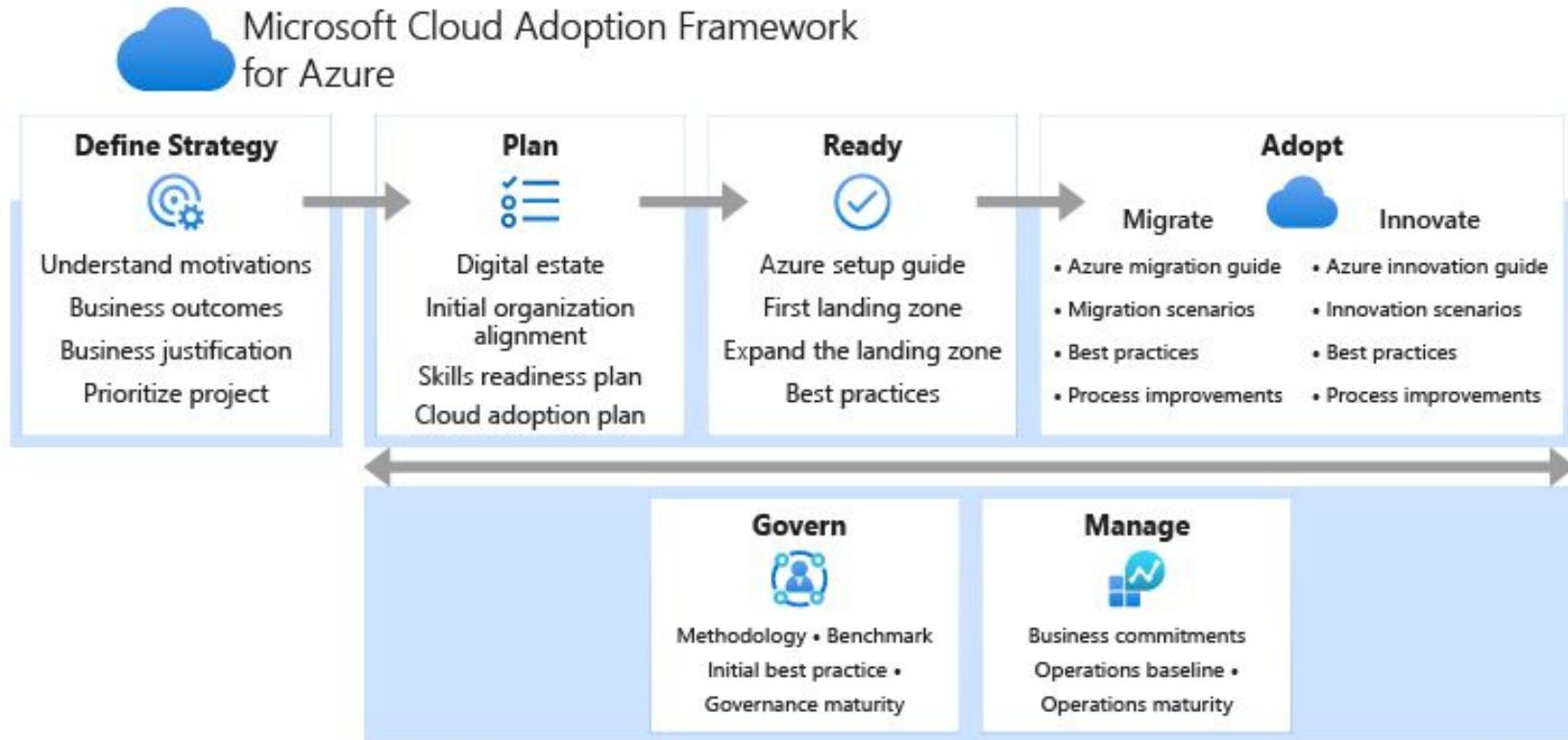
Application Architecture: Design an App Configuration Management Solution



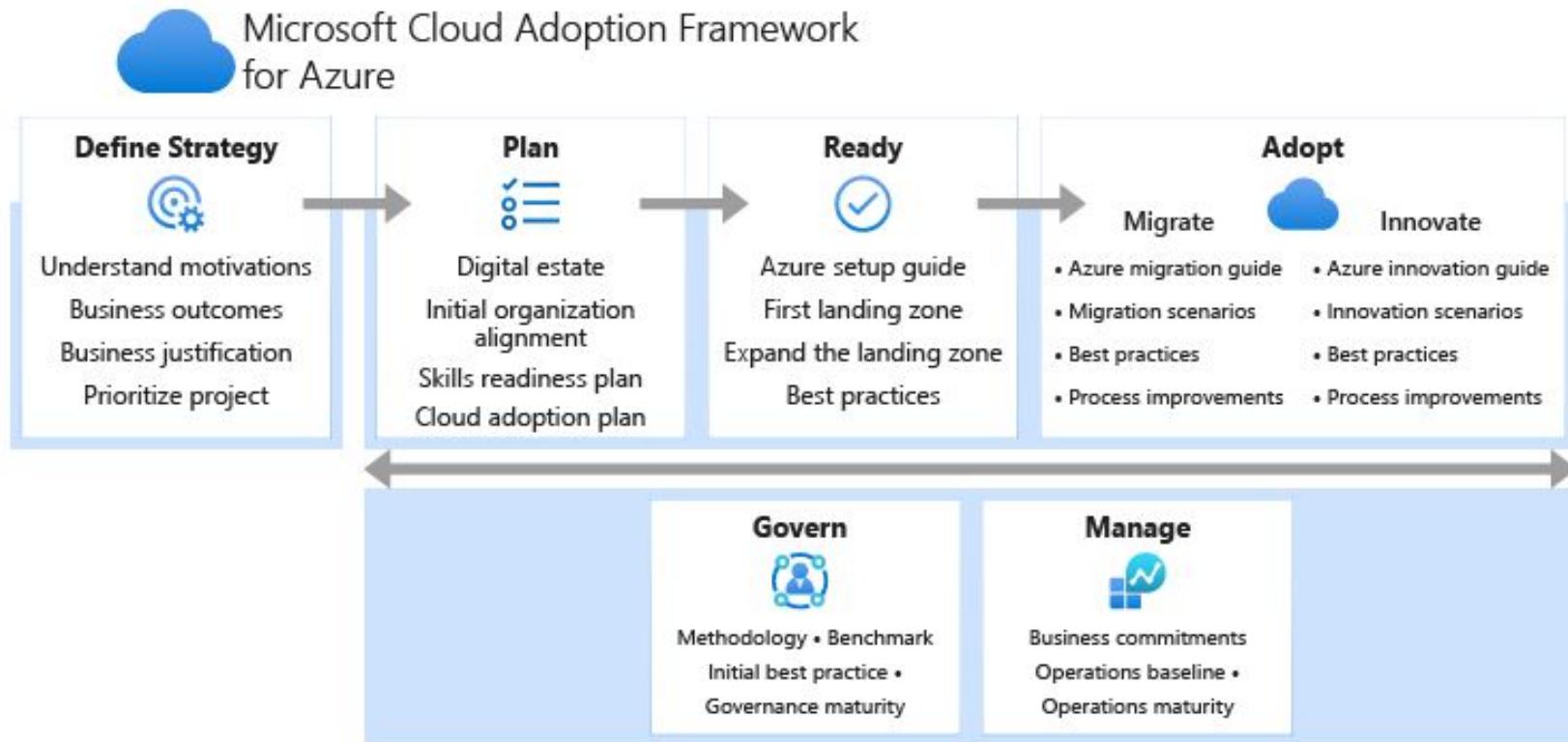
Design Migrations

- Evaluate a migration solution that leverages the Cloud Adoption Framework for Azure [see [1](#) [2](#) [3](#)]
- Assess and interpret on-premises servers, data, and applications for migration [see [1](#) [2](#) [3](#)]
- Recommend a solution for migrating applications and virtual machines [see [1](#) [2](#)]
- Recommend a solution for migrating databases [see [1](#) [2](#)]
- Recommend a solution for migrating unstructured data [see [1](#) [2](#)]

Design Migrations: Cloud Adoption Framework

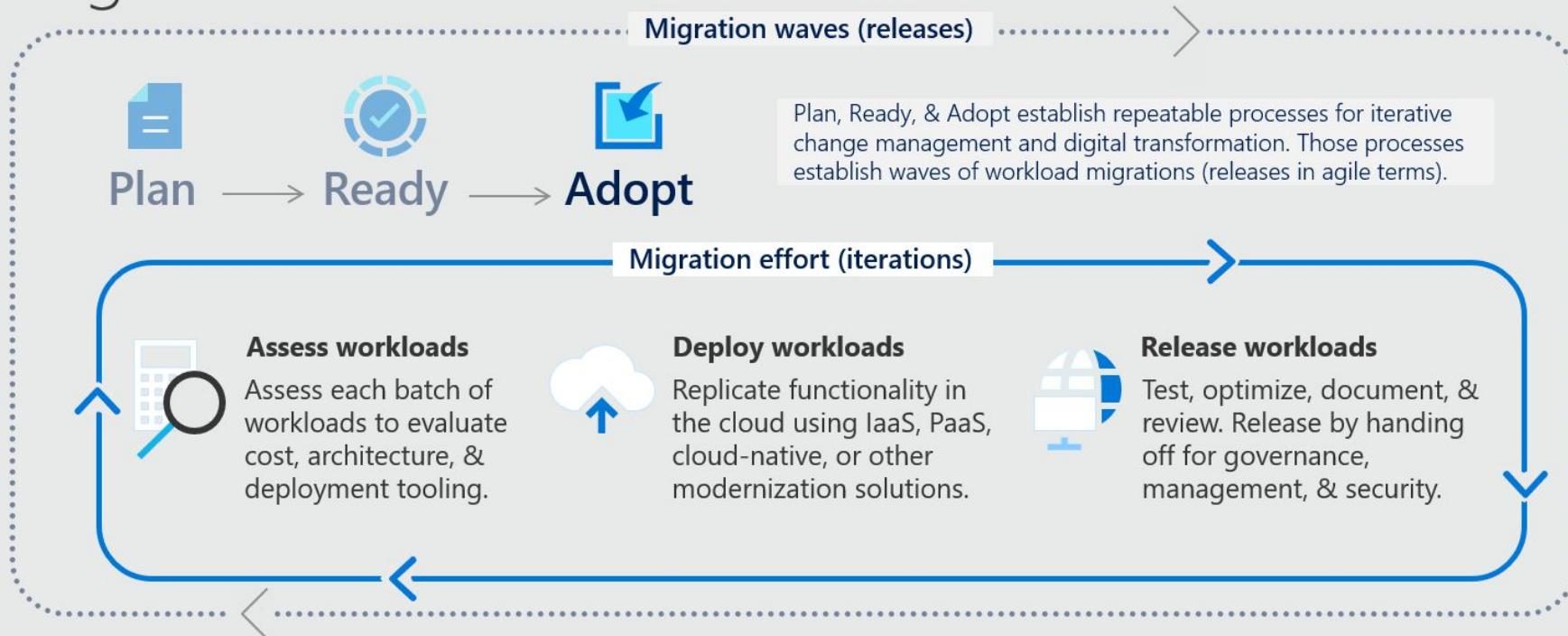


Design Migrations: Azure Migration Framework

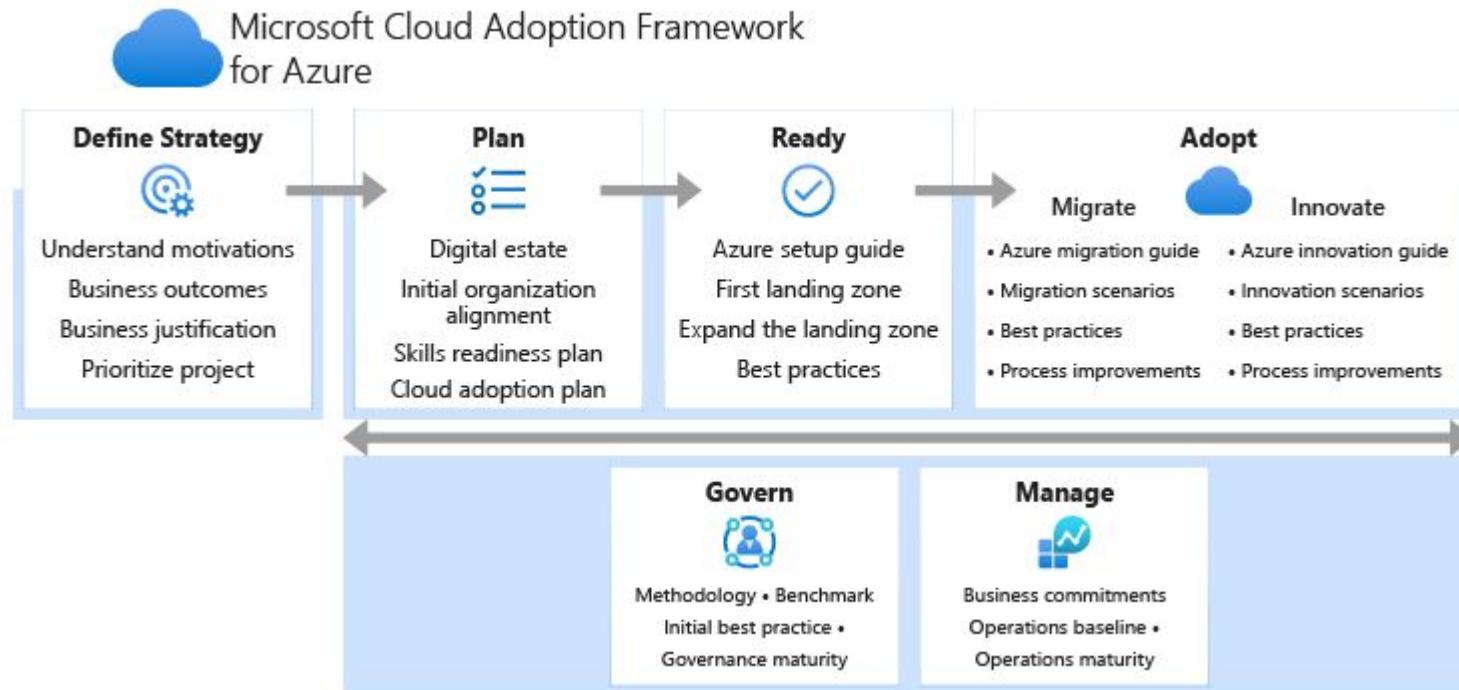


Design Migrations: Azure Migration Framework

Migrate



Design Migrations: Assess on-premises Workloads



Design Migrations: Select a Migration Tool

Azure Migrate | Get started

Microsoft

Search

Get started

Explore more

Migration goals

- Servers, databases and web apps
- Databases (only)
- VDI
- Web apps
- Data Box

Manage

- Discovered items
- Properties

Support + troubleshooting

- Diagnose and solve problems
- New support request

Discover, assess and migrate

Migrate and modernize your datacenters

Simplify migration and modernization with a unified platform, or [find an expert](#) to help with your migration. [Learn more](#)

 Servers, databases and web apps

 Databases (only)

 Explore more scenarios

Assess and migrate databases

Explore more

Design Migrations: Migrate Structured Data in Databases

Azure Migrate | Get started ...

Microsoft

Search

Get started

Explore more

Migration goals

- Servers, databases and web apps
- Databases (only)
- VDI
- Web apps
- Data Box

Manage

- Discovered items
- Properties

Support + troubleshooting

- Diagnose and solve problems
- New support request

Migrate and modernize your datacenters

Simplify migration and modernization with a unified platform, or [find an expert](#) to help with your migration. [Learn more](#)

 Servers, databases and web apps

Discover, assess and migrate servers (physical or virtual) from your datacenter or other clouds to Azure.

(Preview) Discover and assess SQL Server from your VMware, Microsoft Hyper-V, and Physical environments as well as IaaS services of other public clouds.

(Preview) Discover and assess IIS web apps at-scale from your VMware environment using integrated experience.

(Preview) Build a directional business case with migration strategy and financial analysis of migrating your datacenter to Azure.

 Databases (only)

Assess and migrate your on-premises databases to Azure using standalone tools.

[Assess and migrate databases](#)

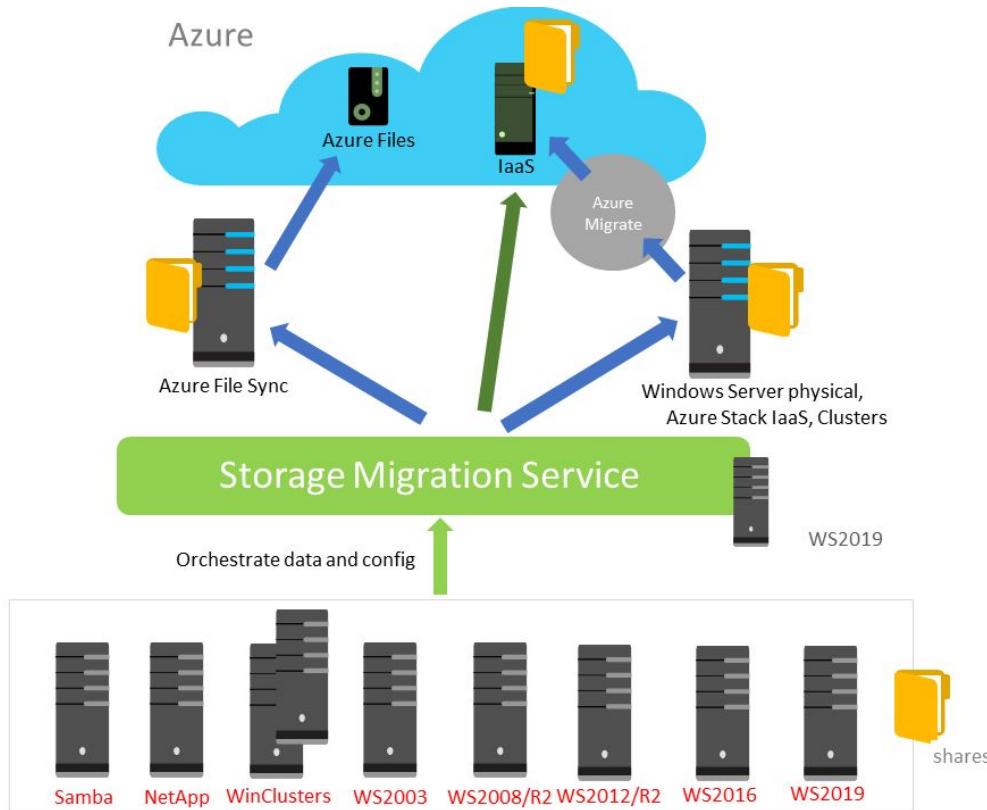
 Explore more scenarios

Assess and migrate web apps, migrate data and assess virtual desktop infrastructure (VDI). Find guidance on various migration activities

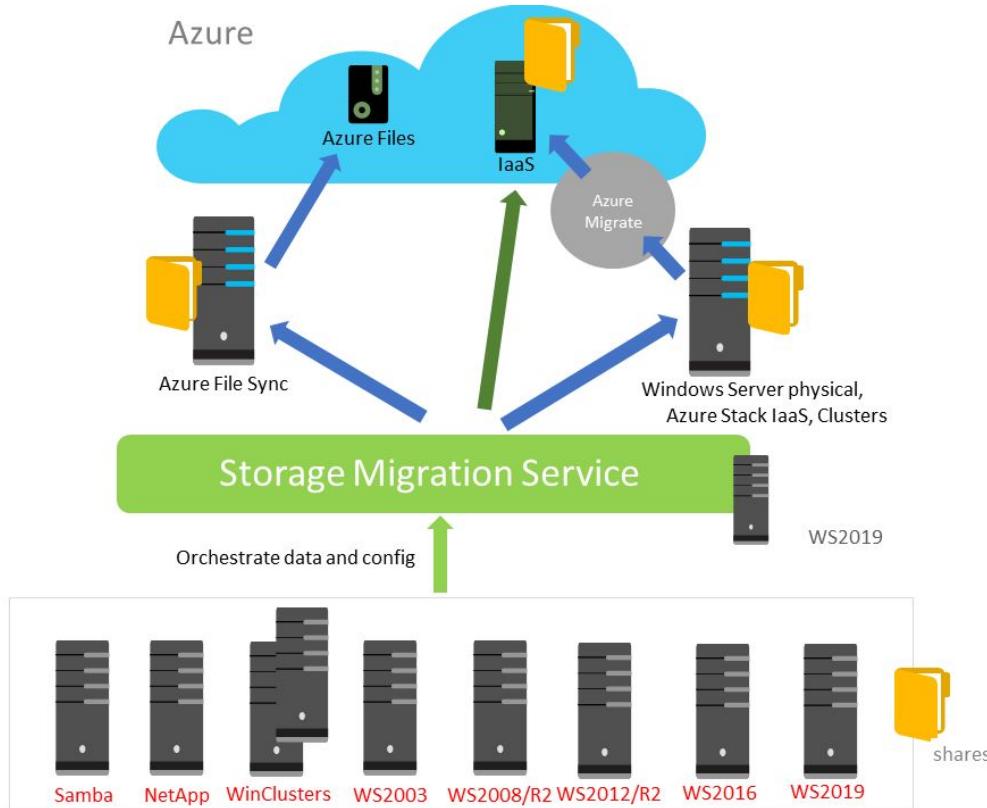
[Explore more](#)

Discover, assess and migrate

Design Migrations: Online Storage Migration Tool for Unstructured Data



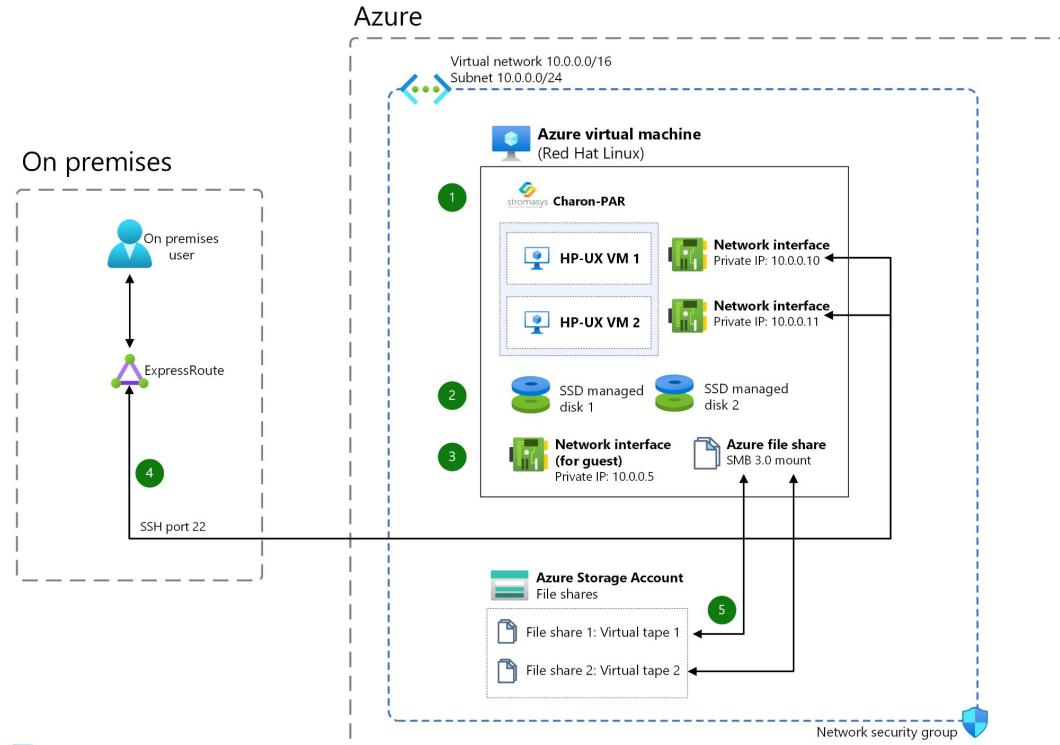
Design Migrations: Migrate Offline Data



Design Network Solutions

- Recommend a network architecture solution based on workload requirements
- Recommend a connectivity solution that connects Azure resources to the internet
- Recommend a connectivity solution that connects Azure resources to on-premises networks
- Optimize network performance for applications
- Recommend a solution to optimize network security
- Recommend a load balancing and routing solution

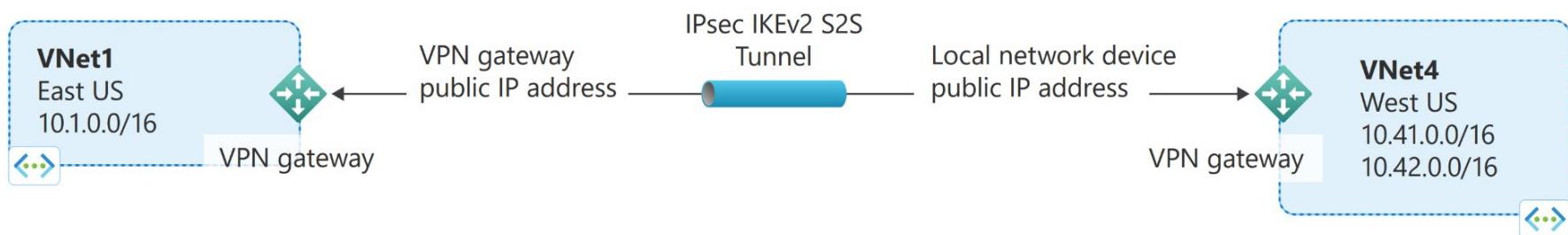
Design Network solutions: Recommend a Network Architecture Solution



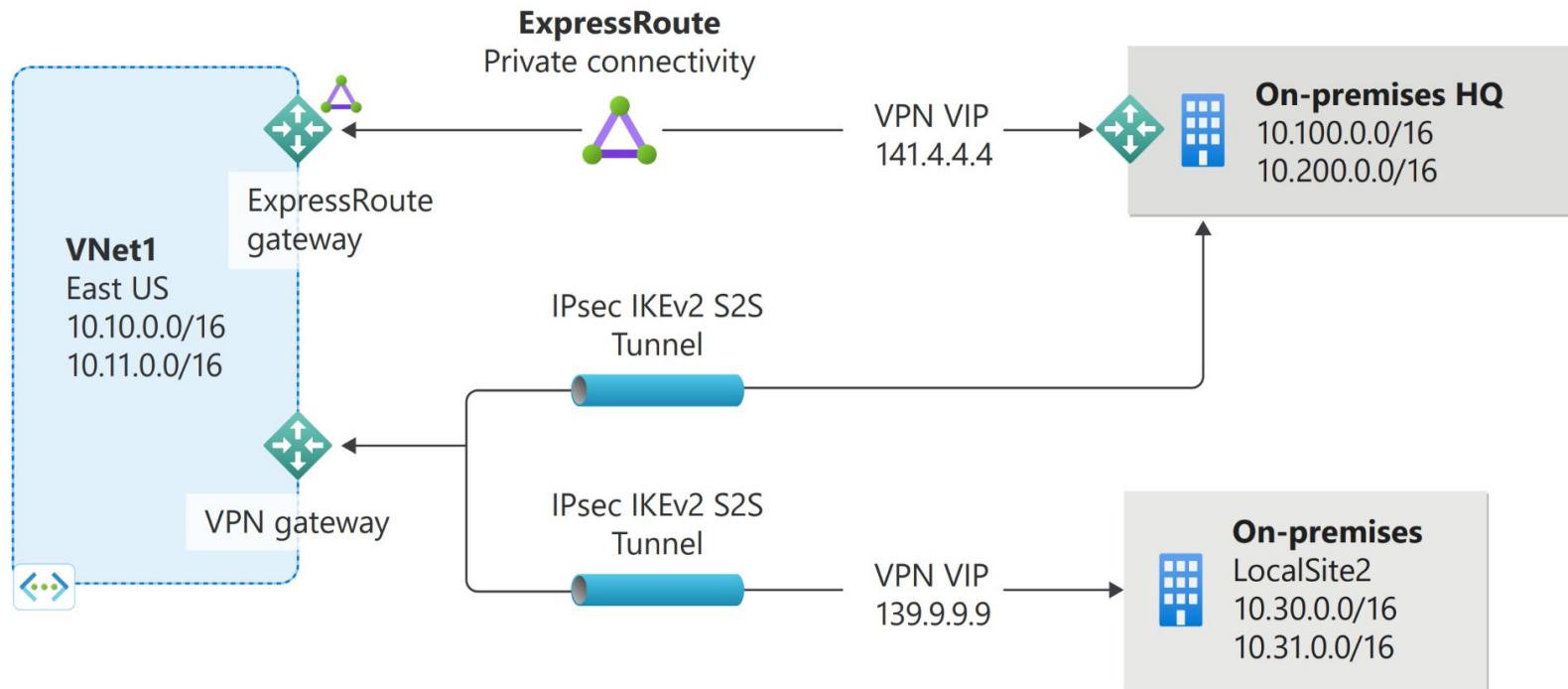
Design Network Solutions: On-premises Connectivity to Azure Virtual Network

- [Azure VPN Gateway](#)
- [Azure ExpressRoute](#)
 - [Azure ExpressRoute with VPN failover](#)
- [Azure Virtual WAN and hub-spoke networks](#)

Design Network Solutions: On-premises Connectivity to Azure Virtual Network



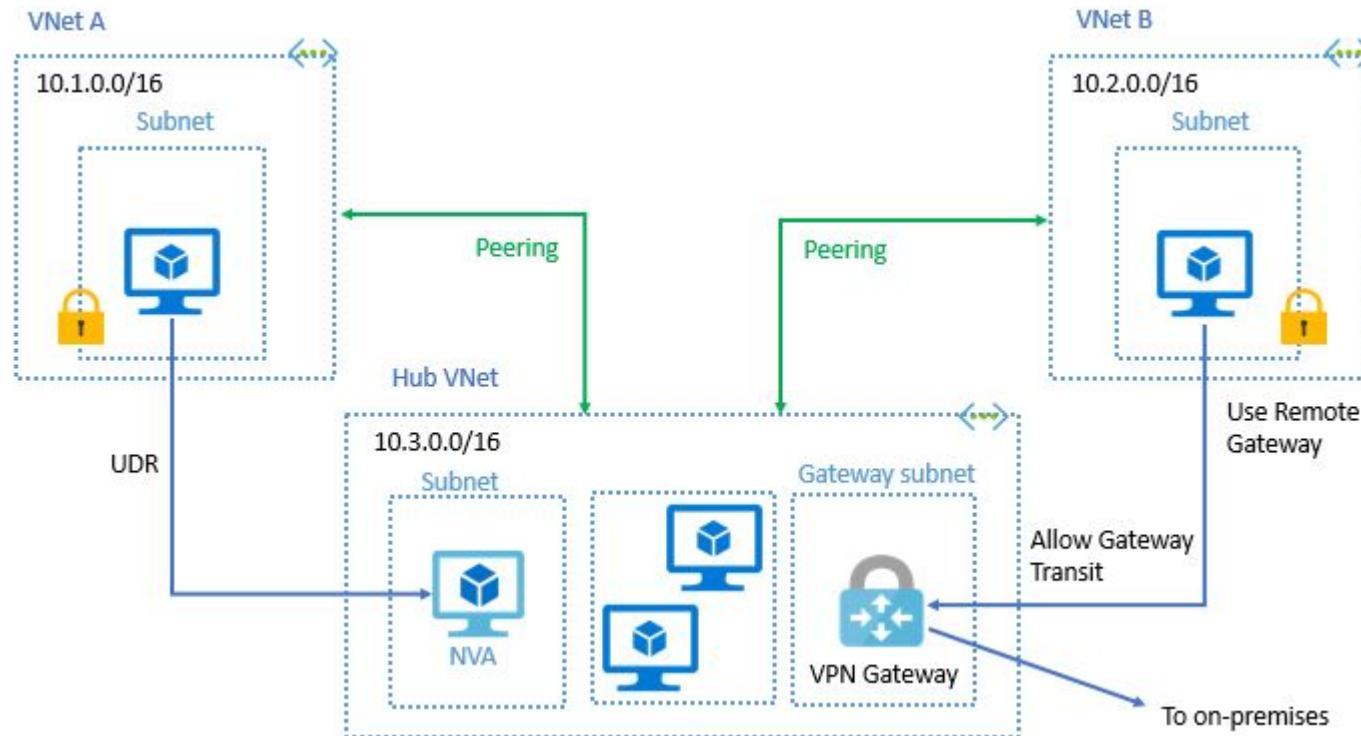
Design Network Solutions: On-premises Connectivity to Azure Virtual Network



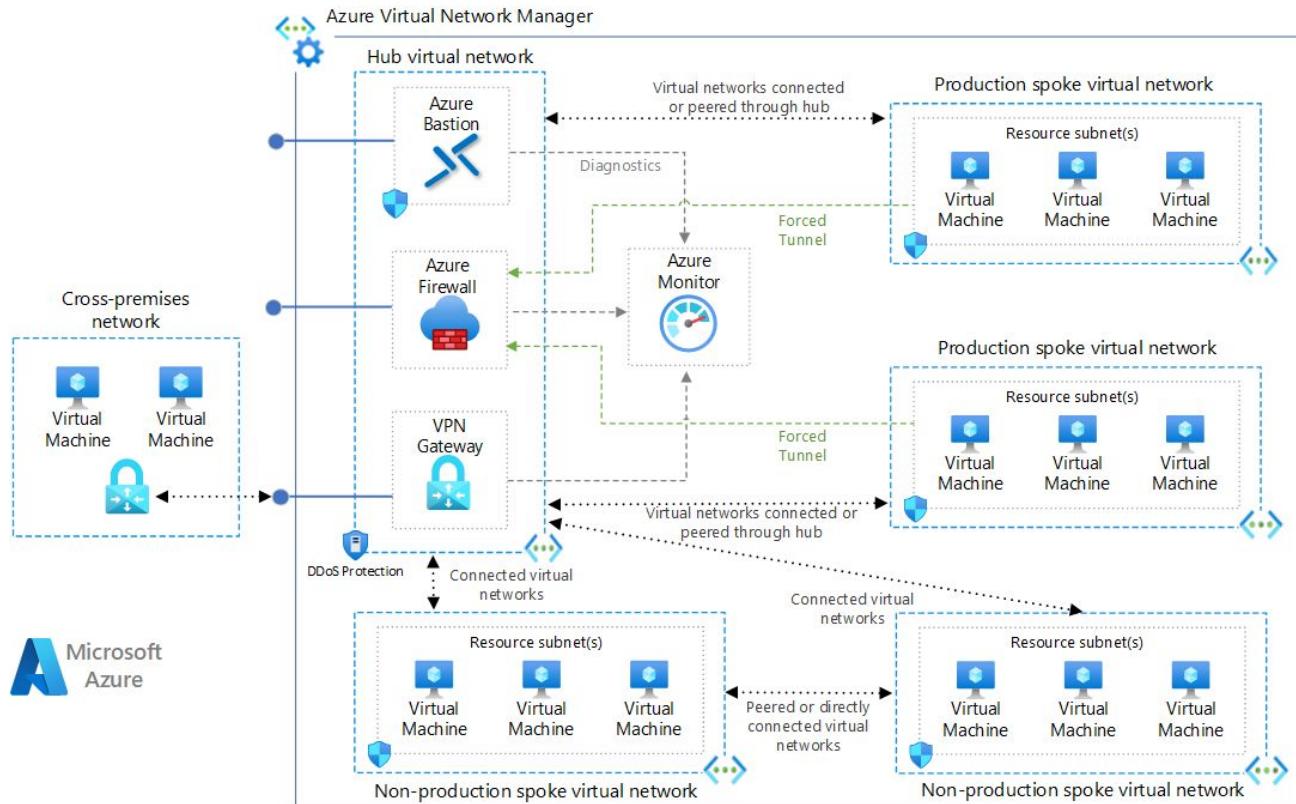
Design Network Solutions: Design Patterns for Azure Network Connectivity Services

- [Single virtual network](#)
- [Multiple virtual networks with peering](#)
- [Multiple virtual networks in a hub-spoke topology](#)

Design Network Solutions: Design Patterns for Azure Network Connectivity Services

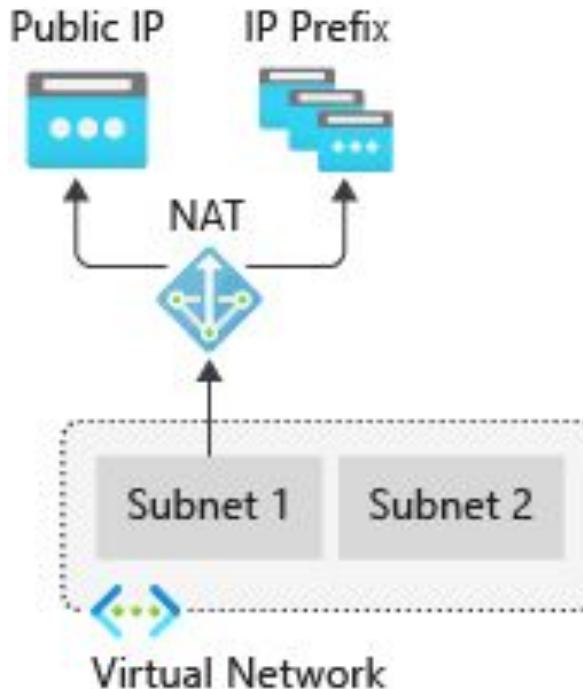


Design Network Solutions: Design Patterns for Azure Network Connectivity Services



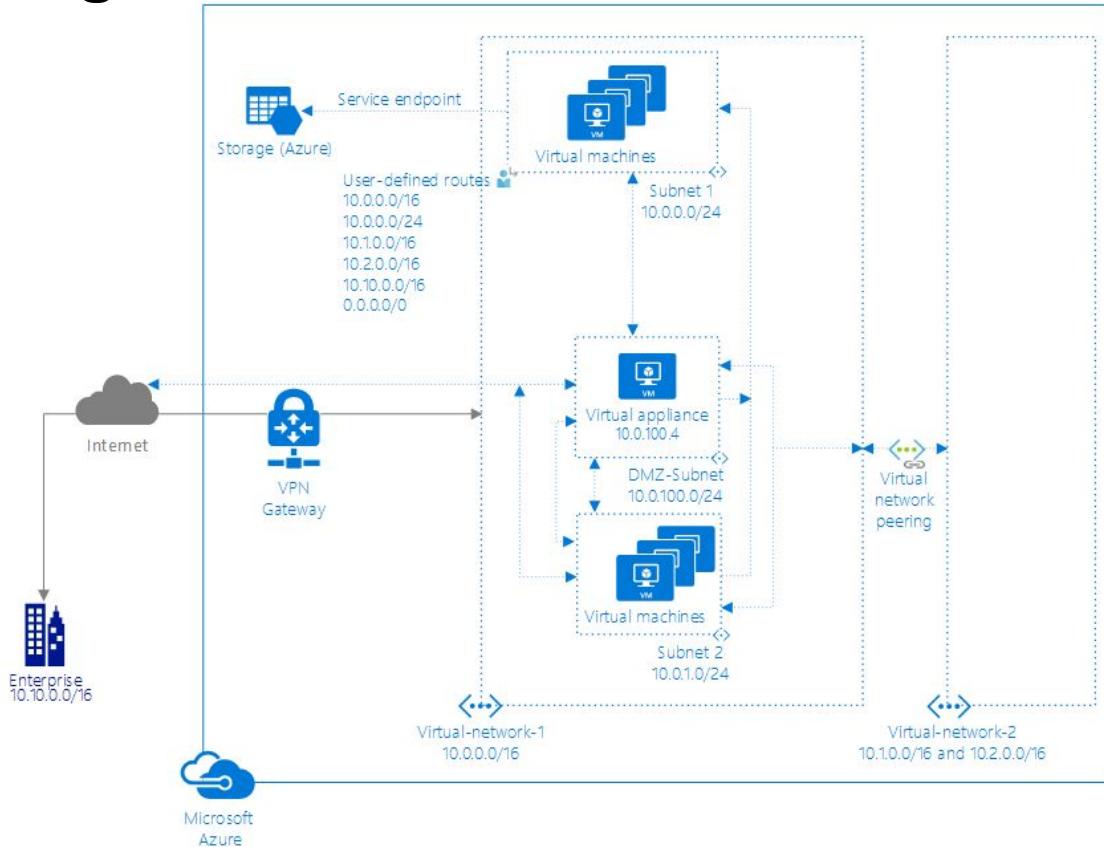
Design Network Solutions: Design Outbound Connectivity and Routing

- [Azure Virtual Network NAT](#)
- [Custom routes](#)



Design Network Solutions: Design Outbound Connectivity and Routing

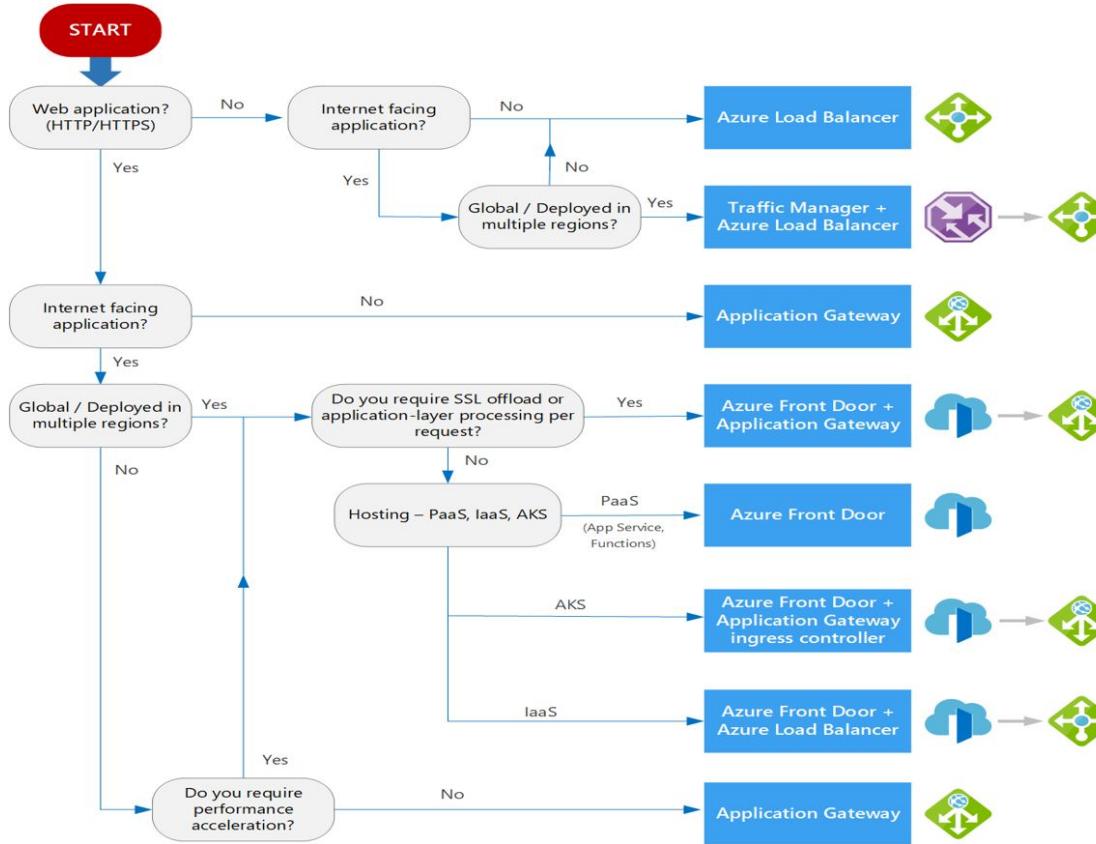
- Azure Virtual Network NAT
- Custom routes



Design Network Solutions: Choose an Application Delivery Service

- Global or Regional
- HTTP(S) or non-HTTP(S)

Design Network Solutions: Choose an Application Delivery Service



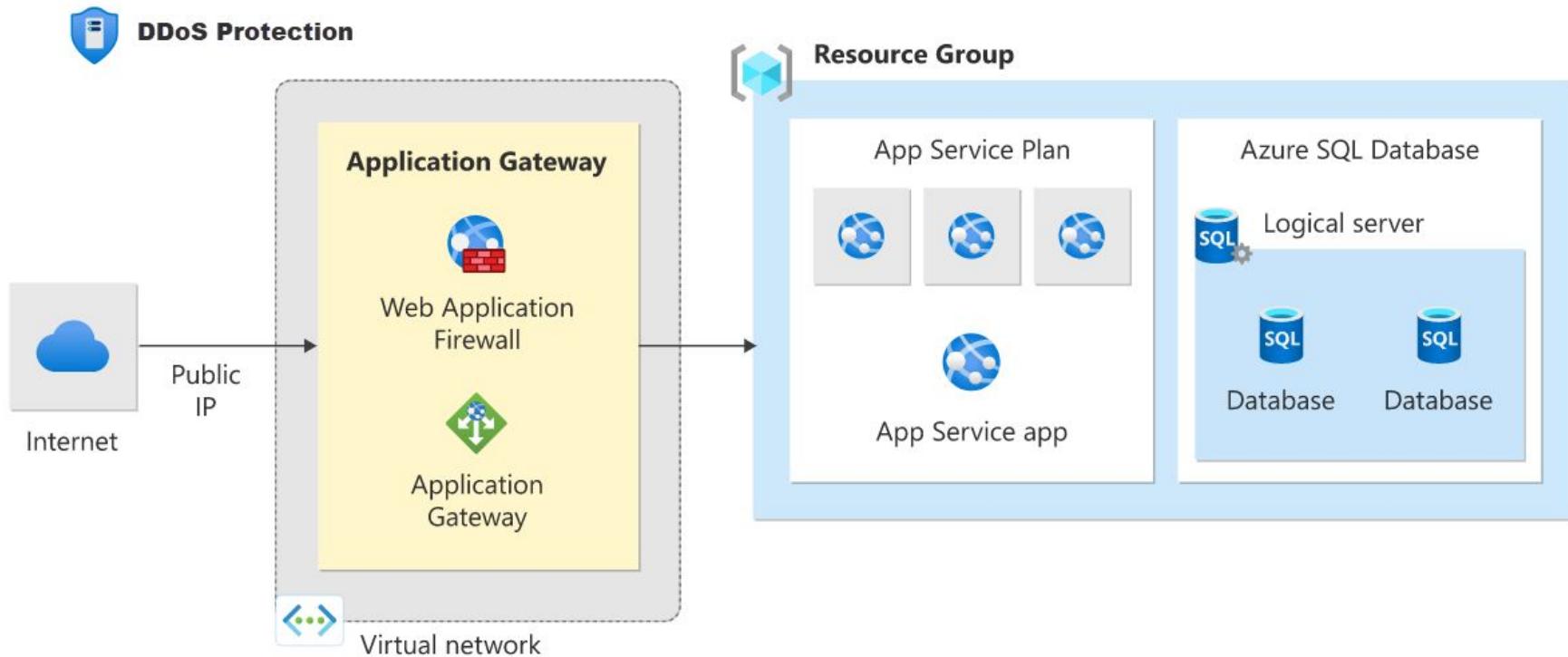
Design Network Solutions: Design for Application Delivery Services

- [Azure Content Delivery Network \(CDN\)](#)
- [Azure Front Door](#)
- [Azure Traffic Manager](#)
- [Azure Load Balancer](#)
- [Azure Application Gateway](#)

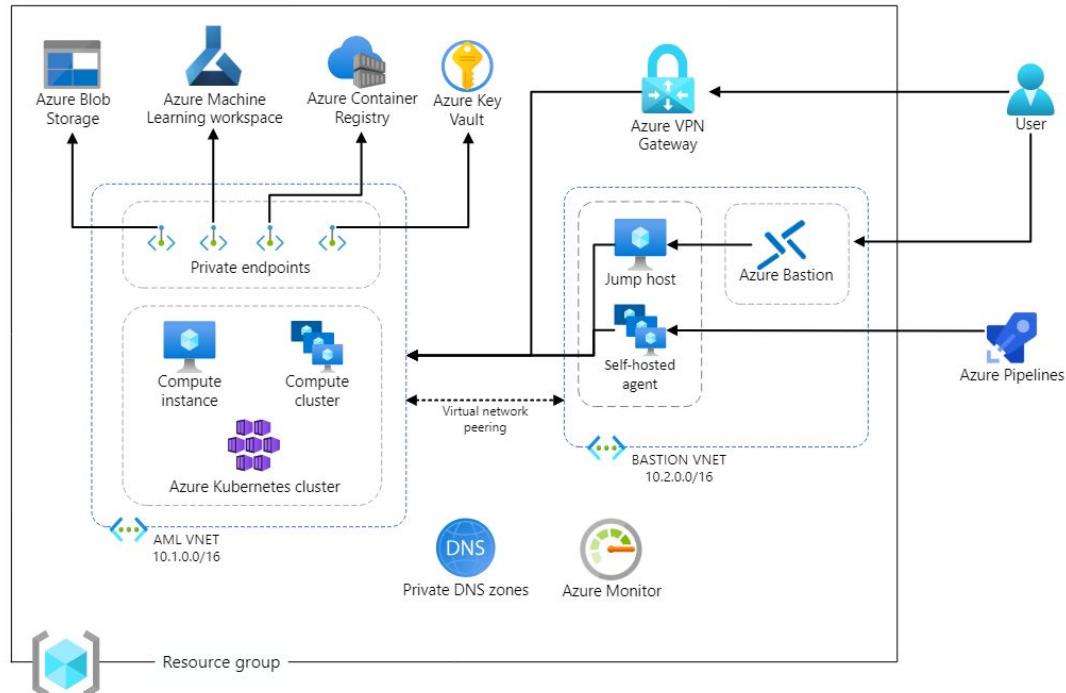
Design Network Solutions: Design for Application Protection Services

- [Azure DDoS Protection](#)
- [Azure Private Link](#)
- [Azure Virtual Network - Service endpoints](#)
- [Azure Firewall](#)
- [Azure Web Application Firewall \(WAF\)](#)
- [Azure virtual network security groups \(NSG\)](#)
- [Azure Bastion](#)
- [JIT network access](#)

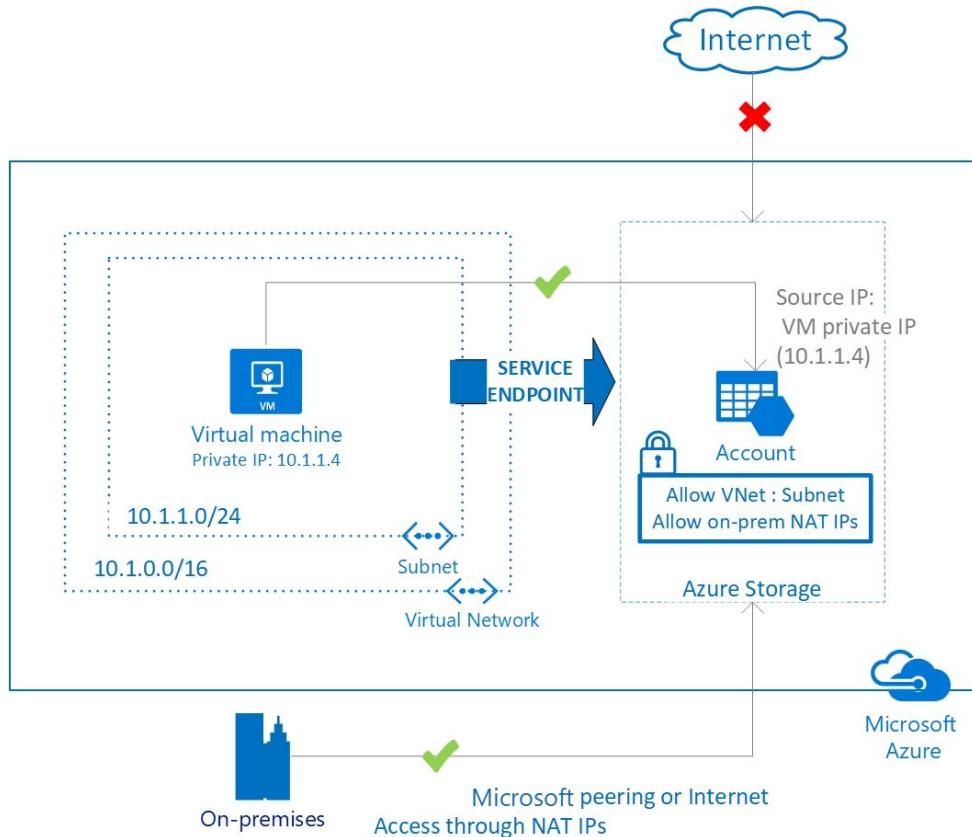
Design Network Solutions: Design for Application Protection Services: DDoS Protection



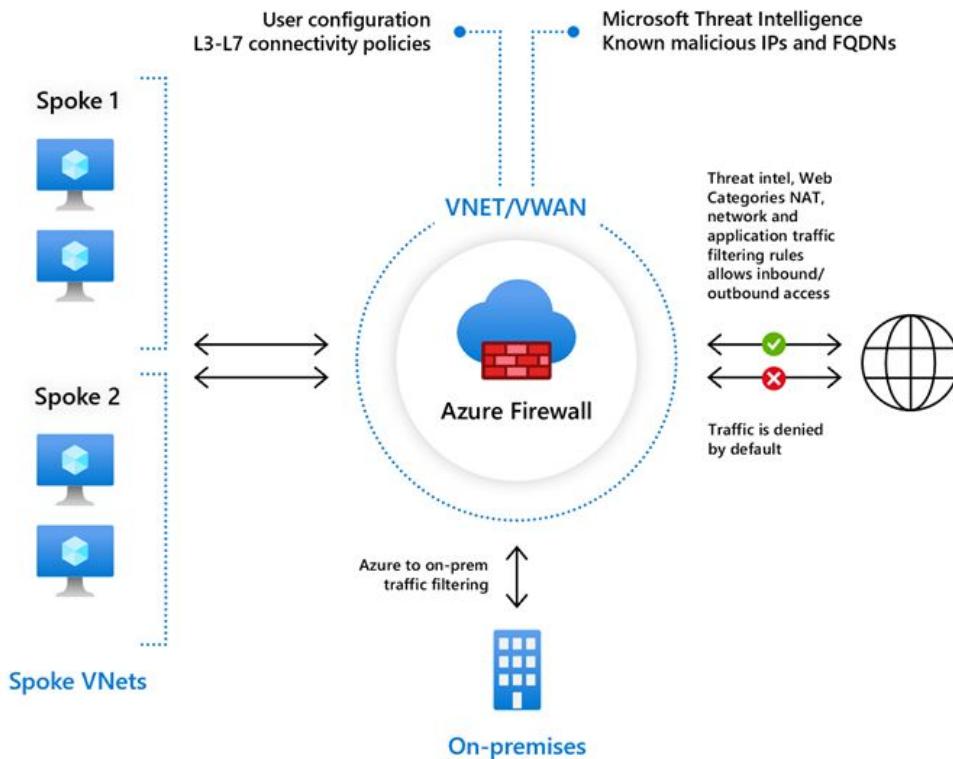
Design Network Solutions: Design for Application Protection Services: Private Link



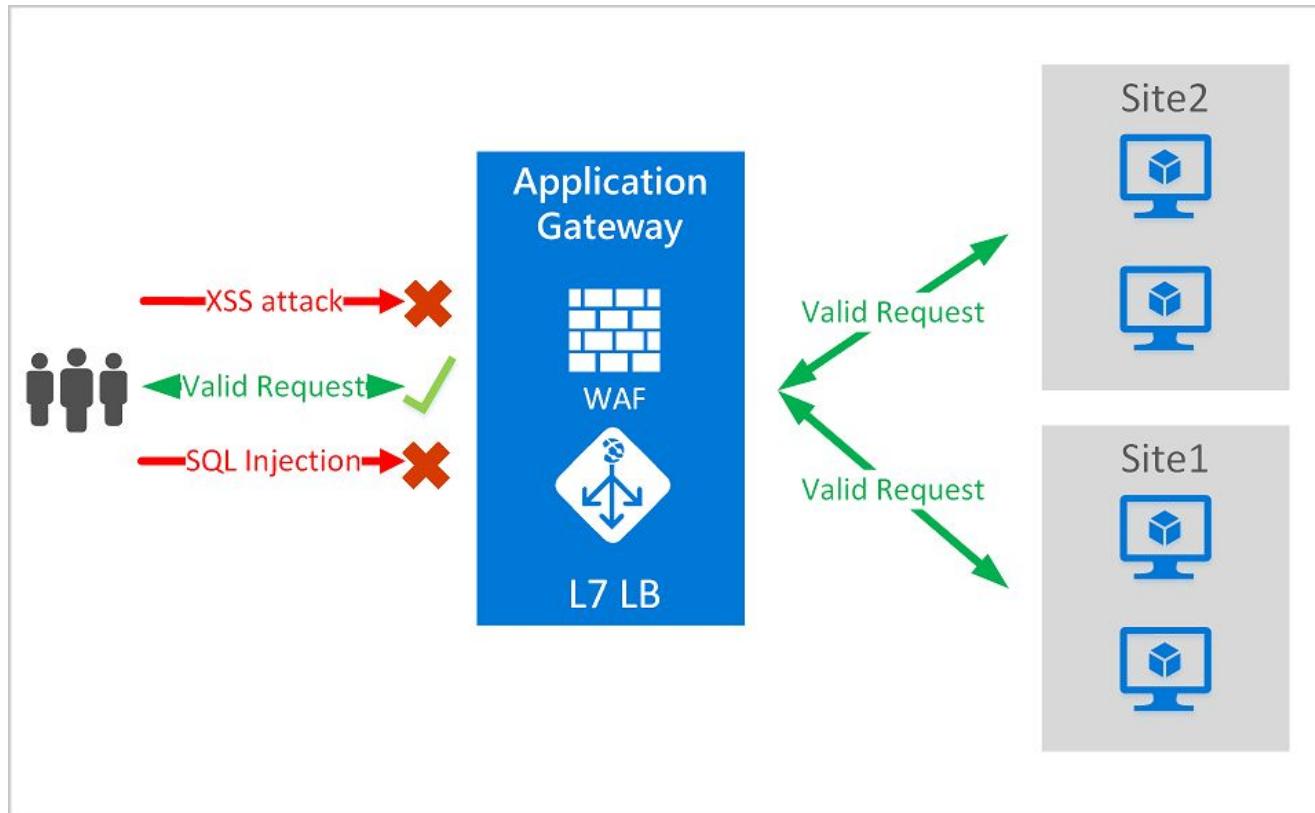
Design Network Solutions: Design for Application Protection Services: Service Endpoint



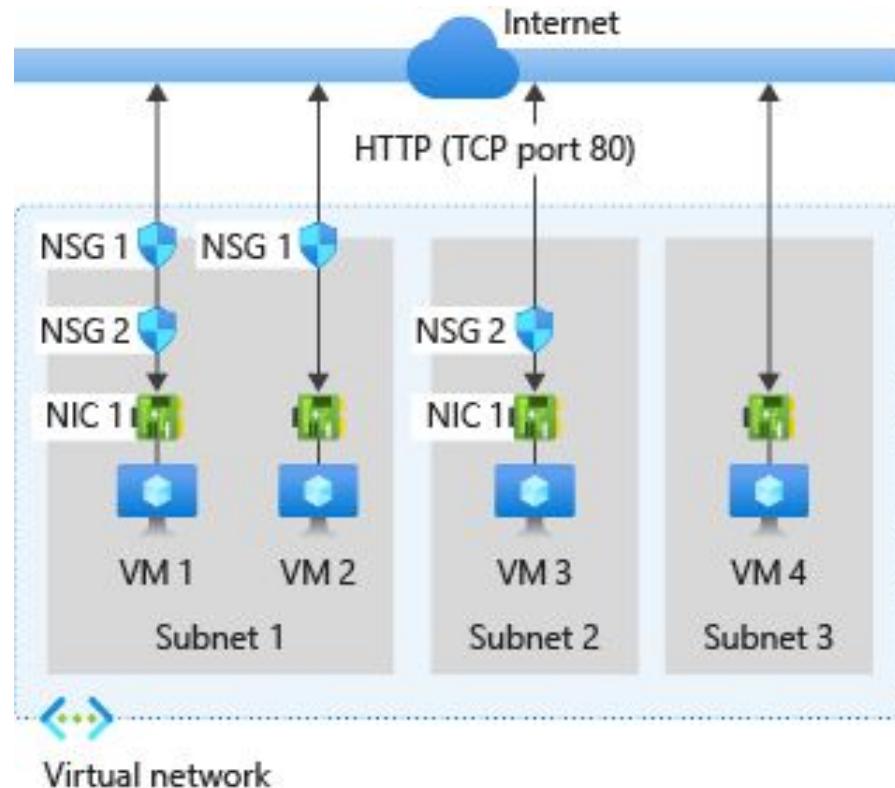
Design Network Solutions: Design for Application Protection Services: Azure Firewall



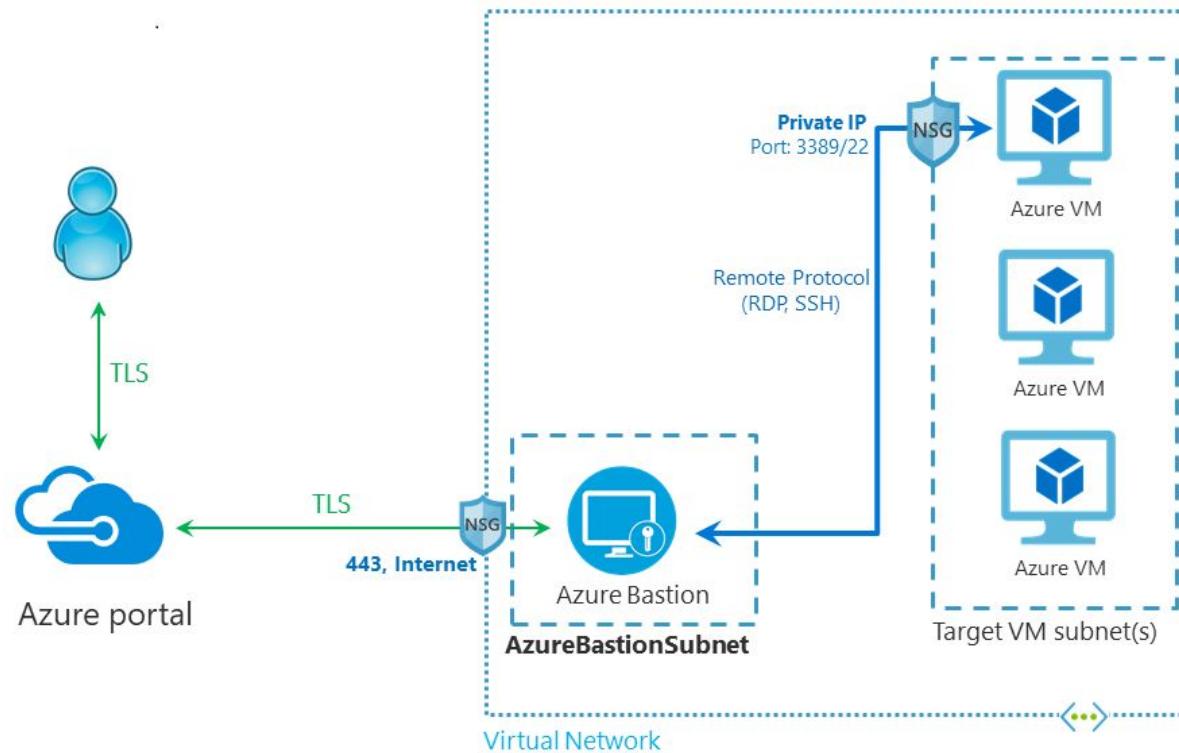
Design Network Solutions: Design for Application Protection Services: Azure WAF



Design Network Solutions: Design for Application Protection Services: Azure NSG



Design Network Solutions: Design for Application Protection Services: Azure Bastion



Design Network Solutions: Design for Application Protection Services: JIT Access

The screenshot shows the 'VM TEST | Connect' page in the Azure portal under 'Virtual machines'. A red box highlights the 'Connect' option in the left sidebar. The main content area displays a message about a JIT access policy and provides steps for connecting via SSH. A red box highlights the 'Request access' button at the bottom.

Dashboard > Virtual machines >

VMTEST | Connect
Virtual machine

Search (Ctrl+ /)

RDP **SSH** BASTION

This VM has a just-in-time access policy. Select "Request access" before connecting.

Connect via SSH with client

1. Open the client of your choice, e.g. PuTTY or other clients .
2. Ensure you have read-only access to the private key.
`chmod 400 orenpg.pem`
3. Provide a path to your SSH private key file. ⓘ
Private key path
~/ssh/orenpg
4. Run the example command below to connect to your VM.
`ssh -i <private key path> orenpg@104.43.247.119`

Source IP ⓘ
My IP Other IP/ IPs **All configured IPs**

Request access

The Exam

AZ-305 Exam Questions

- Number of Questions between 40-60
- Duration: 120 minutes
- Questions
 - See the [exam sandbox](#)
- There is no hands-on labs
- Pass Score 700 (on a scale of 1-1000)

AZ-305

- [Exam AZ-305](#)
- [Skills measured](#)
- [AZ-305 Exam Prep videos](#)
- [Demo the exam experience by visiting the Exam Sandbox](#)

AZ-305

- Exam AZ-305:

<https://learn.microsoft.com/en-us/certifications/exams/az-305/>

- Skills measured :

<https://learn.microsoft.com/en-us/certifications/resources/study-guides/AZ-305>

AZ-305 Exam Questions



Tip

- Watch [AZ-305 exam prep videos](#) on Learn
- Review the [AZ-305 study guide](#) to help you prepare for the exam
- Demo the exam experience by visiting our [exam sandbox](#)

Schedule exam

Exam AZ-305: Designing Microsoft Azure Infrastructure Solutions

Languages: English, Japanese, Chinese (Simplified), Korean, German, French, Spanish, Portuguese (Brazil), Arabic (Saudi Arabia), Russian, Chinese (Traditional), Italian, Indonesian (Indonesia)

Retirement date: none

This exam measures your ability to accomplish the following technical tasks: design identity, governance, and monitoring solutions; design data storage solutions; design business continuity solutions; and design infrastructure solutions.

[Schedule exam >](#)

United States 

\$165 USD*

Price based on the country or region in which the exam is proctored.

Take a free practice assessment

Test your skills with practice questions to help you prepare for the exam. [Learn more about practice assessments.](#)

 Add

Select exam options

AZ-104: Microsoft Azure Administrator

Where do you want to take your exam?



At a test center



Online at my home or office

I have a Private Access Code

Where do you want to take your exam?



At a test center



Online at my home or office

I have a Private Access Code

Prepare for your online exam at your home or office



Your computer

Use a personal computer that has a reliable webcam and internet connection.

Run [system test](#).



Your testing space

The room should be a distraction-free, private place.

See [acceptable spaces](#) and view permitted [comfort aid list](#).



Your photo ID

We'll verify your government-issued identification (ID) when you arrive for your exam.

Review [admission & ID policies](#)



What to expect

Check in for your OnVUE exam 30 minutes before your appointment time.

Watch our [short video](#) to get familiar with the process.

Questions?

Check out the [OnVUE FAQs](#) and [minimum technical requirements](#).

Cart

[Review and confirm](#) contact information to avoid issues on test day.

Description	Details	Price	Actions
		165.00	Remove

Available Products

In addition to scheduling your exam, you might be interested in the following products.



Microsoft Official Practice Test powered by MeasureUp - 30 day online access
Get a discount on available Microsoft Official Practice Test for Microsoft certification exams (Fundamentals, Role-based, or Specialty) 30-day online access.

USD 80.00

[Add to Order](#)

Special offer: Regularly priced at USD 99.00! [Click here for details](#)

[More Details](#)

It's time to test your system

Order #: 0064-8802-7606

Your appointment is confirmed! An order confirmation containing important exam day information has been sent to: zaalion@gmail.com

What's next?

[Run a system test](#)

We need to verify that the computer and internet connection you plan to use on exam day meet the [minimum requirements](#) for online testing. It'll just take 5 minutes to run:



Equipment and internet connection checks



Exam simulation

Description

Details

Order Information

Price

165.00



System Test

I confirm that on my exam day I will be using this same testing space, computer, and internet connection.

Alert! Work computers generally have more restrictions that may prevent a successful test. Ensure you are not behind a corporate firewall, and shut down any **Virtual Private Networks (VPNs)** or **Virtual Machines**.

1. Copy Access Code

Click '**Copy Access Code**'.

This code will authorize you to perform a system test.

690-635-235

Copy Access Code

2. Download OnVUE

Click '**Download**'.

Download

3. Run OnVUE

Run the OnVUE application from your Downloads folder.

Course Repository

<https://github.com/zaalion/oreilly-az-305>

Azure Cookbook

<https://learning.oreilly.com/library/view/azure-cookbook/9781098135782/>

<https://www.amazon.ca/Azure-Cookbook-Recipes-Maintain-Solutions/dp/1098135792/>

<https://www.amazon.com/Azure-Cookbook-Recipes-Maintain-Solutions/dp/1098135792>

O'REILLY®

Azure Cookbook

Recipes to Create and Maintain Cloud Solutions
in Azure





Thank you!

Reza Salehi

@zaalion

