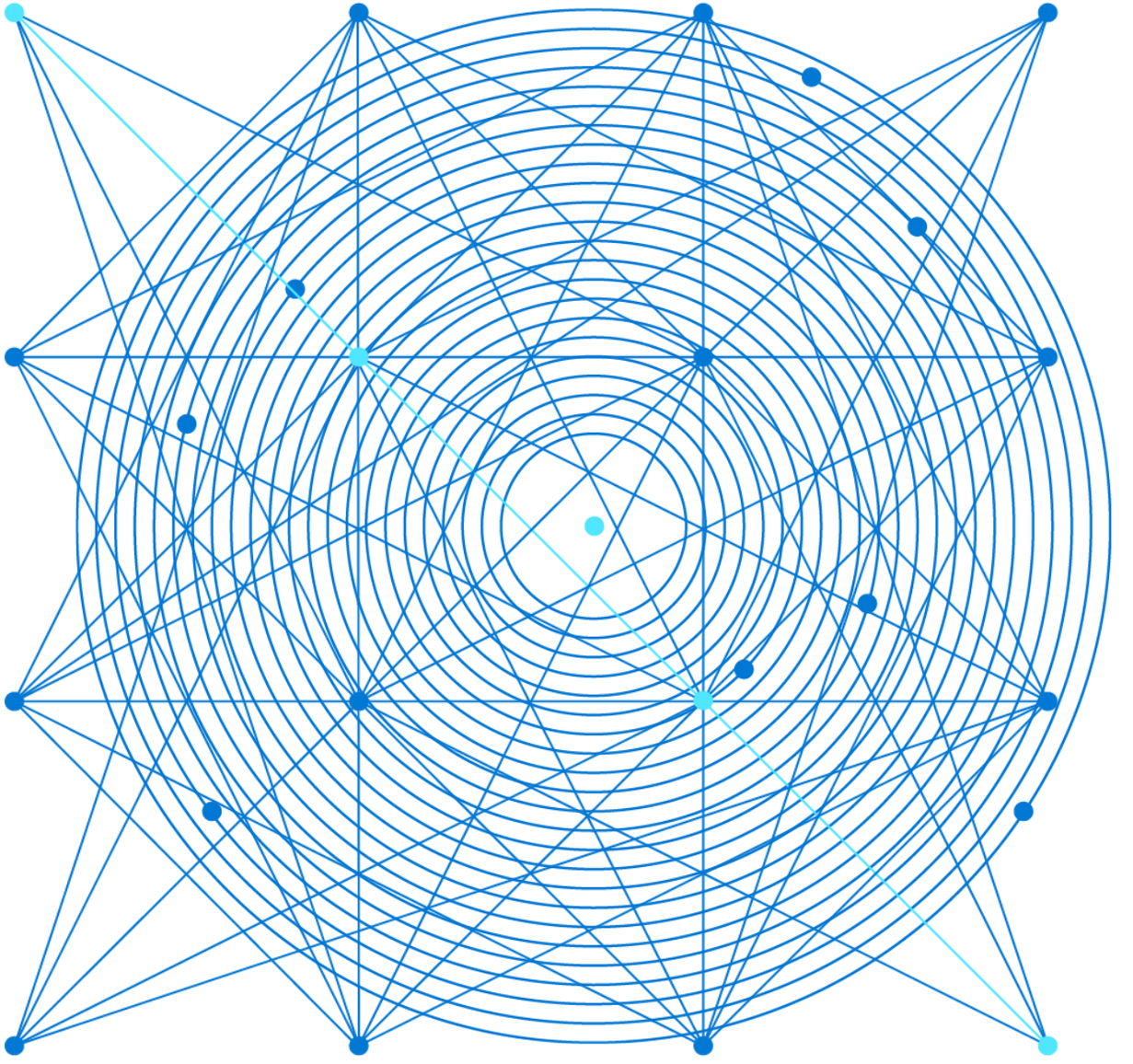
AZ-303: Microsoft Azure Architect Technologies



Module 8: Implement Azure SQL Databases

Learning Objectives

You will learn the following:

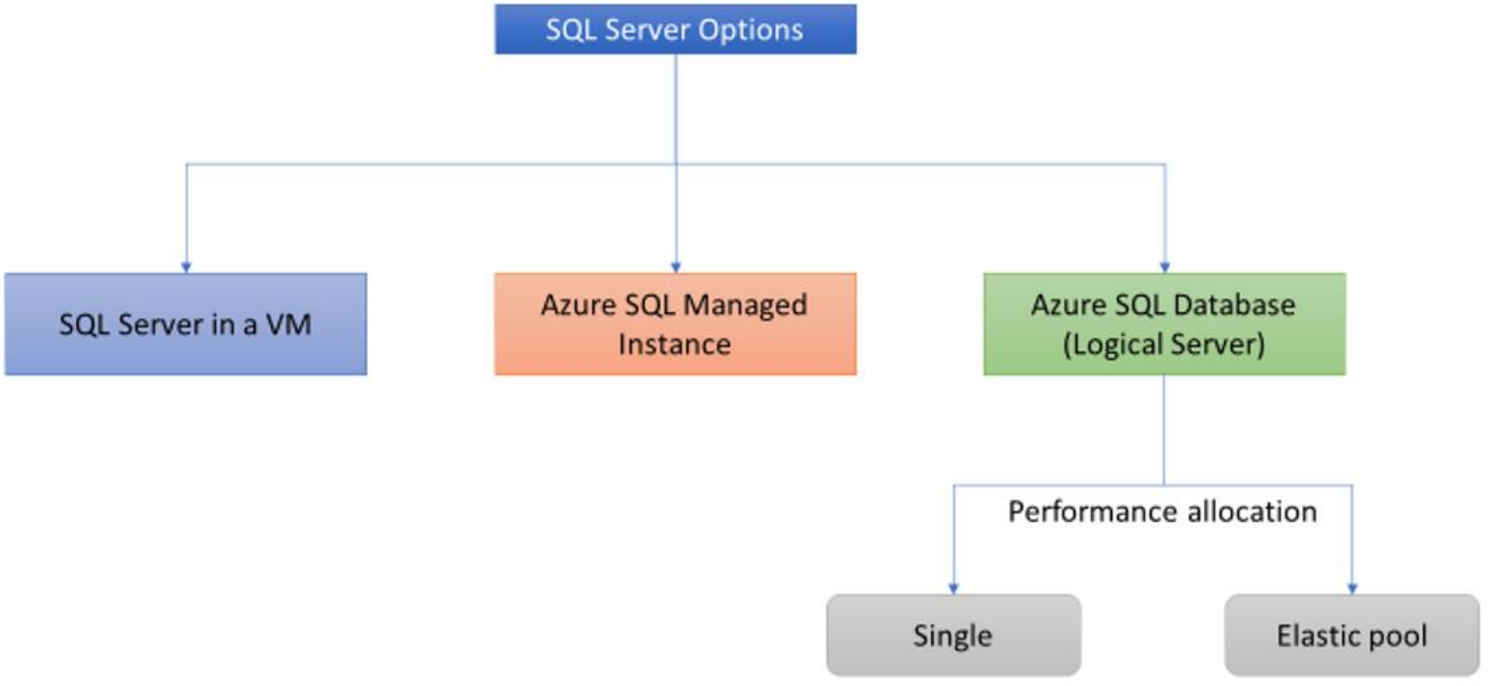
- Configure Azure SQL Database Settings
- Implement Azure SQL Database Managed Instances
- High availability and Azure SQL Database

Configure Azure SQL Database Settings

Azure SQL Database Service

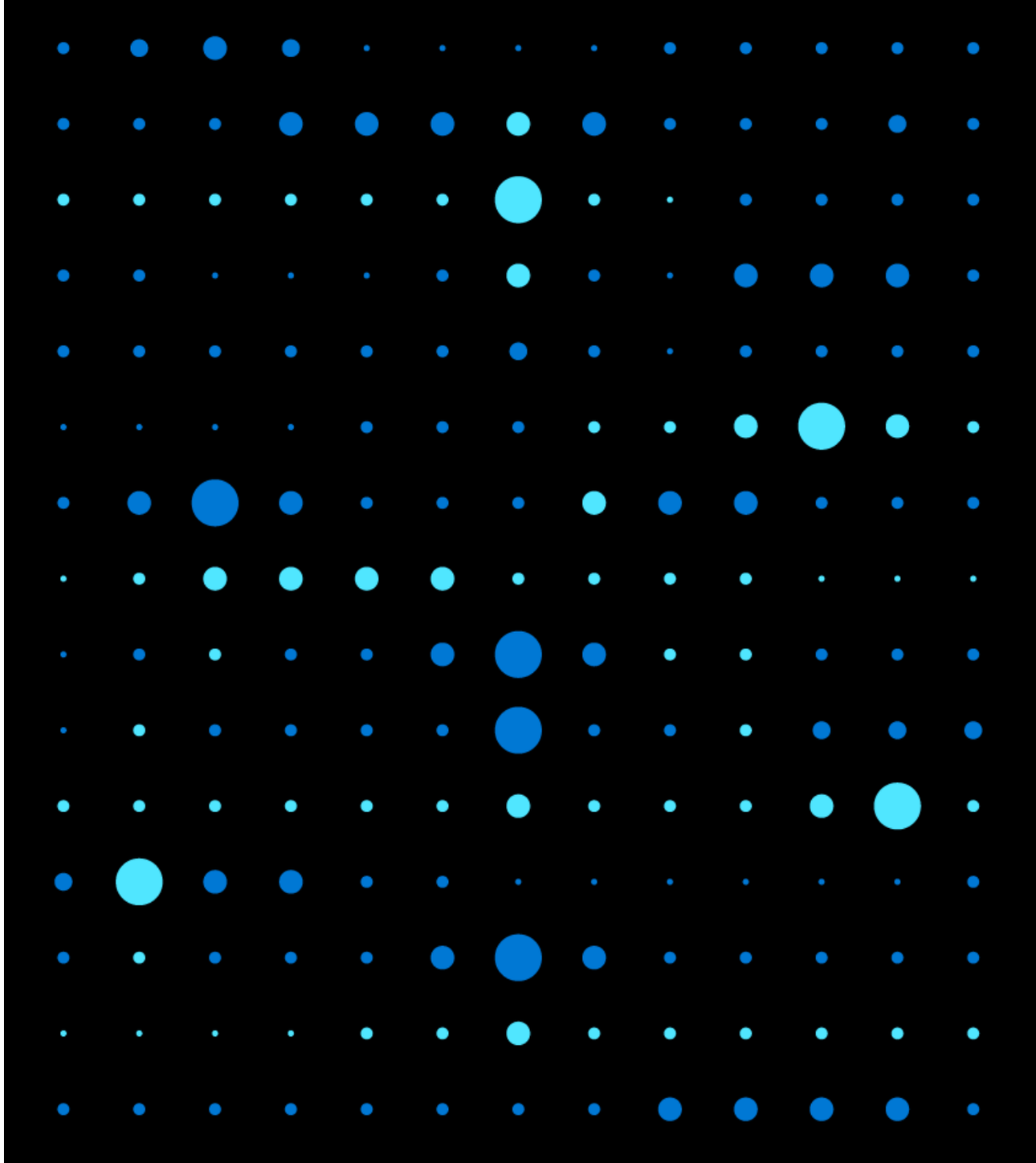
Deployment Models:

- Single database
- Managed instance
- Elastic pool



Demonstration: Create an Azure SQL Database single database

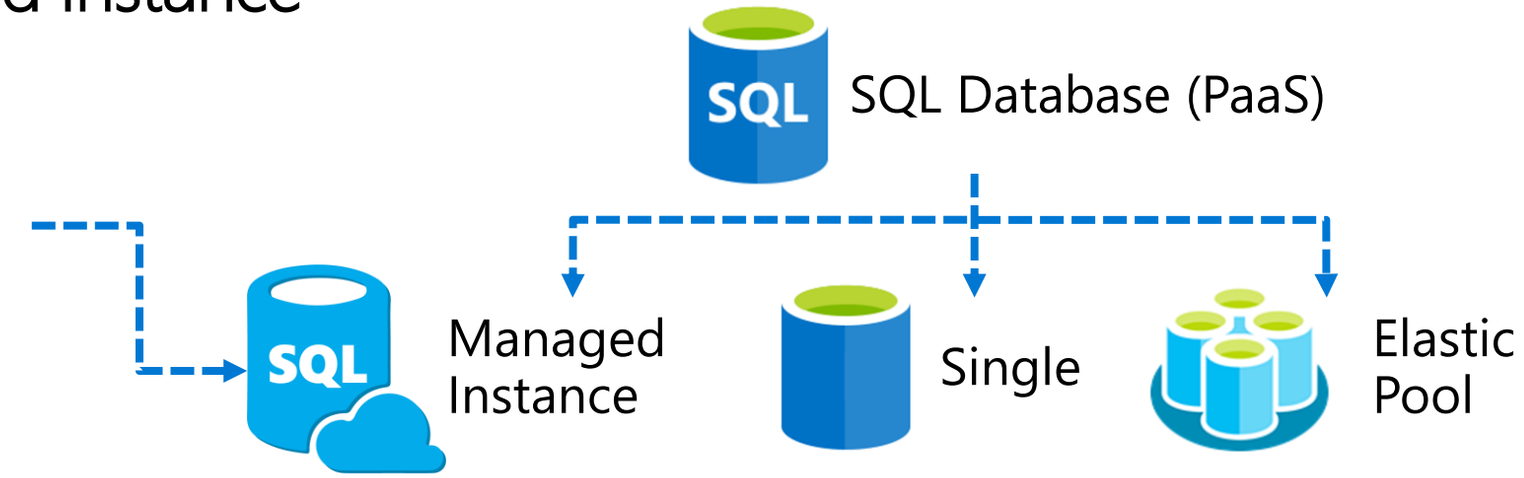
- Create a single database
- Query the database



Implement Azure SQL Database Managed Instance

Azure SQL Database Managed Instance

New 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 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

New business model

- Competitive
- Transparent
- Frictionless

Azure SQL Database Managed Instance (2 of 3)

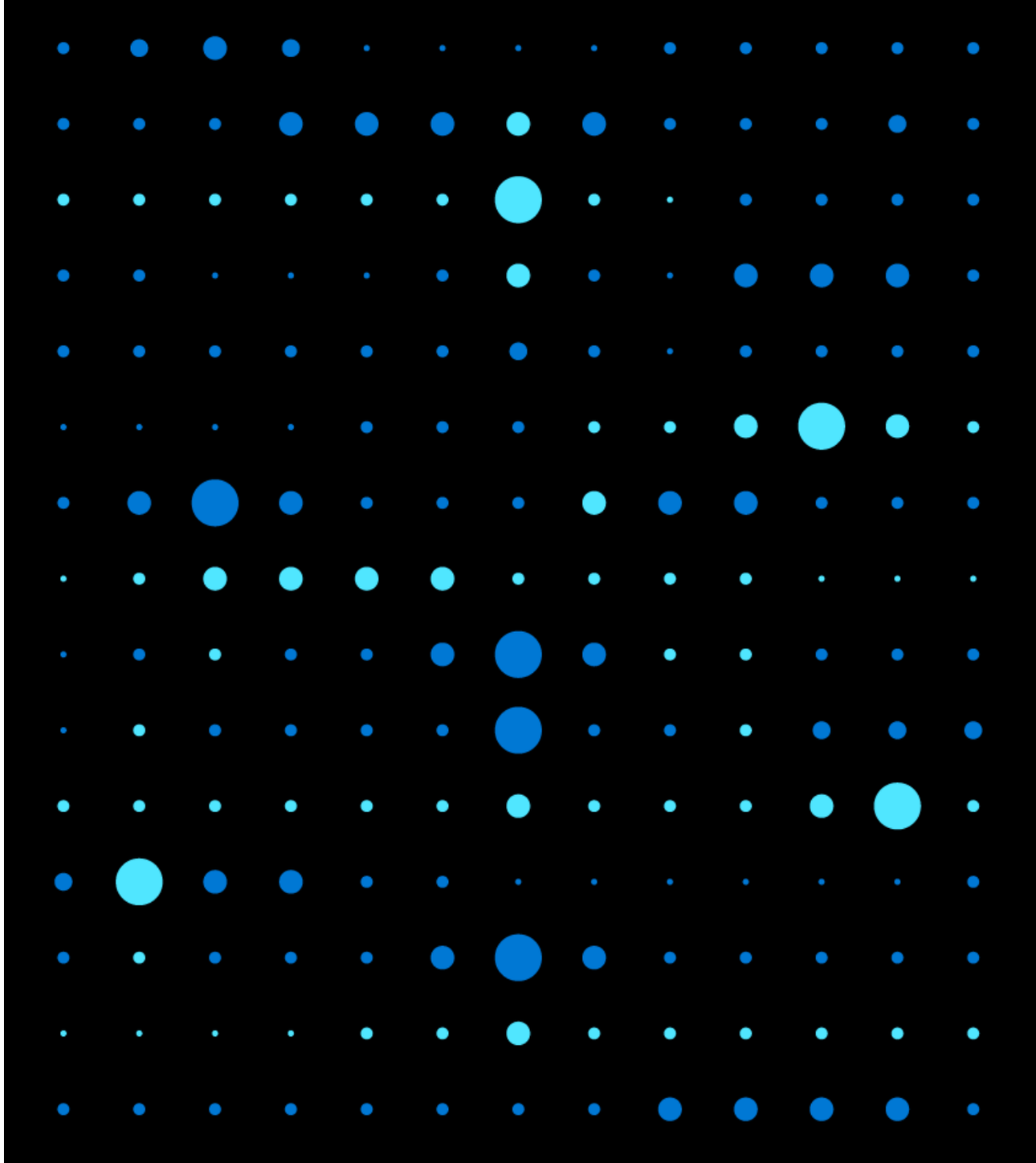
PaaS benefits	Business continuity
No hardware purchasing and management No management overhead for managing underlying infrastructure Quick provisioning and service scaling Automated patching and version upgrade Integration with other PaaS data services	99.99% uptime SLA Built in high-availability Data protected with automated backup. Customer configurable backup retention period User-initiated backups Point in time database restore capability

Azure SQL Database Managed Instance (3 of 3)

Feature	Description
SQL Server version / build	SQL Server Database Engine (latest stable)
Managed automated backups	Yes
Built-in instance and database monitoring and metrics	Yes
Automatic software patching	Yes
The latest Database Engine features	Yes
Number of data files (ROWS) per the database	Multiple
Number of log files (LOG) per database	1
VNet - Azure Resource Manager deployment	Yes
VNet - Classic deployment model	No
Portal support	Yes
Built-in Integration Service (SSIS)	No - SSIS is a part of Azure Data Factory PaaS
Built-in Analysis Service (SSAS)	No - SSAS is separate PaaS
Built-in Reporting Service (SSRS)	No - use Power BI paginated reports instead or host SSRS on Azure VM.

Demonstration: Create an Azure SQL Database Managed Instance

- Create a managed instance



High availability and Azure SQL Database

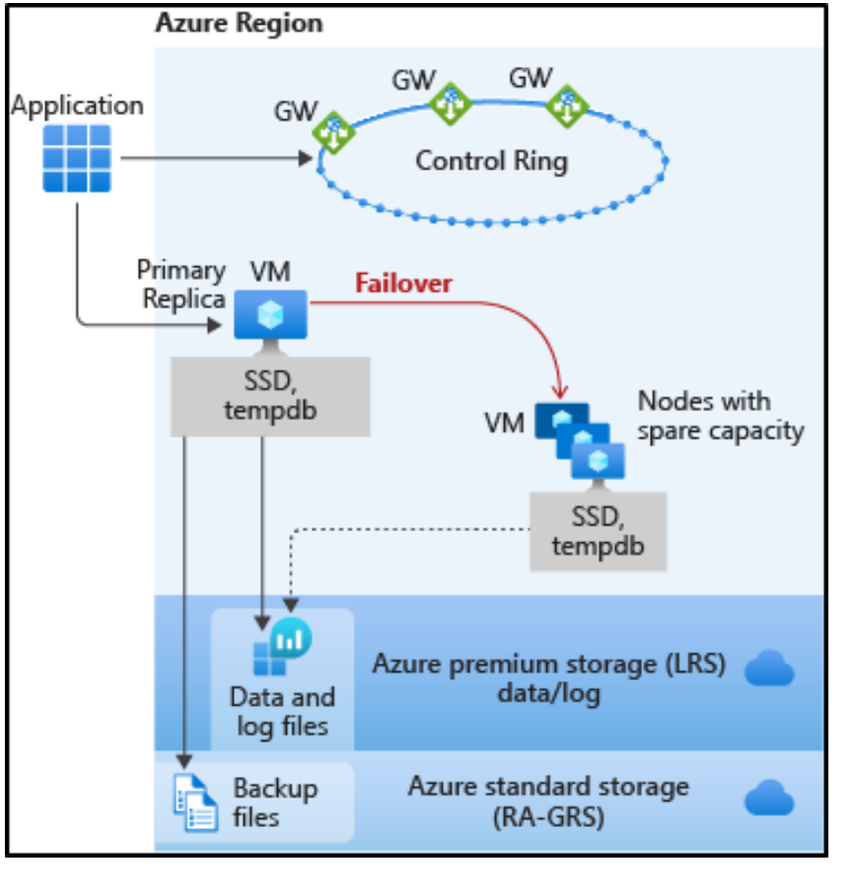
High availability and Azure SQL Database (1 of 4)

Two high-availability models used in Azure SQL database:

- Standard availability model that is based on a separation of compute and storage
- Premium availability model that is based on a cluster of database engine processes

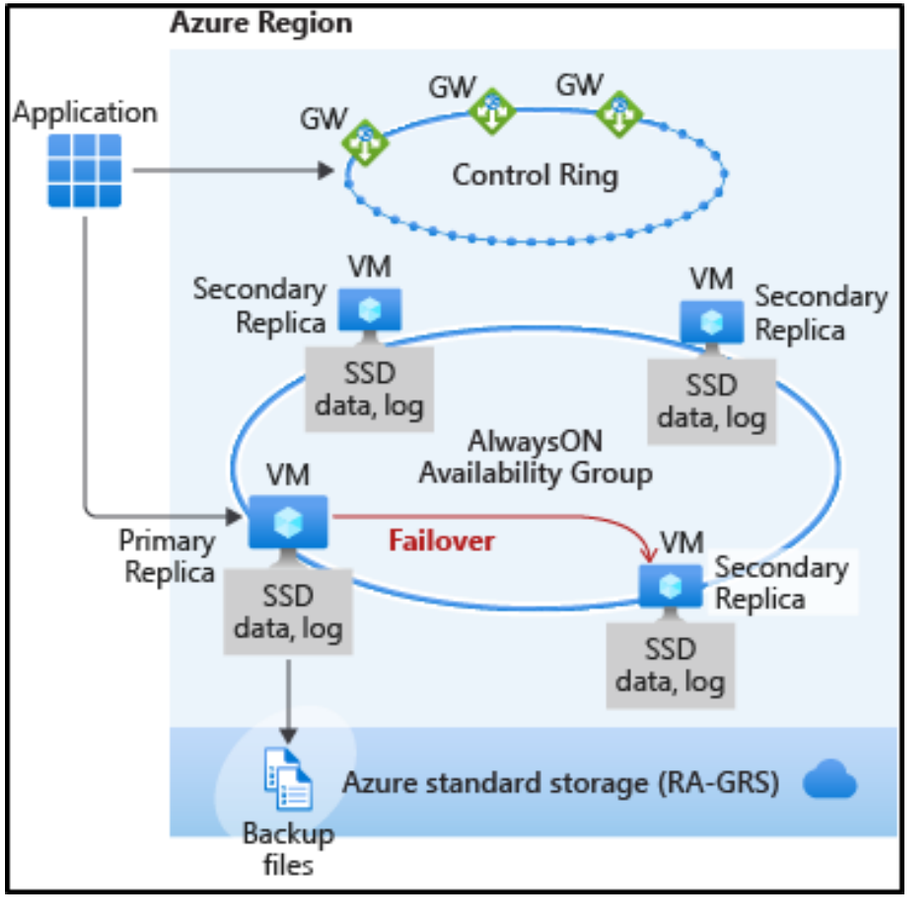
Basic, standard, and general-purpose service tier availability:

- Stateless compute layer
- Stateful data layer



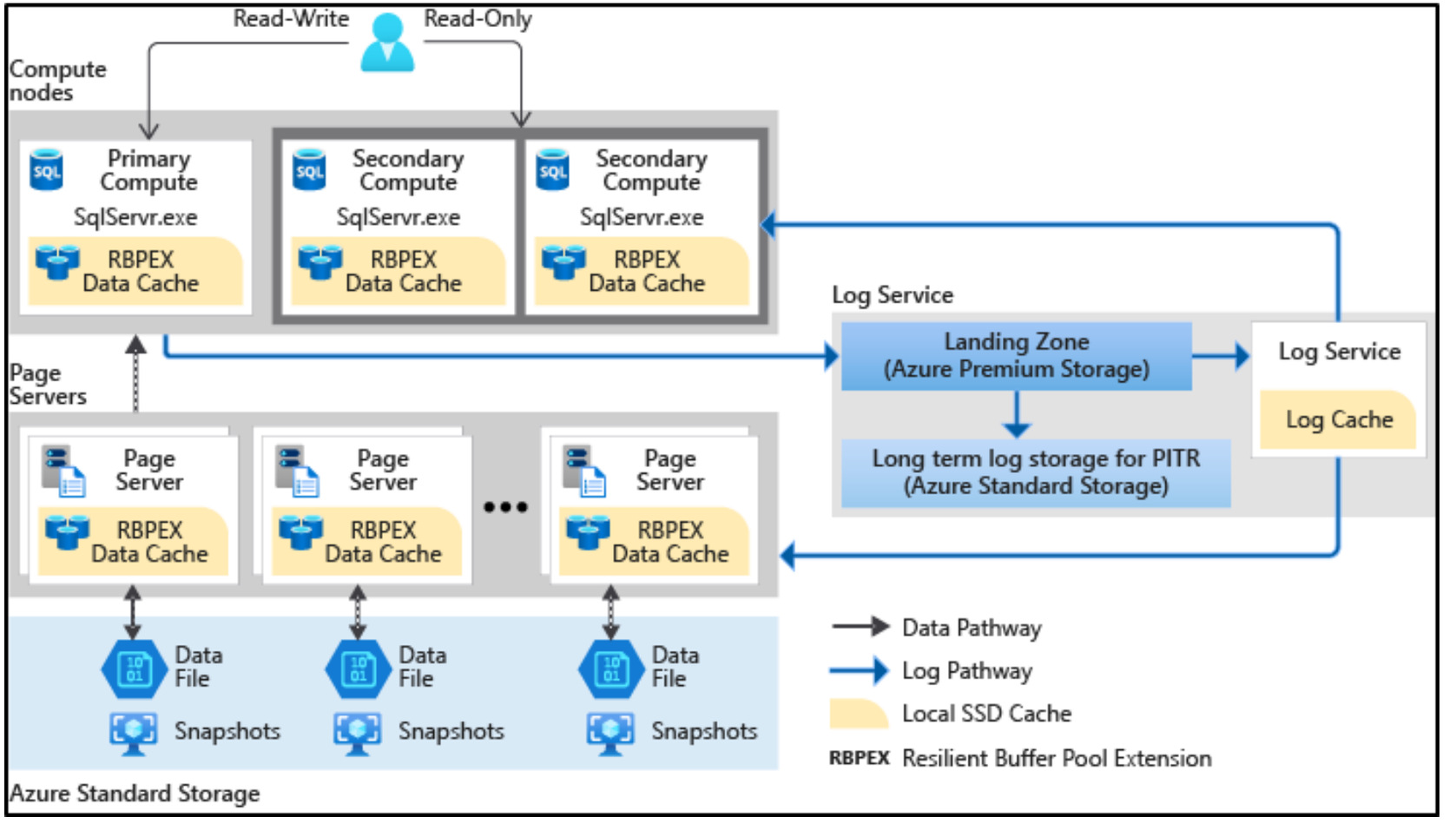
High availability and Azure SQL Database (2 of 4)

Premium and business critical service tier availability



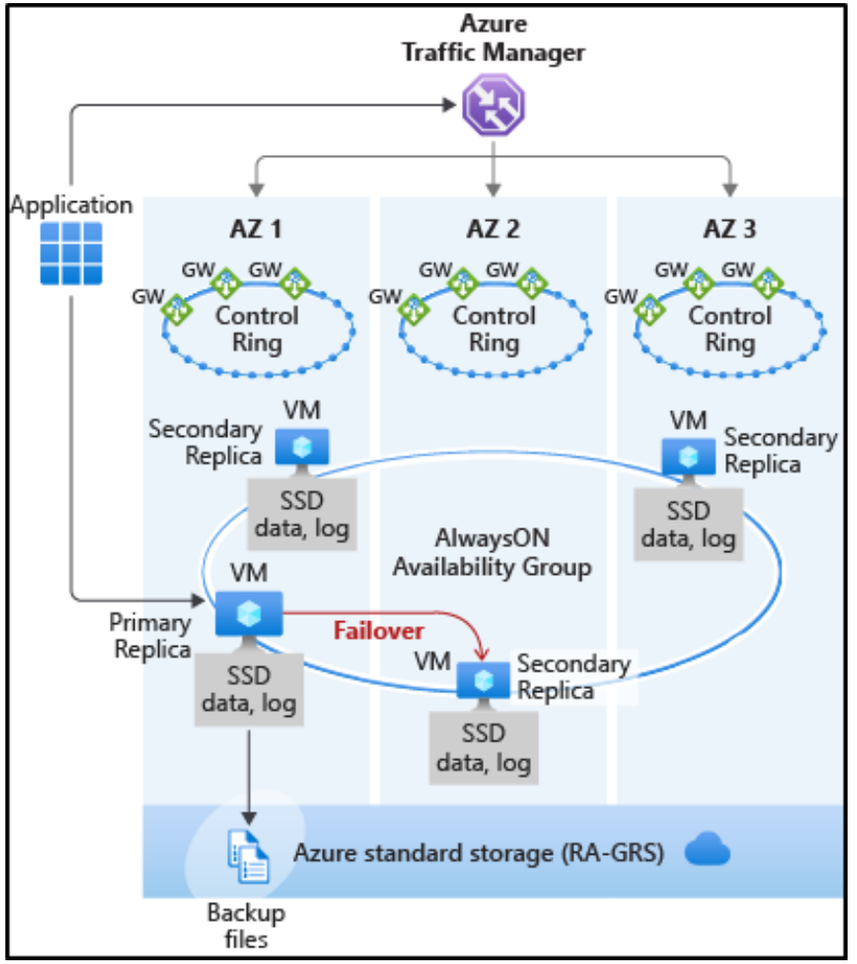
High availability and Azure SQL Database (3 of 4)

Hyperscale service tier availability



High availability and Azure SQL Database (4 of 4)

Zone redundant configuration



Module Review Questions

Microsoft Azure

Online Role-based training resources:

Microsoft Learn

https://docs.microsoft.com/en-us/learn/

Microsoft Azure

Thank you.