

#### EUROPEAN MiCROSOFT FABRIC Community Conference

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Azure SQL Database vs SQL Database in Fabric – Key Differences for Developers & DBAs

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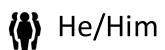




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**Community Speaker** 

Blogger/Tweeter

Nerd

MVP – Data Platform

Microsoft Certified: Azure Solutions Architect Expert

#### Denny Cherry & Associates



Certified IT professionals to help achieve IT goals

Clients ranging from small business to Fortune 10 corporations

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### Why are you here?

#### **Feature Comparison**





**Azure SQL Database** 



**SQL Database in Fabric** 

#### **Show of hands...**



How many have seen/used Azure SQL Database?

How many have seen/used SQL in Fabric?

# LDEMO

#### Agenda

Architecture

HA/DR

Costs & Pricing

Connectivity & Authentication

Q&A

**Summary** 





### Architecture

## Control all the things... Control **Granularity** SaaS PaaS laaS

#### **Azure SQL Database**

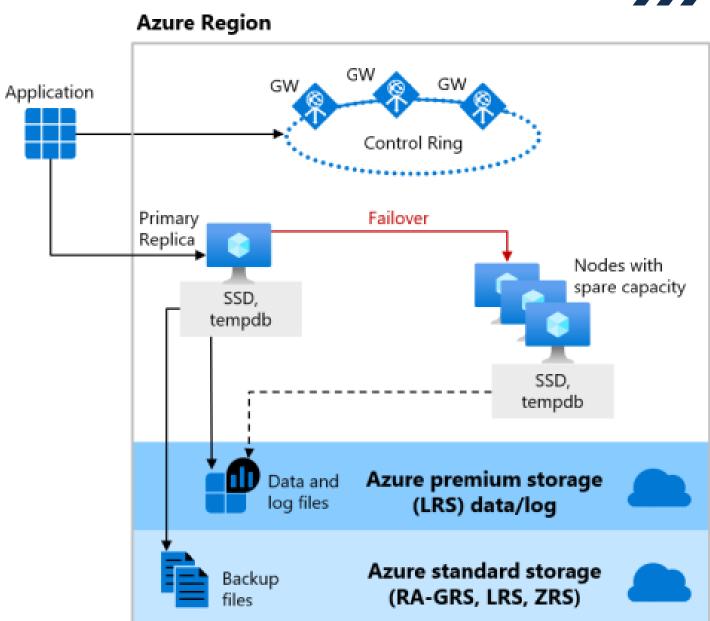


General purpose

Network attached storage

Locally attached SSD for tempdb

Provisioned or Serverless





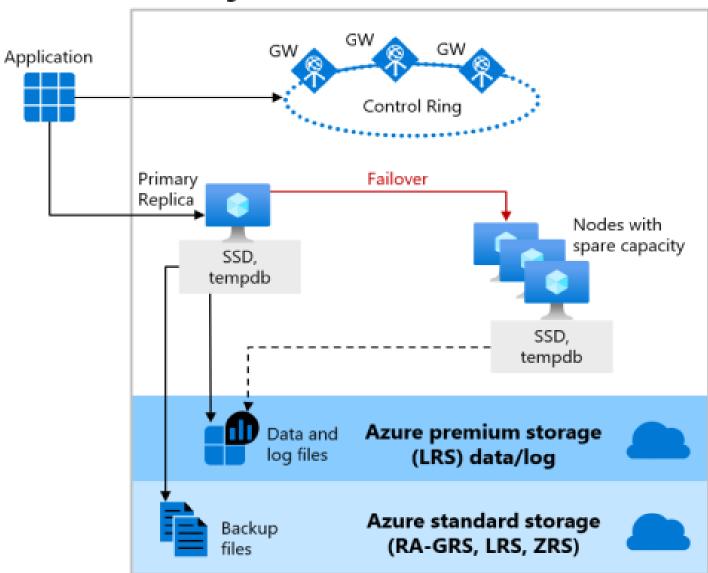
## HA/DR





Stateless compute layer

**Azure Region** 



Stateful data layer





Platform feature	Azure SQL Database	Fabric SQL database
Active geo-replication	Yes	No
Automatic backups	Yes	Yes
Availability zones	Yes	Yes, automatically configured
Failover groups	Yes	No
Geo-restore	Yes	No
Long-term retention (LTR)	Yes	No



### Development Differences

#### **Development Differences**

Feature	Azure SQL Database	Fabric SQL database
Database compatibility	100 - 170	170
BULK INSERT statement	Yes, but just from Azure Blob storage as a source.	No
OPENROWSET	Yes, from blob storage	No
Collation - database collation	SQL_Latin1_General_CP 1_CI_AS.	SQL_Latin1_General_CP1 _CI_AS (not updateable)
Transparent Data Encryption	Yes	No
Always Encrypted	Yes	No
Columnstore indexes, clustered	Yes - For certain tiers	Yes, but the table cannot be mirrored to OneLake.



## Pricing

#### **Azure SQL DB Pricing**



vCore - ~\$184 per provisioned core

vCore Serverless - \$.5218/vCore-hour or \$0.0001450/vCore-second

DTU - ~1.50 per DTU

Elastic pools are available for cost management

Reservations are available

#### **Fabric Capacity**



Defined as Capacity Units (CU)

Capacity units is a measurement of time for workloads

Capacity can service multiple workloads

F2 = 2 capacity units, 60 CUs in a 30 second block of time.

1CU = ~0.383 vCores. F64 = ~24 vCores

Reservations are available, elastic pools are not

#### **Capacity Units Pricing**

SKU	Cores	Capacity unit (CU)	Pay-as-you-go
F2	0.766	2	\$262.80/month
F4	1.532	4	\$525.60/month
F8	3.064	8	\$1,051.20/month
F16	6.128	16	\$2,102.40/month
F32	12.256	32	\$4,204.80/month
F64	24.512	64	\$8,409.60/month
F128	49.024	128	\$16,819.20/month
F256	98.048	256	\$33,638.40/month
F512	196.096	512	\$67,276.80/month
F1024	392.192	1024	\$134,553.60/month
F2048	784.384	2048	\$269,107.20/month

#### **Pausing Capacity**





Fabric Capacity



#### Overview

- Activity log
- Access control (IAM)
- Tags
- X Diagnose and solve problems
- Resource visualizer
- ✓ Scale
  - Change size
- ✓ Settings
  - Quick Start



#### ↑ Essentials

Resource group (move)

<u>FabricDemo</u>

Status

Active

Location

East US 2

Subscription (move)

<u>Microsoft Azure Sponsorship - Production</u>

Subscription ID

af11b486-3e53-4077-b62e-f08f0e83ff65

Tags (edit)

Add tags

Resource name fabricdemo1

SKU

F2

#### **Fabric Capacity Planning**



Primary Capacity— Day-to-day production workloads. Size appropriately to prevent EOM throttling

Monitoring Capacity—Smaller capacity like an F4, and should just have your monitoring workspace(s) for the Fabric Capacity Metrics app.

**Development Capacity**—Used for development efforts, minimizes risks of development efforts impacting production workloads.



## Connectivity & Authentication

#### **Connecitivity & Authentication**



Azure SQL DB - SQL Authentication or Microsoft Entra

SQL Server Management Studio (SSMS), Azure Data Studio (ADS), VS Code, Query Editor (Portal)

Private endpoints

#### **Connectivity & Authentication**



SQL Endpoint

Microsoft Entra Authentication only

VS Code / SSMS

**Graphical Query Editor** 

Managed Private Endpoints

Visual Studio Code ×			
Copy these strings and use them to connect externally to the SQL database server from client tools. Learn how to connect to VS Code $\square$			
Server Name			
w6o7roh6pxeeheab3j7nj6yml4-zrny2so5jcwuzk3apmxdx5isem			
Database Name			
DB1-d66fcd1d-d9ea-4fa6-a43e-8a008590eea6			
Open in VS Code Download VS Code			

#### **Core Feature Comparison**

Feature	Azure SQL Database	SQL database in Fabric (preview)
Purchasing models	vCore, DTU	Provisioned Fabric capacity SKU
Compute tiers	Provisioned or serverless	Serverless
Elastic pools	Yes	No
Secure	Azure RBAC, SQL permissions	Fabric workspace roles and sharing permissions, SQL permissions
Authentication	Microsoft Entra ID authentication, SQL authentication	Microsoft Entra ID authentication
Database mirroring to Fabric OneLake	Yes, manually enabled	Yes, automatically enabled for all eligible tables
Cross-platform queries in Fabric	Yes, via mirroring to Fabric	Yes, via Fabric OneLake automatically

#### Summary



Same basic architecture

SQL in Fabric cannot cross regional boundaries for DR

SaaS vs PaaS (less control)

Connectivity is different

#### In short...





#### References



Overview - <a href="https://learn.microsoft.com/en-us/fabric/database/sql/overview">https://learn.microsoft.com/en-us/fabric/database/sql/overview</a>

Licensing - <a href="https://learn.microsoft.com/en-us/fabric/enterprise/licenses">https://learn.microsoft.com/en-us/fabric/enterprise/licenses</a>

Decision Guide - <a href="https://learn.microsoft.com/en-us/fabric/database/sql/decision-guide">https://learn.microsoft.com/en-us/fabric/database/sql/decision-guide</a>

Feature Comparison - <a href="https://learn.microsoft.com/en-us/fabric/database/sql/feature-comparison-sql-database-fabric">https://learn.microsoft.com/en-us/fabric/database/sql/feature-comparison-sql-database-fabric</a>



## Questions? Answers!

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## Got Questions?

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Slides & Demos



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