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DATA EXPOSED SPECIAL

Around the Clock with Azure SQL and Azure Data Factory

Americas
February 3, 2021
09:00 - 17:00 PT

Asia
February 4, 2021
09:00 - 17:00 SGT
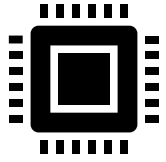
HOSTED BY

16 Sessions | 2 Ask the Expert Panels | 1 Hackathon

Wee Hyong Tok & Anna Hoffman

Understanding Service Level Objectives (SLO) in Azure SQL

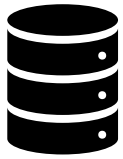Bob Ward, Principal Architect, Microsoft Azure Data
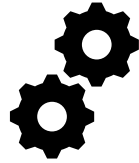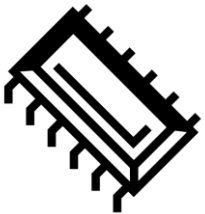
Decisions for you make today
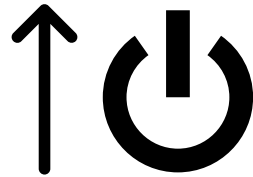
CPU # and type

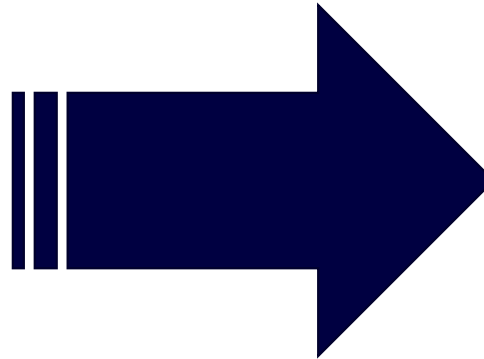Editions and features

Storage space and I/O perf

Tempdb and SQL Server config

memory

HADR requirements

Predictable and Scalable Performance

Application Feature Requirements

Storage Requirements

Availability Requirements

What is a Service Level Objective (SLO), How, and Why

| A compute choice focused on goals for predictable performance for PaaS | Also called a Service Objective | Not a Service Level Agreement (SLA) | Affects price, capabilities and resource limits |

✓ Choose a product: **Azure SQL Database** or **Azure SQL Managed Instance**
✓ Choose a SLO through **pricing model**, **service tier**, **compute tier**, **hardware gen**, and **# vCores**
✓ Use **Azure portal**, **T-SQL**, or **CLI**

- Price
- Surface area and features like In-Memory OLTP
- Max cores, speed, and memory
- Max possible storage and transaction log size
- I/O latency, IOPS, maximum transaction log rates

- Max tempdb size and number of files
- Maximum workers and sessions
- Storage type, HA architecture, HA capabilities
- Read only replicas
- Service Level Agreement (SLA)

Choose a product

Azure SQL managed instance

Capabilities and limits

Complete SQL surface area

General Purpose or Business Critical Service Tiers

8TB maximum storage

Gen5 hardware

Max 80 vCores and 480Gb memory

Auto Failover Groups

Instance pool

Pre-provision compute resources for migration

Enables cost-efficient migration.

Ability to host smaller instances (2Vcore)

Currently in public preview

Azure SQL Database

Single database

Database scoped features

DTU or vCore pricing

General Purpose, Business Critical, and Hyperscale Service Tiers

100TB with Hyperscale

Multiple hardware choices

Max 128 vCores and 4TB memory

Serverless compute

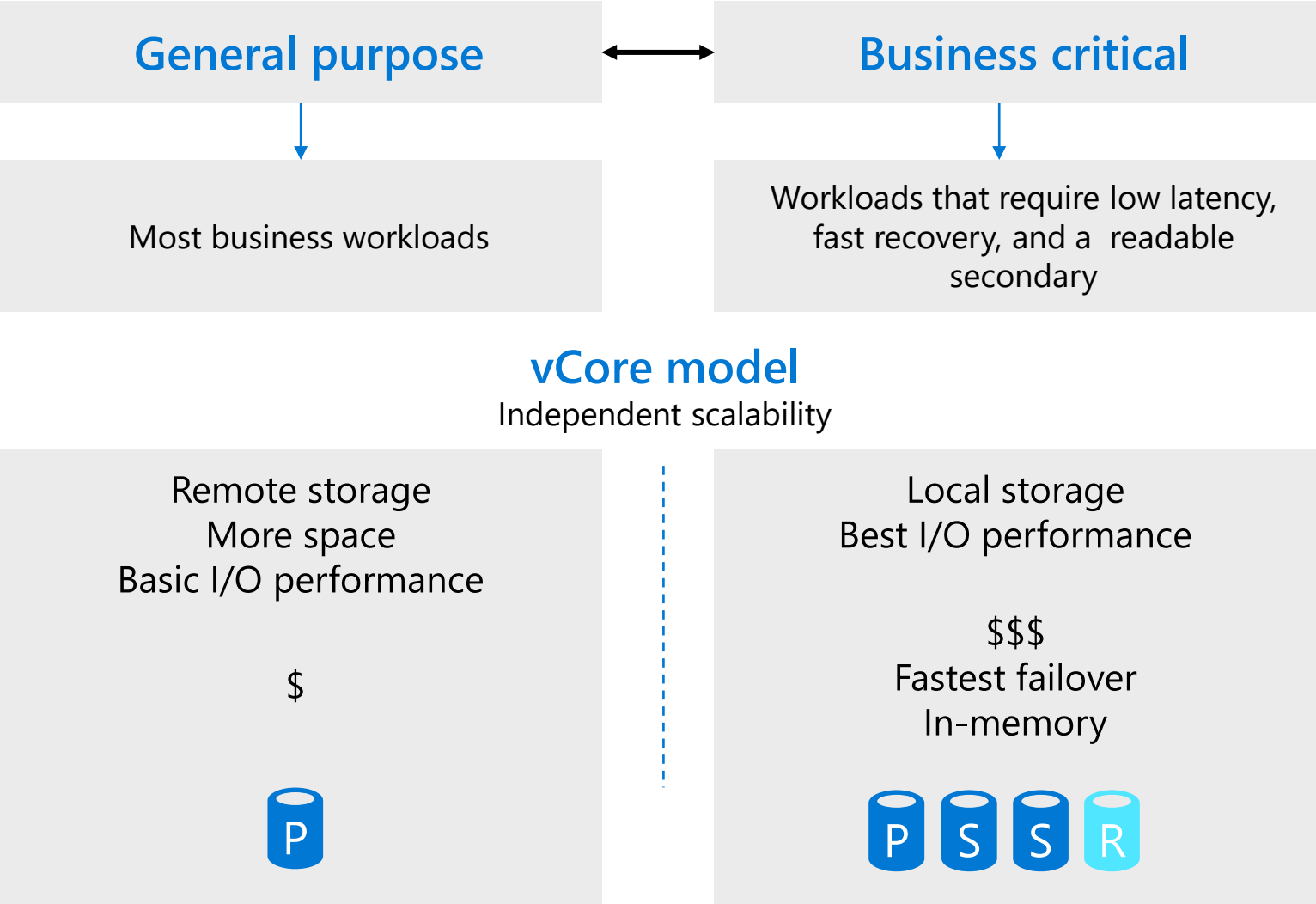Geo-replication and Auto Failover Groups

Zone Redundancy

Elastic pool

Resource sharing between multiple databases to price optimize

Simplified performance management for multiple databases

Service tiers – Azure SQL Managed Instance

General purpose ⟷ **Business critical**

Most business workloads

Workloads that require low latency, fast recovery, and a readable secondary

vCore model
Independent scalability

Remote storage
More space
Basic I/O performance

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Local storage
Best I/O performance

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Fastest failover
In-memory

P S S R

Subject to change

Service tiers – Azure SQL Database

vCore model
Independent scalability

General purpose

Most business workloads

Remote storage
Basic I/O Performance

Fastest cores
$
Serverless Compute

Business critical

Workloads that require low latency, fast recovery, and a readable secondary

Local storage
Best I/O Performance

Most cores and memory
$$$
Highest SLA
Fast failover
In-memory

Hyperscale

Most business workloads with highly scalable storage and read-scale requirements

Local + remote storage
Fast I/O Performance

Best scaling
$$
Unlimited storage
Fast failover

Subject to change

What if I make the wrong choice?

Simple scaling in Azure SQL for performance

Resources

Microsoft Learn: Azure SQL fundamentals learning path
aka.ms/azuresqlfundamentals
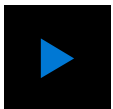
Select the Azure SQL Workshop
aka.ms/sqlworkshops

How to choose tool
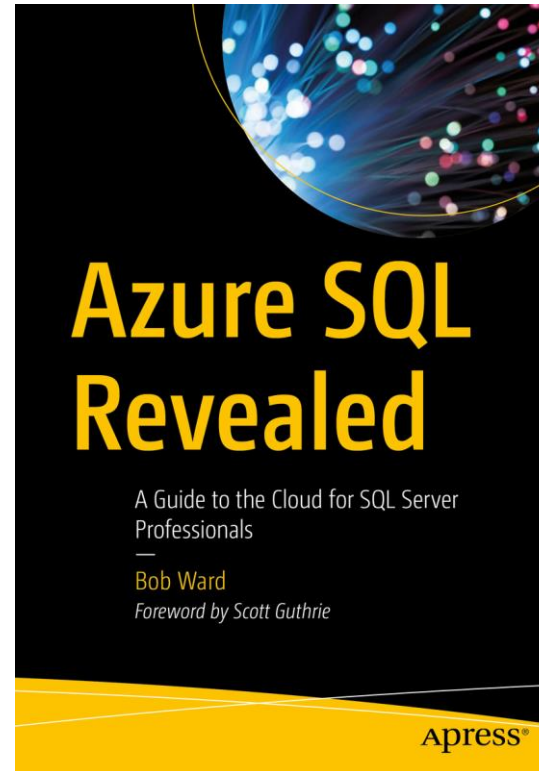**aka.ms/chooseazuresql**

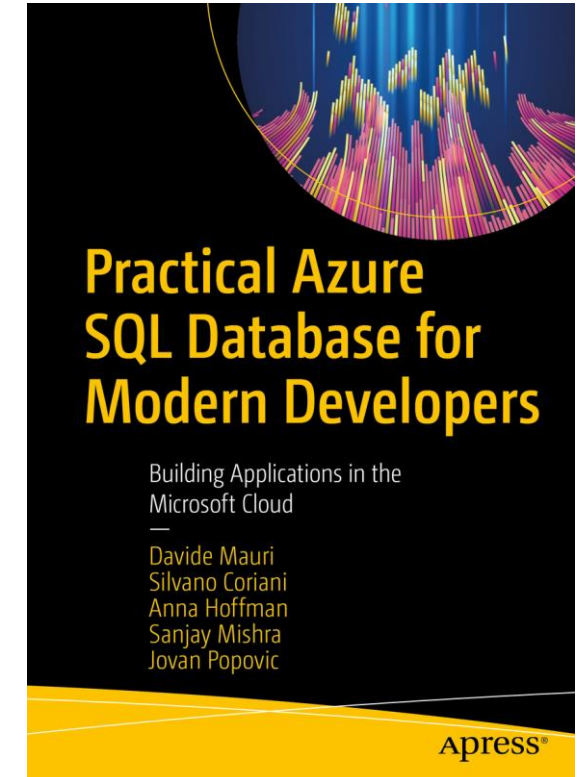Azure SQL documentation
aka.ms/azuresqldocs

More videos from our team
aka.ms/azuresql4beginners
aka.ms/dataexposed

Azure SQL Revealed
A Guide to the Cloud for SQL Server Professionals
—
Bob Ward
Foreword by Scott Guthrie

APRESS®

aka.ms/azuresqlbook

Practical Azure SQL Database for Modern Developers
Building Applications in the Microsoft Cloud
—
Davide Mauri
Silvano Coriani
Anna Hoffman
Sanjay Mishra
Jovan Popovic

APRESS®

aka.ms/azuresqlfordevelopers

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Learn with us!

View our on-demand playlist:
aka.ms/azuresqlandadf

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@AzDataFactory