

SQL days konferenz

Databases on Azure – whats new?
(v2024)



- Seit 2019 bei SoftwareOne
- Principal Consultant & Architect
- Azure Consulting Team
- Microsoft MVP, YouTuber, Blogger, Conference Speaker
- Familienvater, Offizier d.R., Holzwurm



www.hertes.net



about.me/haiko.hertes



twitter.com/HHertes



youtube.com/c/HaikoHertes

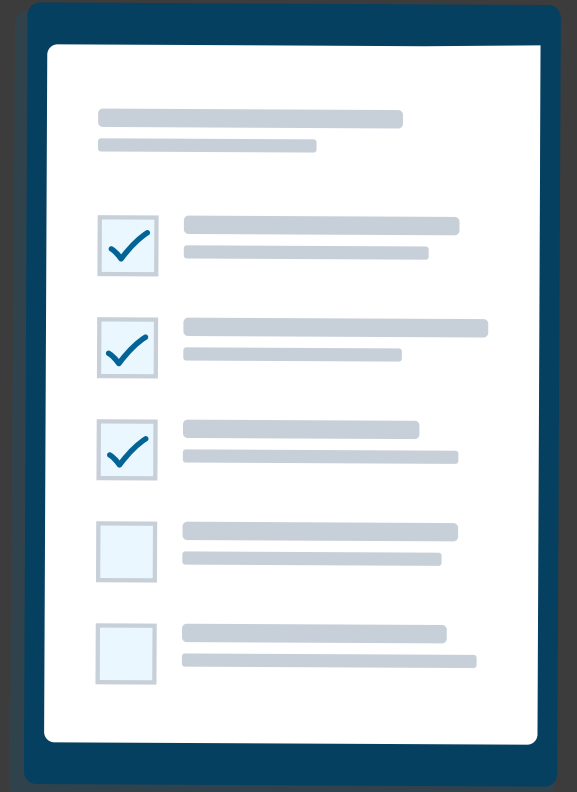
Haiko Hertes

Cloud Architect / Principal Consultant



AGENDA

- 01** Azure Database for Postgres
- 02** Azure SQL Database / Managed Instance
- 03** Azure SQL Server VMs
- 04** Miscellaneous



01



Azure Database for Postgres

Azure Database for PostgreSQL

- Azure Database for PostgreSQL - Single Server is on the retirement path and is scheduled for retirement by March 28, 2025!
- [What's happening to Azure Database for PostgreSQL single server?](#)
- Reservations for Flexible Server v5 Instances (Intel + AMD)
- [Generally Available: V5 reservations for Azure Database for PostgreSQL – Flexible Server](#)
- Support for latest minor versions (16.4, 15.8, 14.12, 13.16 and 12.20)
- Support for postgresql_anonymizer (anon) extension

Azure Database for PostgreSQL

- Option to migrate into Burstable SKU, based on B-series VMs, lower pricing
 - [Aug 2024 Feature Recap: Azure PostgreSQL Flexible Server](#)
- New RPO of 5 minutes instead of 15 for PITR
 - [July 2024 Feature Recap: Azure PostgreSQL Flexible Server](#)
- **Online migration for multiple scenarios, also allowing to migrate from Single Server**
 - [Migrate online from on-premises or an Azure VM to Azure Database for PostgreSQL](#)
 - [April 2024 Feature Recap: Azure PostgreSQL Flexible Server](#)

Azure Database for PostgreSQL

- Long-term backup for CMK-enabled servers
 - [Backup and restore - Azure Database for PostgreSQL - Flexible Server | Microsoft Learn](#)
- **Azure Advisor Recommendations for PostgreSQL Flexible Server**
 - [May 2024 Feature Recap: Azure PostgreSQL Flexible Server](#)
- Microsoft Defender integration, providing proactive anomaly detection and real-time alerts to safeguard your databases
- Support for TLS 1.3

02

Azure SQL Database / Managed Instance


Azure SQL Database

- Microsoft Copilot skills in Azure SQL Database brings two portal experiences:
 - **Translate natural language to SQL statements / scripts**
 - [Natural language to SQL in the Azure portal query editor - Azure SQL Database](#)
 - General Microsoft Copilot skills in Azure supporting Azure SQL (things like “My database is slow” leading to relevant recommendations)
 - [Microsoft Copilot skills and Azure SQL Database \(preview\) - Azure SQL](#)

Query 1 ✕

 Run  Cancel query  Save query  Export data as  Show only Editor  Close Copilot

write a query to show me the last todos from the list, limited to last 365 days and a maximum of 5 entries. ✓

 Generate Query

AI-Generated code may be incorrect. | Please provide **feedback for the query generated**  

Table selection ⓘ 2 Included Tables

Currently under public preview. [Read Terms.](#)

```
1  /*
2  AI-generated code may be incorrect. Humans should carefully review, test, and validate all content generated by Copilot.
3  Prompt: write a query to show me the last todos from the list, limited to last 365 days and a maximum of 5 entries.
4  Explanation: The T-SQL query retrieves the top 5 entries from the "Todos" table, filtering
5  only those created within the last 365 days. The results are then ordered in
6  descending order based on the "CreatedDate" column. Therefore, the query provides the last
7  todos from the list, limited to the last 365 days and a maximum of 5 entries.
8  */
9  SELECT TOP 5 *
10 FROM dbo.Todos
11 WHERE CreatedDate >= DATEADD(DAY, -365, GETDATE())
12 ORDER BY CreatedDate DESC;
```

Azure SQL Database

- Elastic Pools for Azure SQL DB Hyperscale, also with zone-redundancy, including customizable maintenance window
- [Elastic pools for Azure SQL Database Hyperscale now Generally Available](#)
- [Maintenance window support for Azure SQL Database Hyperscale elastic pools](#)
- Hyperscale Named Replica has zone-redundant support (can only be set during creation!)
- [Zone redundancy support for Azure SQL Database Hyperscale named replicas \(microsoft.com\)](#)

Azure SQL Database

- Serverless deployment option for Hyperscale
 - [Serverless compute tier - Azure SQL Database](#)
- Lower and simplified pricing for Azure SQL Database Hyperscale
 - [Azure SQL Database Hyperscale – lower, simplified pricing!](#)
- License-free standby replica + Support for converting existing geo-replica to standby and back
 - [Configure license-free standby replica - Azure SQL Database](#)

Case 1: Hyperscale single DB with 6-vCore provisioned compute, 0 HA replica and 50 GB of allocated storage, East US

	Existing pricing	New pricing
Compute cost	USD 1237.85	USD 800.05
Storage cost	USD 5.0	USD 12.5
Total cost	USD 1242.9	USD 812.55, saving 35%

Case 2: Hyperscale single DB with 12-vCore provisioned compute, 1 HA replica and 200 GB of allocated storage, East US

	Existing pricing	New pricing
Compute cost	USD 4075.9	USD 3200.20
Storage cost	USD 20.0	USD 50.0
Total cost	USD 4095.9	USD 3250.20, saving 21%

Azure SQL Database

- Maintenance windows for SQL Database and SQL Managed Instance
 - [Maintenance window - Azure SQL Database](#)
- Maintenance windows advance notifications (sends notification 24 hours before a planned maintenance when using non-default maintenance windows)
 - [Configure advance notifications for planned maintenance events - Azure SQL Database](#)

Azure SQL Database

- Automatic Backups through secondary replica to keep primary node dedicated for main workload
 - [Automatic, geo-redundant backups - Azure SQL Database | Microsoft Learn](#)
- Azure SQL Database now using compatibility level 160 (SQL Server 2022) by default – old / existing databases are not automatically updated!
 - [General availability: Database compatibility level 160 in Azure SQL Database](#)
- Cross-subscription geo-replica support
 - [Tutorial: Geo-replication & failover in portal - Azure SQL Database](#)

Azure SQL Database

- SQL Insights will be retired on 31 Dec 2024
 - [Retirement: SQL Insights \(preview\)](#)
- **New Database Watcher feature to monitor Azure SQL Workloads**
 - [Monitor Azure SQL workloads with database watcher - Azure SQL Database & SQL Managed Instance](#)

Azure SQL Database

- DC-series hardware with up to 40 vCores for General Purpose, Business Critical and Hyperscale provisioned compute – hardware made for Confidential Compute
- [Single database vCore resource limits - Azure SQL Database | Microsoft Learn](#)
- Using VBS (virtualization-based security) enclaves for Always Encrypted feature
- [Tutorial: Getting started using Always Encrypted with VBS enclaves - Azure SQL Database](#)

Azure SQL Database

- Retirement of TLS 1.0 and TLS 1.1 – need to use a minimum of TLS 1.2
- [Connectivity settings for Azure SQL Database and Azure Synapse Analytics - Azure SQL Database and Azure Synapse Analytics](#)
- TLS 1.3 now supported
- [TLS 1.3 support](#)

Azure SQL Managed Instance

- Free SQL Managed Instance – once instance per Subscription free for 12 month
- [Try for free \(preview\) - Azure SQL Managed Instance | Microsoft Learn](#)
- Instance Pools allowing to share resources across multiple instances, allowing 2-vCore-instances, faster deployment for additional instances and cost-savings!
- [What is an instance pool? - Azure SQL Managed Instance](#)
- Next-Gen GP Tier (higher performance for the same price as before, multiple other improvements)

[Use Next-gen General Purpose service tier \(preview\) - Azure SQL Managed Instance](#)

Azure SQL Managed Instance

- Disaster recovery between SQL Server and SQL Managed Instance (any of them can be the primary instance when using SQL Server 2022!) using Managed Instance Link
 - [Disaster recovery with Managed Instance link - Azure SQL Managed Instance](#)
- Zone-redundancy for Managed Instance (GP + BC tier)
 - [Availability through local and zone redundancy - Azure SQL Managed Instance](#)
- Stop and start an instance to save on costs
 - [Stop and start an instance - Azure SQL Managed Instance](#)

Azure SQL Managed Instance

- Copy and move a database online across SQL MI instances, even across Subscriptions within the same Tenant
- [Copy or move a database - Azure SQL Managed Instance](#)
- Support for Ledger to provide tamper-evidence
- [Ledger overview - SQL Server](#)

A photograph of a server room with rows of server racks. The racks are filled with various electronic components and cables. The room has a high ceiling with exposed metal trusses and lighting fixtures. The perspective is looking down a long aisle between the racks.

03

Azure SQL Server

Azure SQL Server

- Deploy SQL Server Failover Cluster Instance (FCI) using Azure Elastic SAN
 - [Create an FCI with Azure Elastic SAN \(Preview\) - SQL Server on Azure VMs](#)
- I/O Performance Analysis
 - [Analyze I/O performance \(Preview\) - SQL Server on Azure VMs](#)
- Set up SQL Server VMs using Premium SSD v2
 - [Deploy SQL Server VM with Premium SSD v2 in Azure portal \(preview\) - SQL Server on Azure VMs](#)

Azure SQL Server

- Use Azure Update Manager for SQL VMs
 - [Manage SQL VMs in Azure by using the portal - SQL Server on Azure VMs | Microsoft Learn](#)
- Health status for SQL VMs in the Portal on the Overview Page
 - [Manage SQL VMs in Azure by using the portal - SQL Server on Azure VMs | Microsoft Learn](#)
- Set up Always On Availability Group to multiple subnets through the Azure Portal
 - [Configure a multi-subnet availability group in the Azure portal - SQL Server on Azure VMs](#)
- Entra Authentication for SQL Server VMs
 - [Enable Microsoft Entra authentication - SQL Server on Azure VMs](#)

04

Miscellaneous

```
128 font-family:
129
130 }
131
132 em.mail{
133     background: url(../img/mailico.png) no-repeat center;
134     display: inline-block;
135     width: 12px;
136     height: 14px;
137     float: left;
138     margin: 2px 7px 0 0;
139 }
140 em.phone{
141     background: url(../img/phoneico.png) no-repeat center;
142     display: inline-block;
143     width: 20px;
144     height: 18px;
145     float: left;
146     margin: 2px 7px 0 0;
147 }
```

Miscellaneous

- Starting 1st Sept 2024, you can no longer assign licenses through Azure Portal or Entra ID Admin Center – you need to use M365 Admin center instead!
[Assign or remove licenses - Microsoft Entra | Microsoft Learn](#)
- Starting 15th October 2024, ALL users signing in to Azure portal, Entra admin center or Intune admin center will require MFA
[Generally Available: Enable multifactor authentication for your tenant by 15 October 2024](#)
- Inter-Zone Data Transfer Pricing change – no charge for data transfer across availability zones
[Update on Inter-Availability Zone Data Transfer Pricing](#)
- Microsoft waives the data egress fee when leaving Azure
[Now available: Free data transfer out to internet when leaving Azure](#)
- On 30 September 2025, default outbound access for virtual machines in Azure will be retired
[Default outbound access for VMs in Azure will be retired](#)

Thank You!

Questions?

software **one**



Haiko Hertel

Haiko.Hertel@SoftwareONE.com

Disclaimer

This publication contains proprietary information that is protected by copyright. SoftwareOne reserves all rights thereto.

SoftwareOne shall not be liable for possible errors in this document. Liability for damages directly and indirectly associated with the supply or use of this document is excluded as far as legally permissible.

The information presented herein is intended exclusively as a guide offered by SoftwareOne. The publisher's product use rights, agreement terms and conditions and other definitions prevail over the information provided herein. The content must not be copied, reproduced, passed to third parties or used for any other purposes without written permission of SoftwareOne

Copyright © 2023 by SoftwareOne. All Rights Reserved. SoftwareOne is a registered trademark of SoftwareOne. All other trademarks, service marks or trade names appearing herein are the property of their respective owners.