

SQL *days* konferenz

Migrating on-prem
SQL Databases to Azure



- Seit 2019 bei SoftwareOne
- Principal Consultant & Architect
- Azure Consulting Team
- Microsoft MVP, YouTuber, Blogger, Conference Speaker
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AGENDA

01 DB Operating Models

02 Migration Strategies

03 Migration Tooling

04 Demo-Time

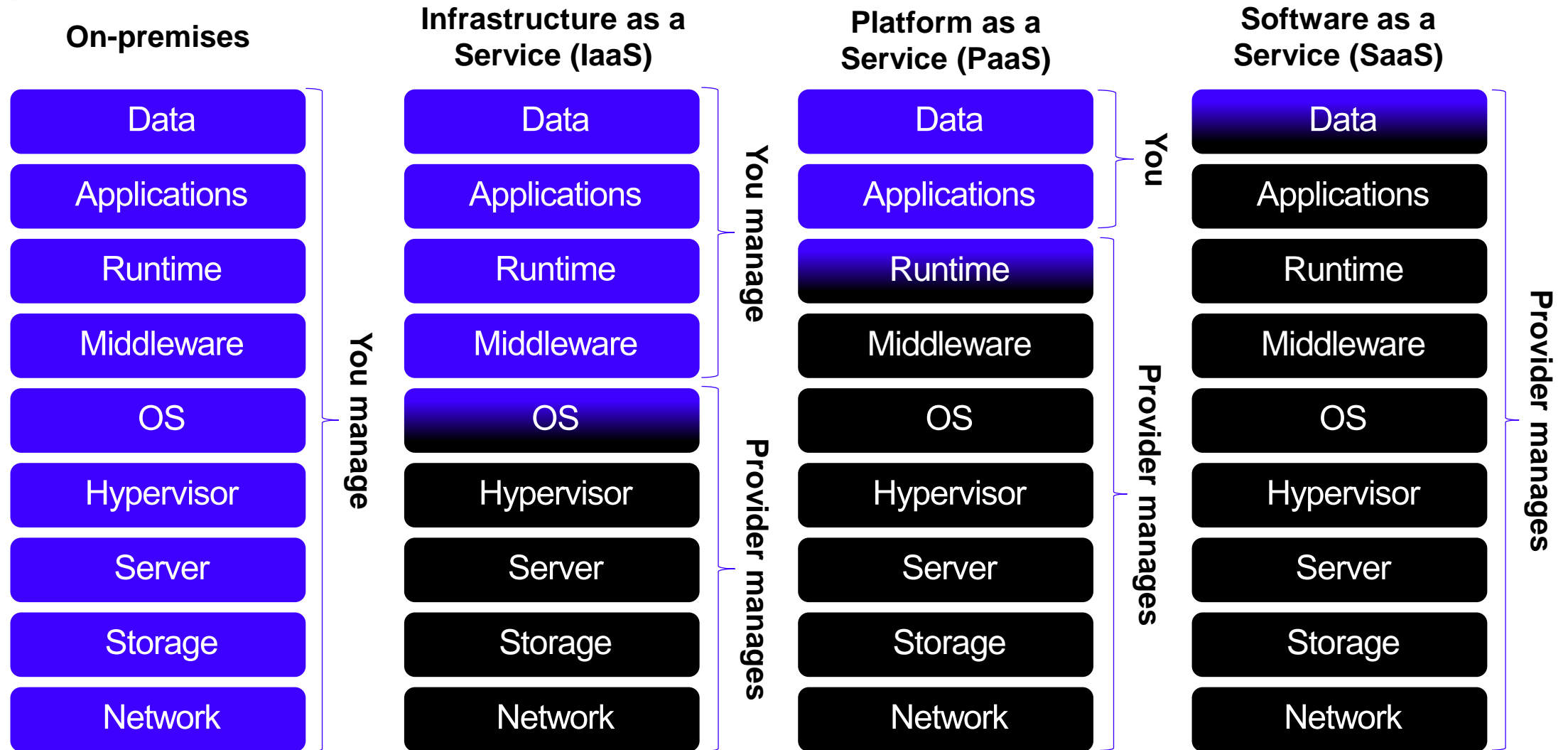




01

Database Operating Models

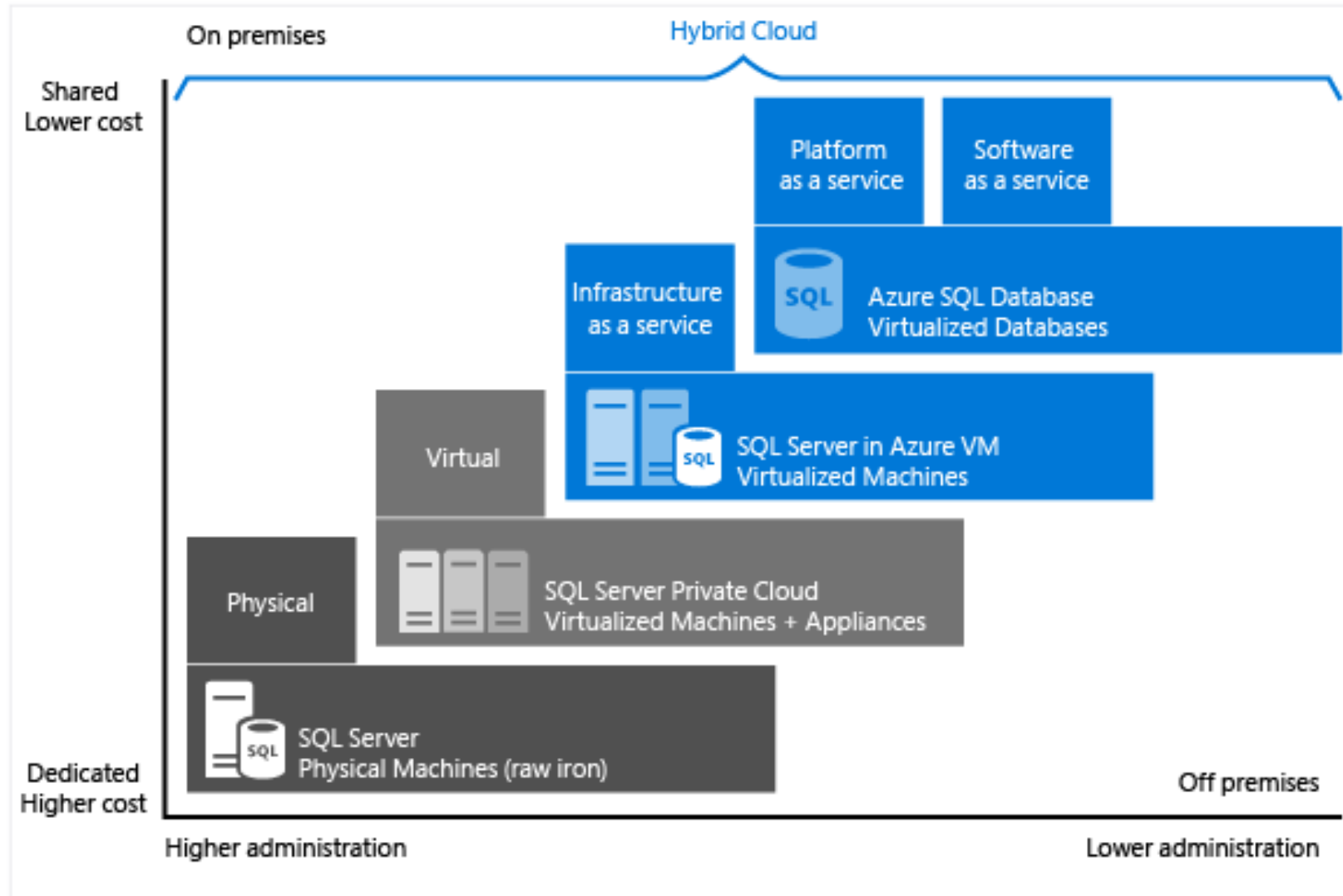
On-prem vs. Cloud



Various operating models

- (SQL Server running on a physical machine)
- SQL Server running on top of a Windows Server VM
- SQL Server running inside a container (Single Container, AKS, ...)
- Azure SQL Database
- Azure SQL Elastic Pool
- Azure SQL Managed Instance
- Azure Database for PostgreSQL / ... for MySQL

Various operating models

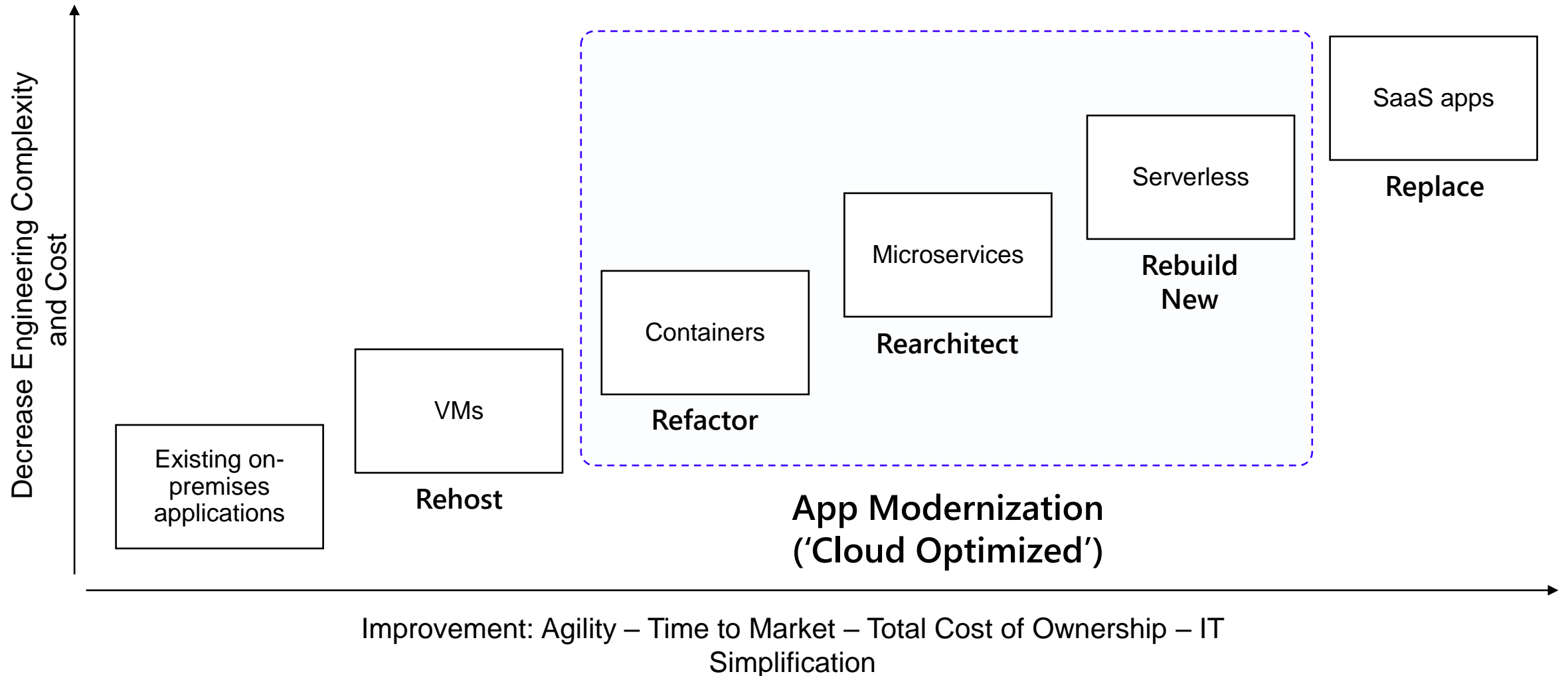




02

Migration Strategies

Various Strategies



IaaS-Migration / Lift-and-shift #1

- aka „Rehosting“
- On-prem VM will be migrated to Azure VM „as-is“
- Low complexity
- Fast migration
- Workload does not become „cloud-native“
- Typical cloud benefits might not be reached with this approach

IaaS-Migration / Lift-and-shift #2

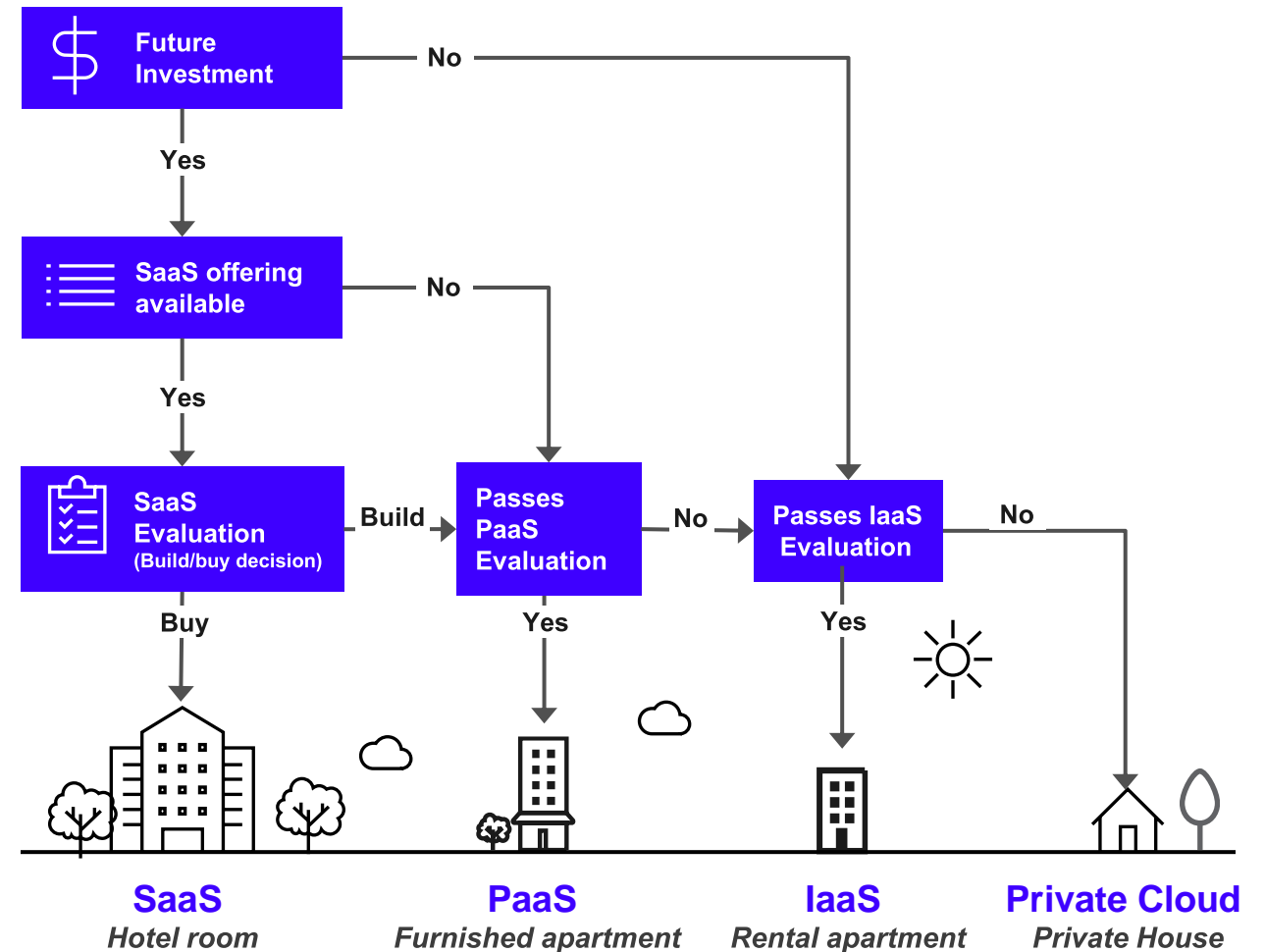
- On-prem VMs running on VMWare ESX can be moved into Azure VMWare Solution
- This is even less cloud-native than #1, but allows to keep most of the operational topics as they are
- Might be even faster!
- Needs to use full hosts instead of single VMs
- Has some other benefits as well

PaaS-Migration

- aka „Replattform“
- SQL Server based databases are migrated into PaaS offerings (i.e. Azure SQL)
- More complex and higher effort, but leads to a more cloud-optimized solution

Migration Strategies

- 1 Prefer SaaS**
Take advantage of productivity workloads provided in the cloud
- 2 New Development to PaaS**
New development and modern applications move to PaaS.
New applications optimized for cloud computing.
- 3 Existing workloads → IaaS**
Existing applications move to IaaS using a 'lift and shift' strategy
 - 3a → Convert to PaaS**
Plan to refactor applications into PaaS



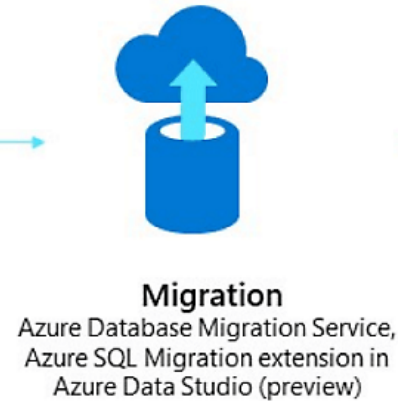
A woman with dark hair in a ponytail, wearing a light pink button-down shirt, is standing in a server room. She is holding a laptop and looking at the screen. The background shows rows of server racks with blue and green indicator lights. A white square box with the number '03' is overlaid on the left side of the image.

03

Migration Tooling

Tools and services for your migration journey

On-premises
Other clouds

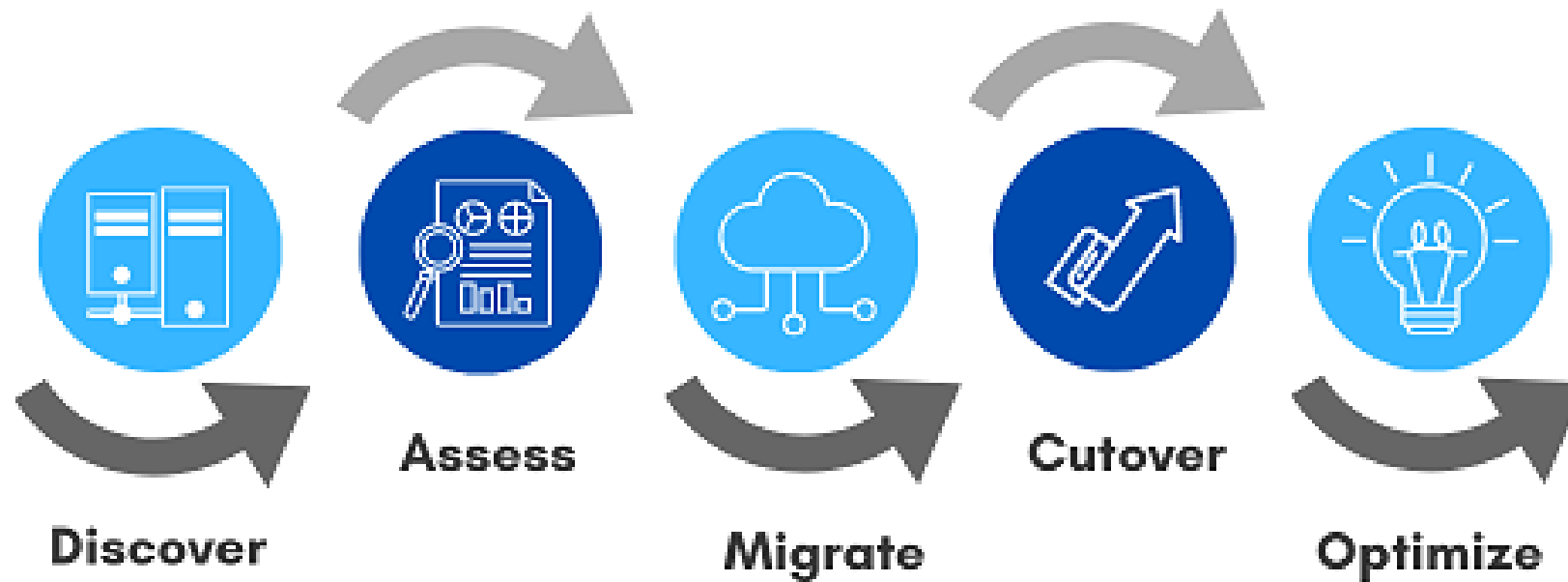


Microsoft Azure



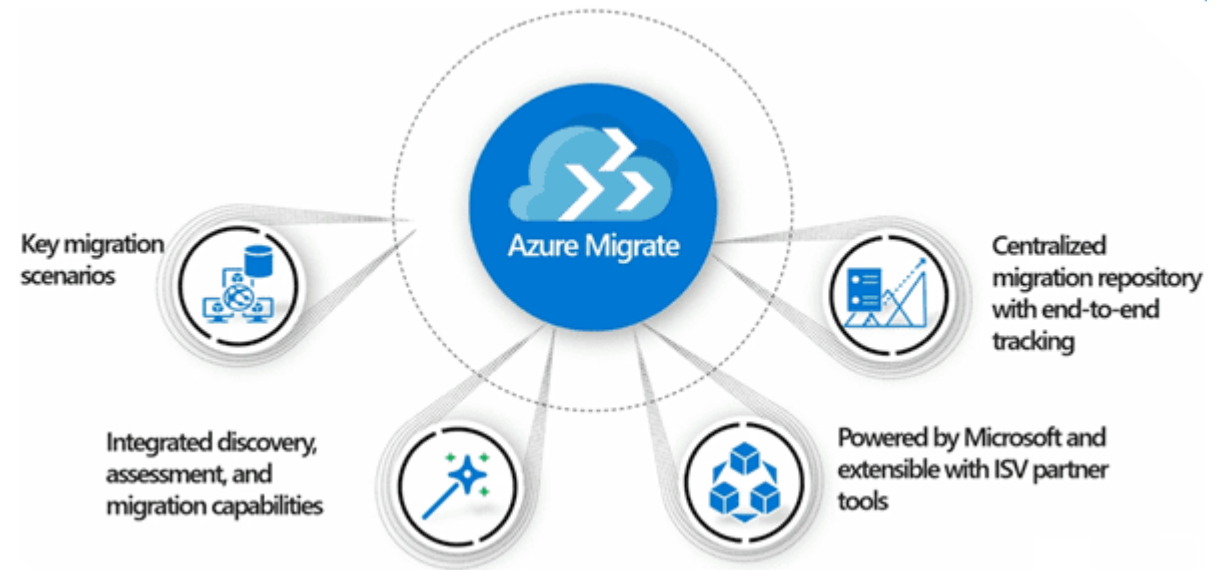
Migration Process Flow

A step-by-step guide



Azure Migrate

- Easy IaaS-Migration from Hyper-V, VMWare or physical/other
- Great assessments including pricing / TCO in advance
- Allows to migrate
 - Any VM / Server to Azure VM
 - (SQL Server to Azure SQL)
 - Web Applications to Azure App Service



Data Migration Assistant (DMA)

- Is deprecated!
- Might be still of interest in some scenarios

Supported source and target versions

DMA replaces all previous versions of SQL Server Upgrade Advisor and should be used for upgrades for most SQL Server versions. The following list shows the supported source and target versions for assessment:

Supported sources

- SQL Server 2005 (deprecated)
- SQL Server 2008
- SQL Server 2008 R2
- SQL Server 2012
- SQL Server 2014
- SQL Server 2016
- SQL Server 2017
- SQL Server 2019
- SQL Server 2022
- Amazon RDS for SQL Server

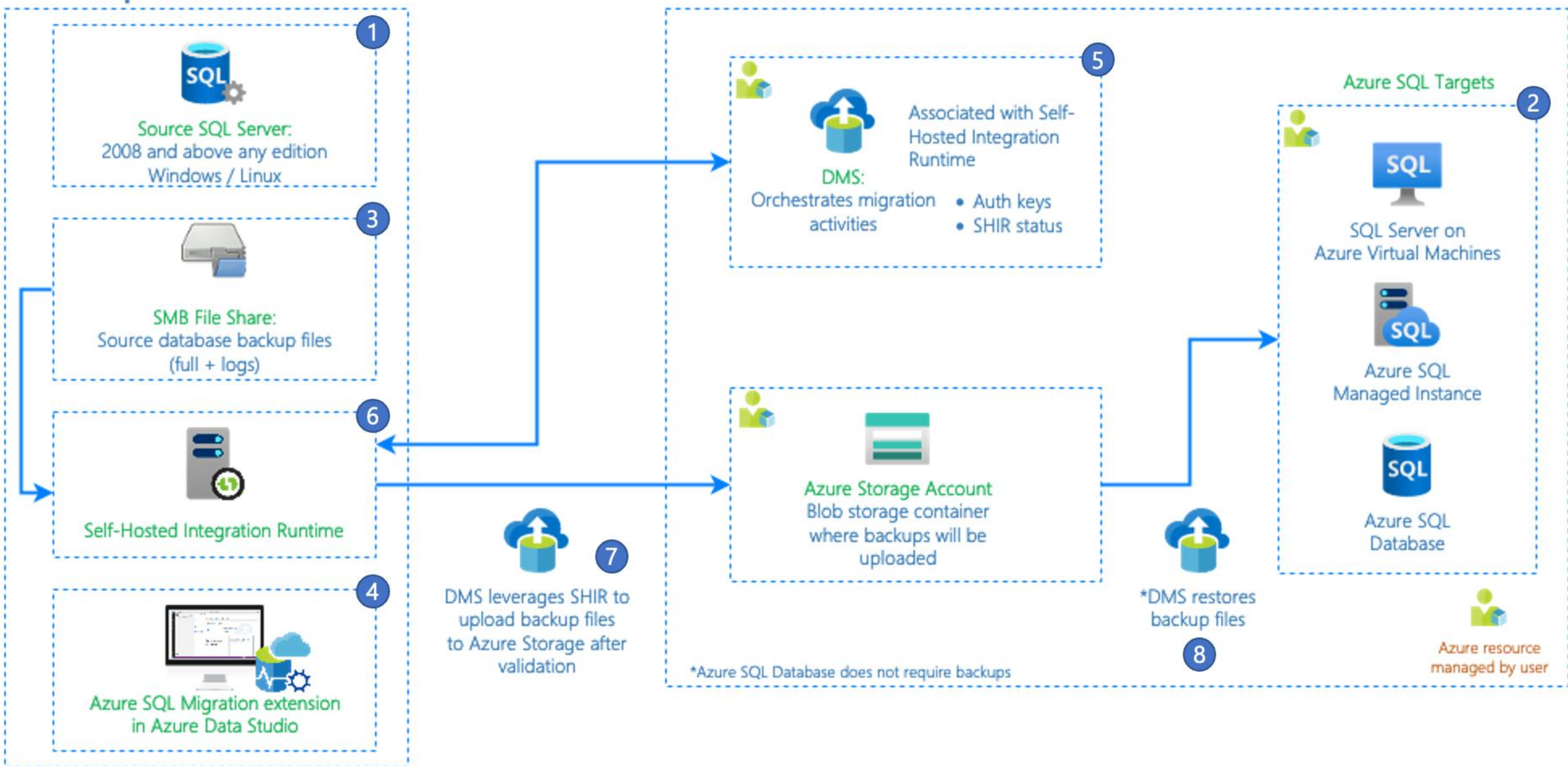
Supported targets

- SQL Server 2012
- SQL Server 2014
- SQL Server 2016
- SQL Server 2017 on Windows and Linux
- SQL Server 2019 on Windows and Linux
- SQL Server 2022 on Windows and Linux
- [Azure SQL Database](#)
- [Azure SQL Managed Instance](#) (assessment only)
- [SQL Server on Azure Virtual Machines](#)

Database Migration Service (DMS)

- aka „Replattform“
- SQL Server based databases are migrated into PaaS offerings (i.e. Azure SQL)
- More complex and higher effort, but leads to a more cloud-optimized solution
- Could be automated with PowerShell for large-scale migrations

On-premises



A person with short dark hair, wearing a white lab coat, is shown in profile, looking through a red and silver microscope. The background is a soft, out-of-focus laboratory setting. A dark semi-transparent overlay covers the right side of the image.

04

Demo-time

Demos

Azure Migrate
for VMs

Data Migration Assistant
(DMA)

Database Migration Service
(DMS)

Demos

Azure Migrate
for VMs

Data Migration Assistant
(DMA)

Database Migration Service
(DMS)

Demos

Azure Migrate
for VMs

Data Migration Assistant
(DMA)

Database Migration Service
(DMS)

Thank You!

Questions?

software **one**



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