

An aerial view of a city at night, with a network of glowing white lines connecting various points across the skyline, symbolizing data flow or network connectivity. A solid green square is positioned on the left side of the slide.

Database Modernization in Day

Part 1: Value of Migration to Azure

Your Presenter

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Agenda

- Part 1: Introduction – Value of Migration to Azure
 - Data Migration Overview
 - Migration Triggers
 - SQL Server Migration Destinations and TCO Values in Azure
- Part 2: Migrate and Modernize your SQL Server Database
 - Data Migration Tools and Frameworks to assess database applications
 - Picking a pilot application and database to Migrate to Azure
 - Migrate to Azure using Azure Migrate, Data Migration Assistant and Azure Data Migration Service

We love data

Premium Microsoft Partner with over 20 years of experience in **analytics & business intelligence**

Based in the GTA & service clients worldwide

Award winning Microsoft Partner with 75+ Employees

Microsoft
Partner



Gold DevOps
Gold Application Development
Gold Cloud Platform
Gold Data Analytics
Gold Data Platform

Microsoft
Partner



2019 Partner of the Year Finalist
DevOps Award



Empowering **your** journey

Analytics

Application
Development

Infrastructure
& Operations

Thank you for attending our training

Fill out our survey and get a **FREE Data Modernization Assessment**

Data Modernization Assessment

DSI will perform a free one-week assessment of your database and applications to develop a plan for migrating on-premises VMs and SQL Server databases into a combination of IaaS and PaaS services in Azure. This assessment will reveal any feature parity and compatibility issues between your SQL Server 2008 R2 databases and the managed database offerings in Azure.

Take the Survey

dstrat.com/datamod





Engage customers



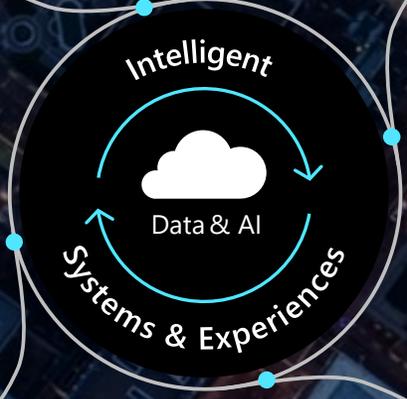
Empower employees



Optimize operations



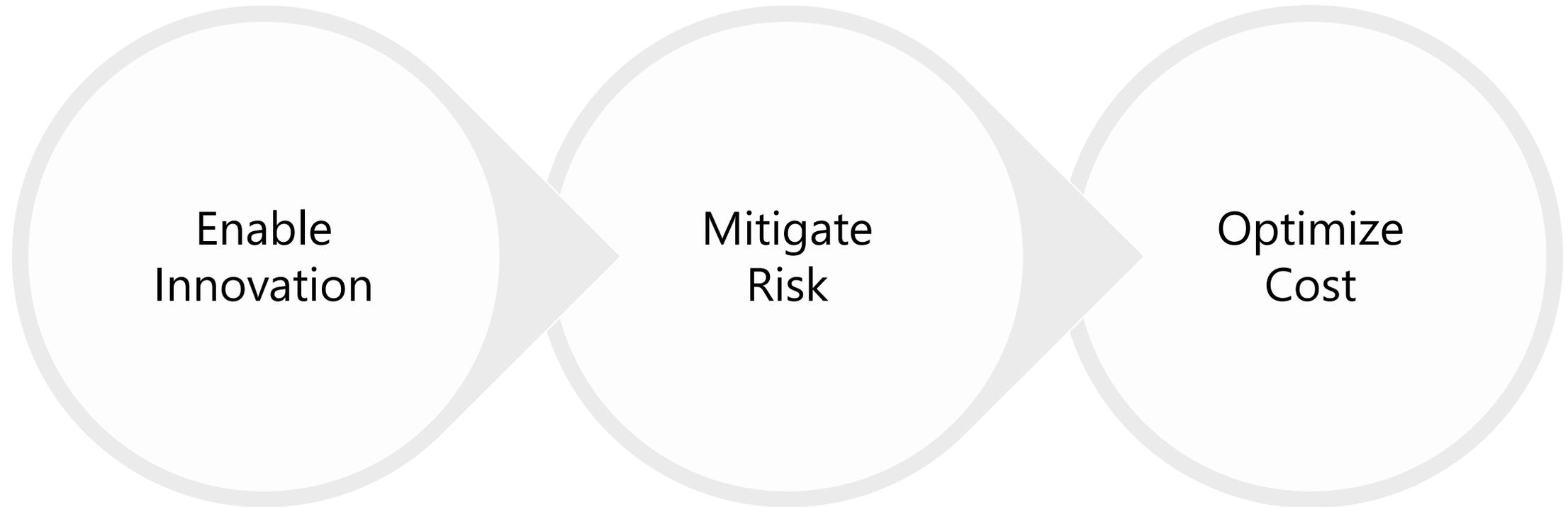
Transform products



Digital Feedback Loop



Why migrate – a customer perspective



Leverage Cloud+Data+AI to unlock your digital transformation scenarios

Dynamic scale, Global scale by default; accelerate speed to market and create new business models

Versionless, Managed platform freeing yourself from patching, upgrade, and EOS cycles forever

Automated, Modern security capabilities such as Advanced Threat Protection built-into the service

Platform-as-a-Service Machine Learning based, continuous performance optimization lowers costs significantly

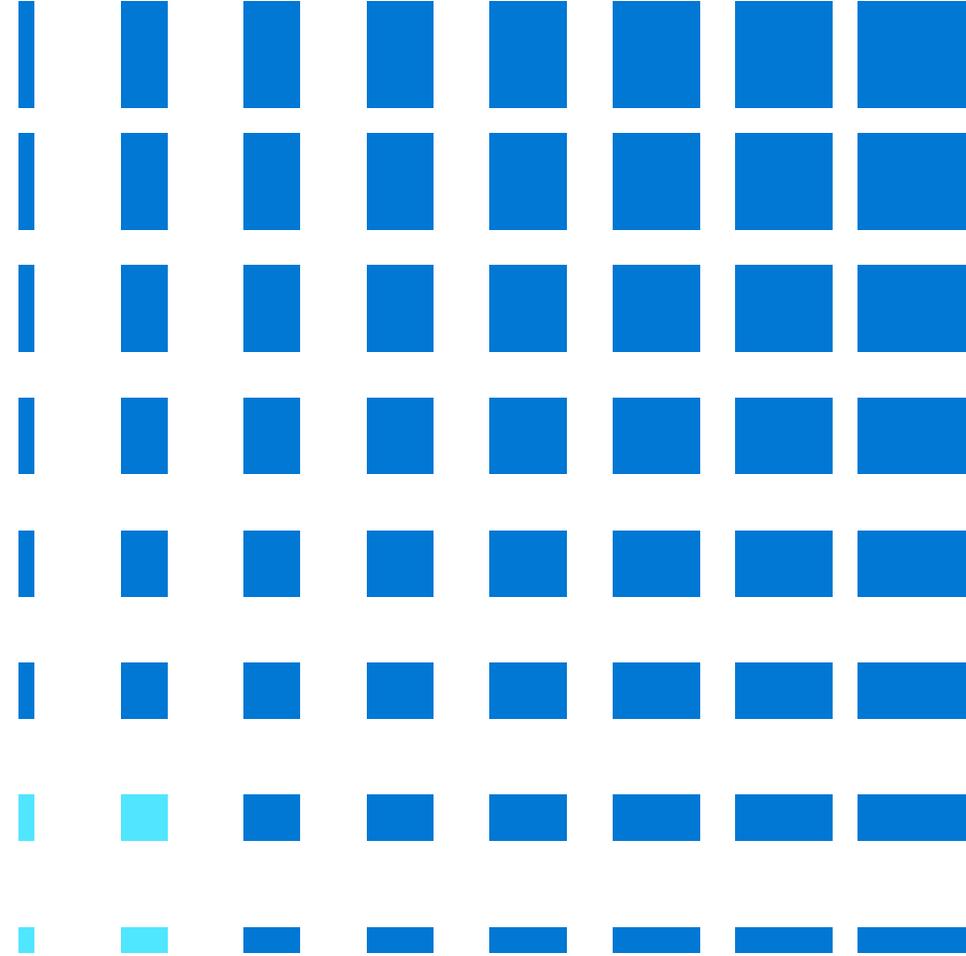
Lowest TCO driven by pay-for-what-you-use, automated admin, HA/DR built-in, maximum efficiency with latest HW and SW



Digital transformation is an economic imperative



Cloud migration is a key
first step in your
transformation journey





A transformation strategy drives innovation and growth

Organizations that harness data, the cloud, and AI outperform their peers²

~2X Operating margin

\$100M Additional operating income



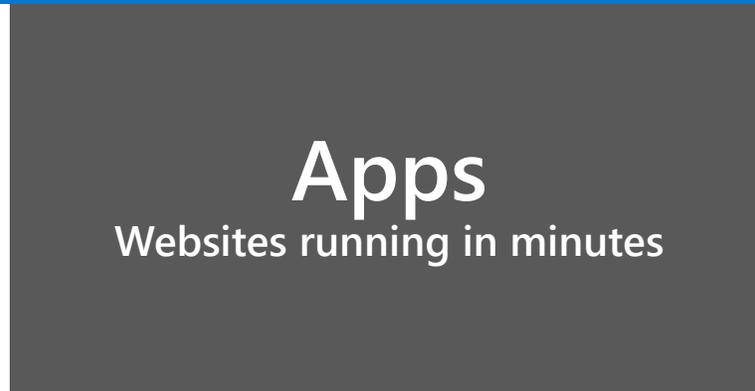
Infrastructure

80% reduction in administrative work

Remove patching, network setup, firewall configuration

Enable application innovation

—Forrester TEI of Azure¹



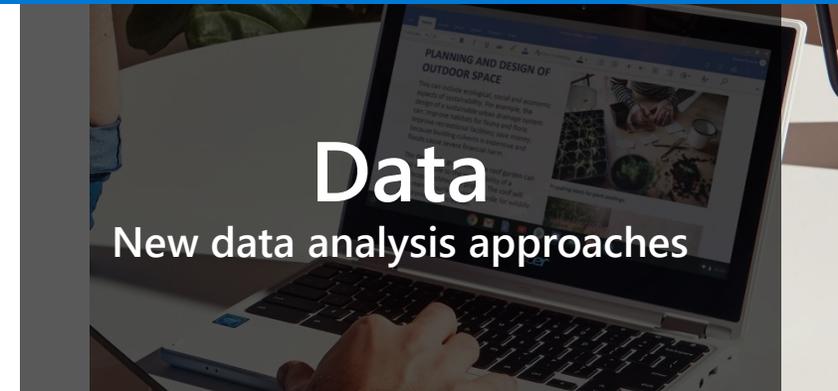
Apps

Websites running in minutes

Remove the need to wait for servers²

Improve app delivery time by 50%¹

—Forrester TEI of Azure¹



Data

New data analysis approaches

With cloud, we collect data we couldn't before

Make personal connections that stand out in sea of information

—Anheuser-Busch InBev

¹The Total Economic Impact™ Of Microsoft Azure Platform-As-A Service, Forrester Consulting, June 2016

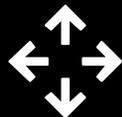
²Source: Keystone Strategy interviews October 2015—March 2016



Datacenter contracts expiry



Quickly integrate acquisitions



Urgent capacity needs

Software and hardware refresh



Security threats



Compliance



Application innovation



Software end of support



Migration & modernization triggers



Why Migrate to Azure?



Unmatched security

6.5 trillion threat signals analyzed daily
3,500 security experts
\$1 billion per year investment in security



Unparalleled innovation

Intelligent capabilities, trained on millions of DBs
Only cloud with evergreen SQL, which never needs to be patched or updated
Only fully-managed service for any .NET app



Unbeatable offers

5x less expensive than AWS
Azure Hybrid Benefit
Free Extended Security Updates
Leadership in performance and scale



Built-in hybrid

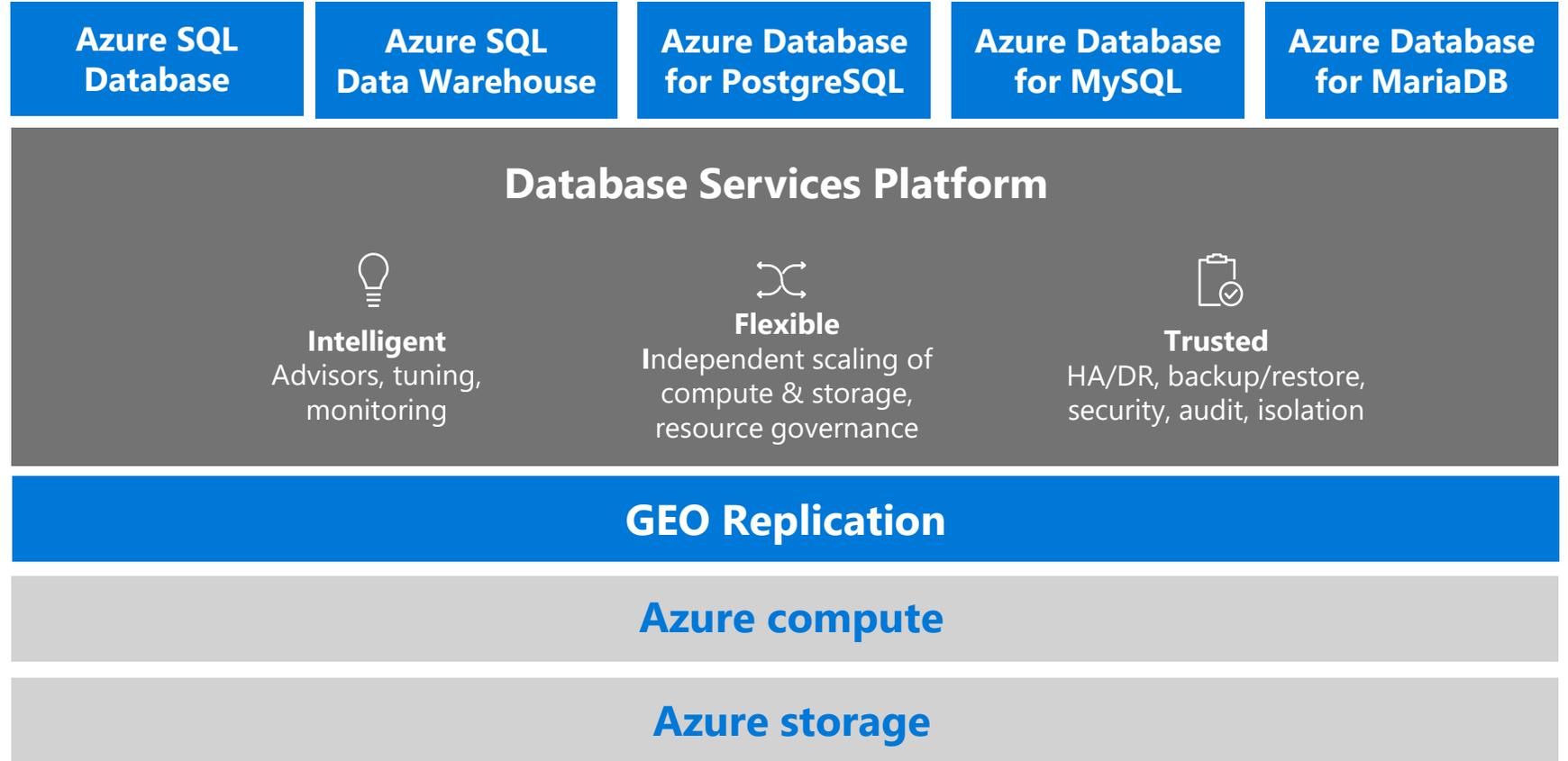
Operate seamlessly across your datacenter and the cloud
Only cloud provider with end-to-end hybrid infrastructure
2.5M+ hybrid enabled Windows Servers through Windows Admin Center
Most comprehensive backward and forward SQL compatibility with Azure SQL DB Managed Instance



Azure Data: common services for all data engines on intelligent perf, security, hyperscale with built-in HA



-  Power BI
-  Azure App Services
-  Azure Data Factory
-  Azure Analysis Services
-  Azure Machine Learning
-  Azure Cognitive Services
-  Azure Bot Service

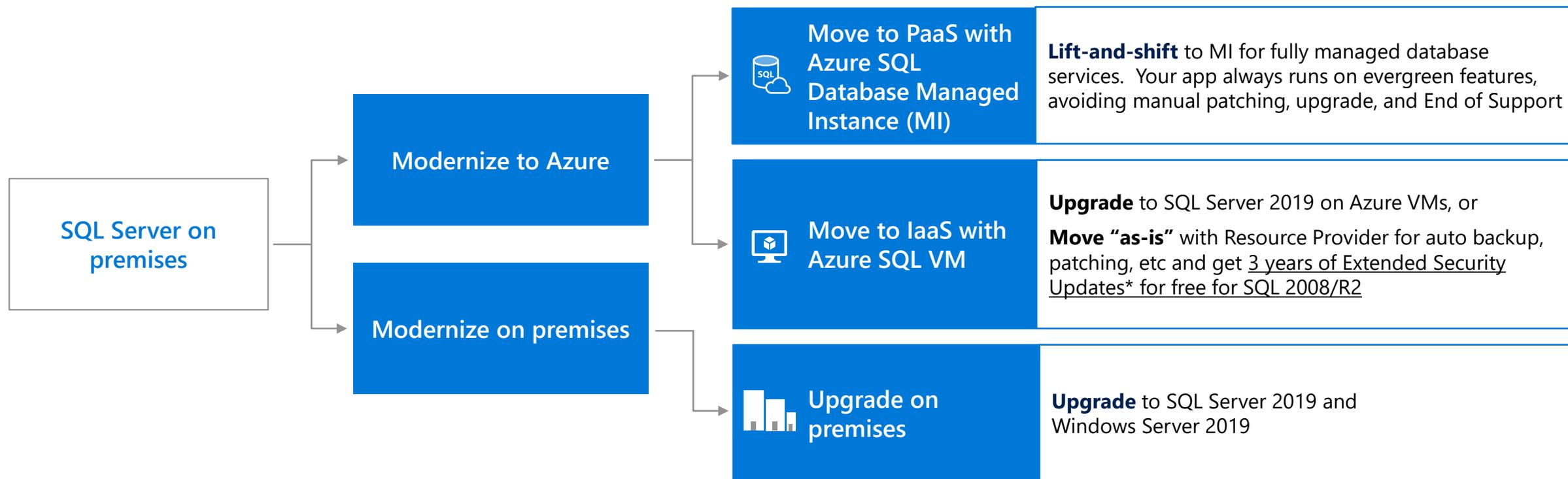


←----- **Globally Available in 54 Regions** -----→



Migration Options for your SQL Databases

The best destination for SQL workloads in the cloud



* ESU worth 75% of license every year for the next three years after EOS



Azure IaaS vs. PaaS

Different Azure Data Services give you different levels of control and flexibility for your data.

For a high level of control including the ability to pick SQL Server and OS version, choose IaaS.

For automated management and administration, choose PaaS.

On-premises

Threat Detection, Risk Management
Performance Management
Applications
Data
High availability /DR/Backups
Database Provision/ Patch/Scaling
O/S provision /patching
Virtualization
Hardware
Datacenter Management

SQL Server 2017

MySQL/PostgreSQL /MariaDB

Managed by customer

Infrastructure as a Service

Threat Detection, Risk Management
Performance Management
Applications
Data
High availability /DR/Backups
Database Provision/ Patch/Scaling
O/S
Virtualization
Hardware
Datacenter Management

Azure SQL VMs

Azure Win/Linux VMs

Managed by Cloud provider

Platform as a Service

Threat Detection, Risk Management
Performance Management
Applications
Data
High Availability/ DR/Backups
Database Provision/ Patch/Scaling
O/S
Virtualization
Hardware
Datacenter Management

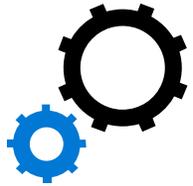
Azure SQL Database

Azure Database for MySQL/PostgreSQL/MariaDB

Azure Database Platform differentiation



SQL Resource Provider – Bringing the benefits of Marketplace Images to Self-Installed VM Images

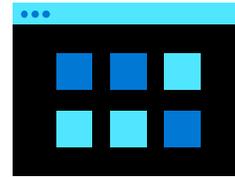


Comprehensive feature set

Self-installed VMs registered with RP now can access automation features in Azure Marketplace images



Leverage auto-backup, auto-patching, and automate Always On Availability Groups to avoid time-consuming admin and VM customization



Dashboard view for VM awareness

Azure VMs are now discoverable on the new Azure SQL blade in Azure Marketplace



Easily manage your SQL VM and SQL PaaS deployments from one central location



Simple license conversions

Self-installed VMs with RP can be easily converted to PAYG images



Save money by converting variable workloads with Software Assurance to PAYG images

Azure SQL Database Managed Instance: The best destination for fully-managed SQL in the cloud

Evergreen SQL

Eliminates manual patching, upgrades and end of support

Best TCO

Meets mission-critical requirements while costing up to 86% less than SQL Server on AWS RDS¹

SQL parity

Full parity based on 100% code consistency, supporting source version back to SQL 2005

SQL support

Up to 99.995% availability SLA, industry's only business continuity SLA

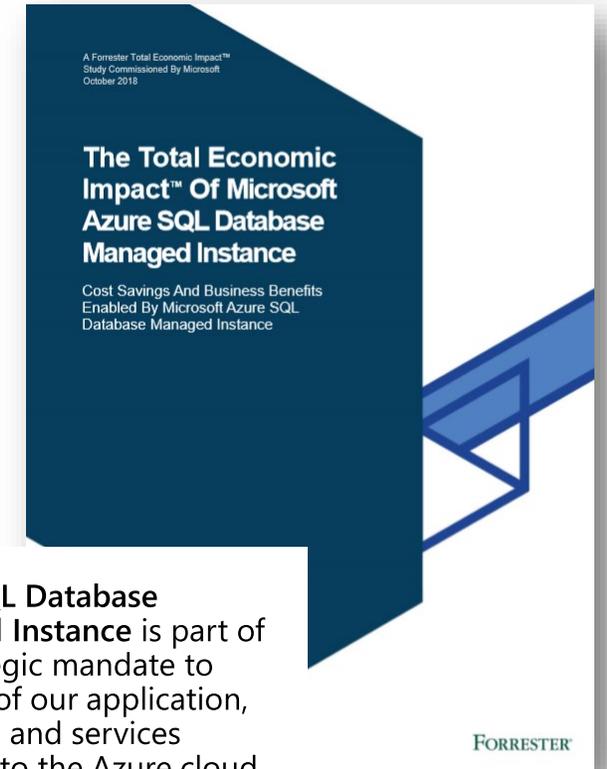
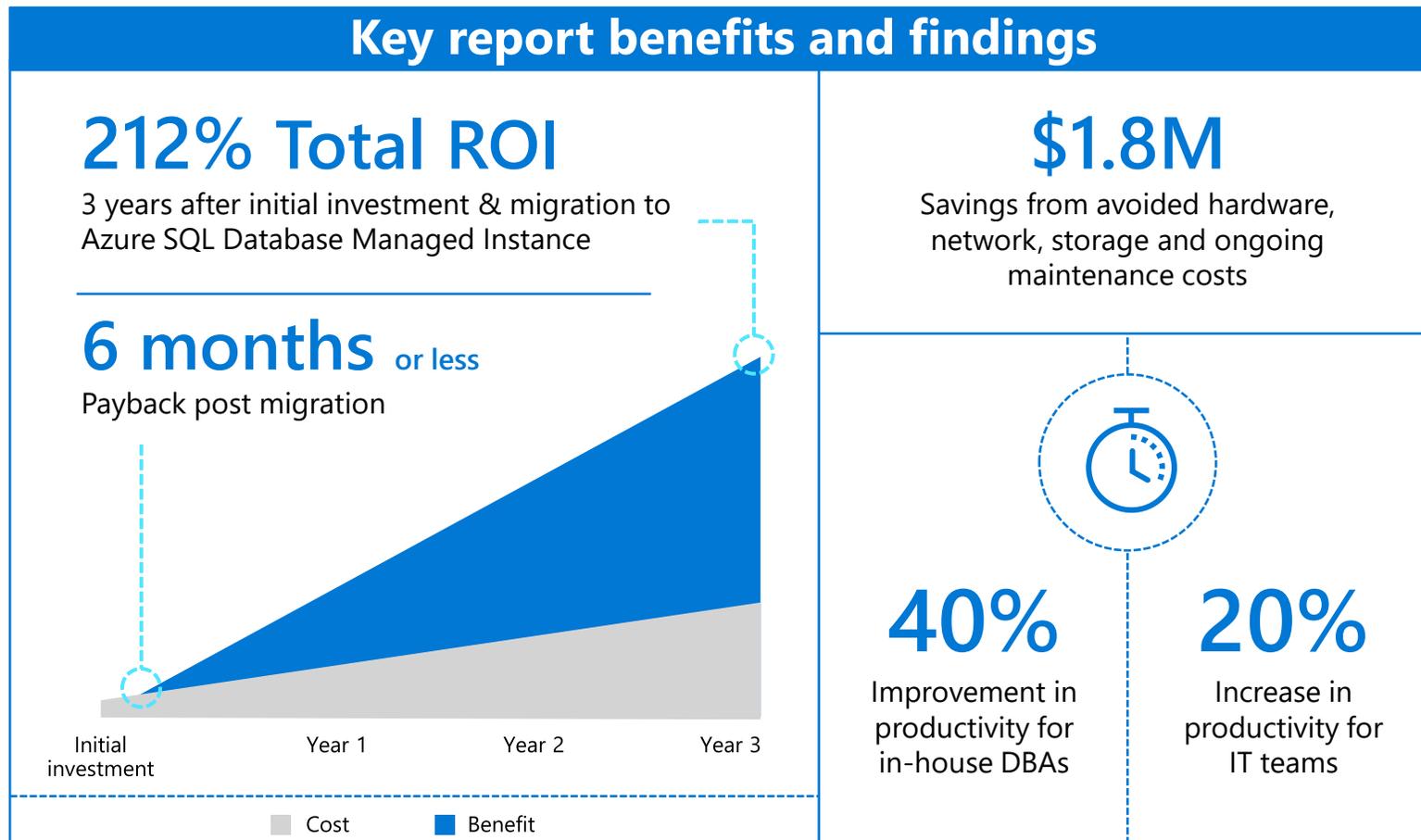
PaaS ++

Machine-Learning based, intelligent performance and security on top of PaaS

1) Price-performance claim based on data from a study commissioned by Microsoft and conducted by GigaOm in August 2019. Learn more: <https://azure.microsoft.com/en-us/services/sql-database/campaign/>

The Total Economic Impact of Azure SQL Database Managed Instance

Microsoft commissioned Forrester Consulting to conduct a Total Economic Impact™ study to examine potential cost savings and business benefits enterprises would achieve from migrating on-premises workloads to Azure SQL Database Managed Instance.



“

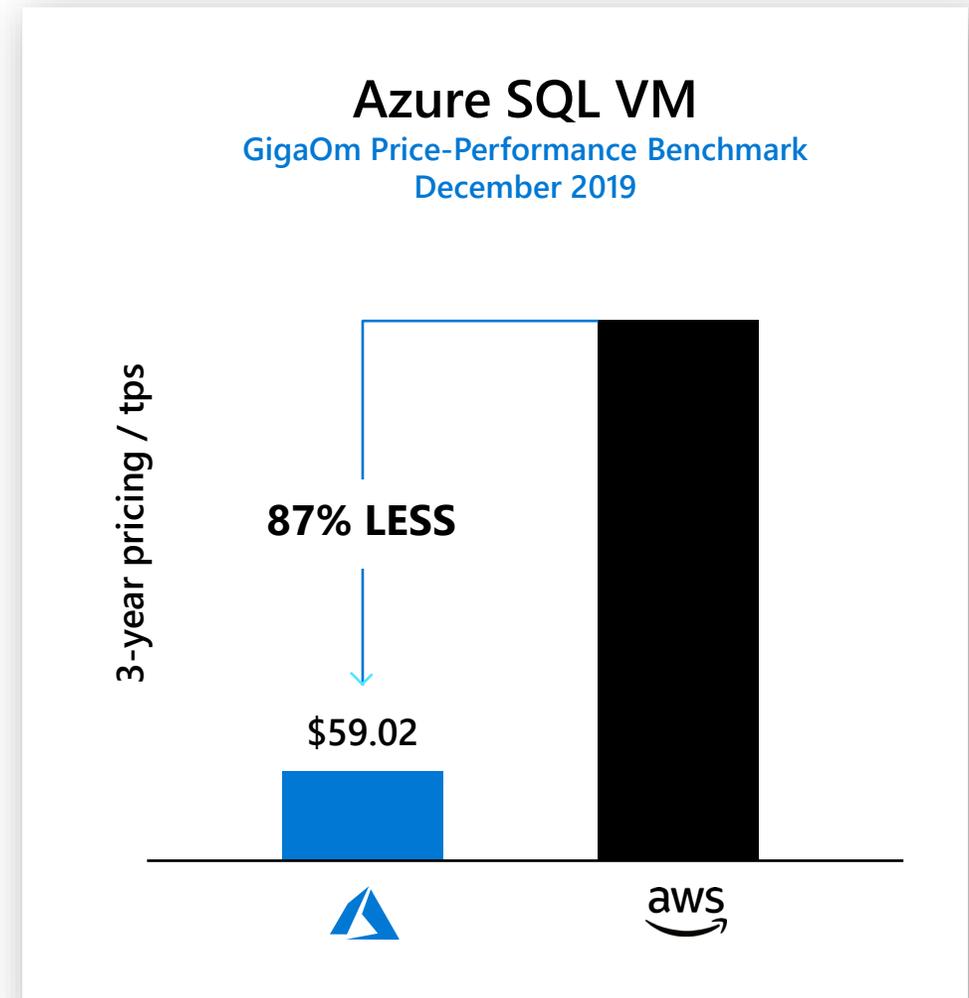
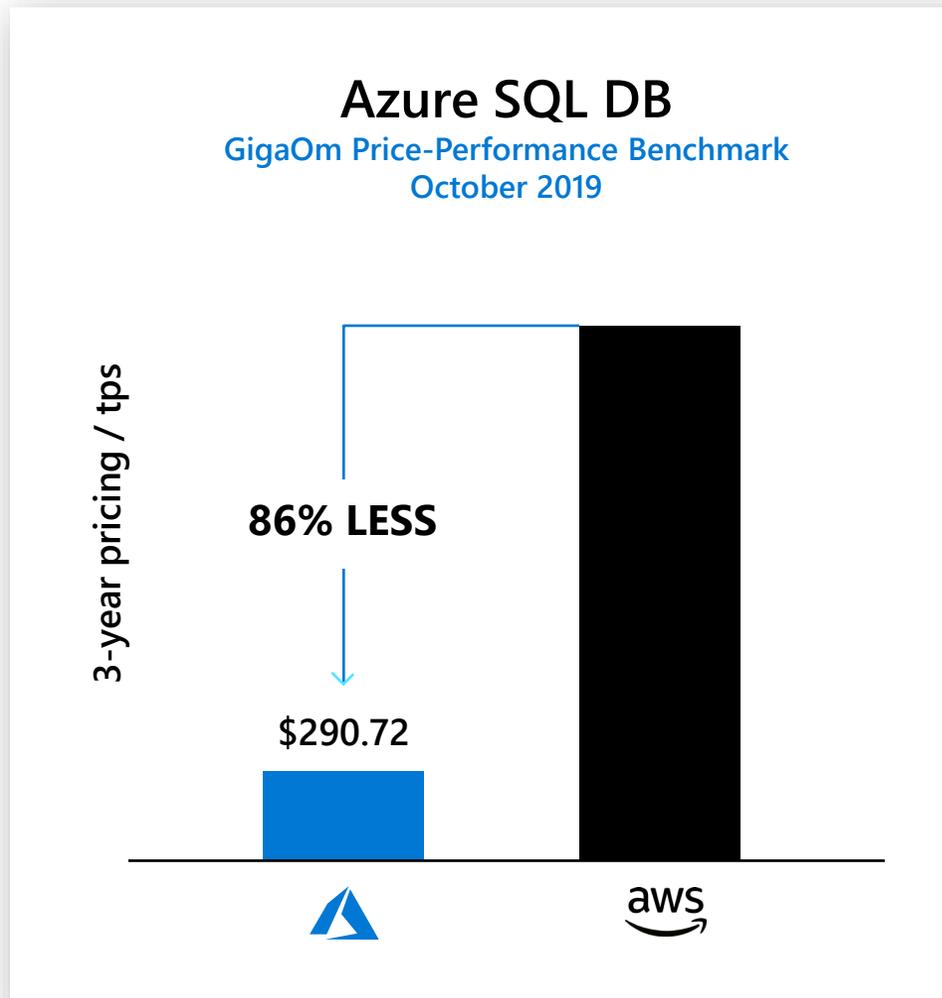
Azure SQL Database Managed Instance is part of our strategic mandate to move all of our application, database, and services footprint to the Azure cloud. We can quickly integrate and are more nimble and more efficient as a result.

Head of development, technology company

”

Download the full [Total Economic Impact™ of Azure SQL Database Managed Instance](#) report

Mission critical SQL Server performance in Azure costs up to 87% less than alternatives





Comprehensive security for hybrid environments

Built-in Azure services

Advanced threat protection



Azure
Security Center

Unified security management across hybrid cloud workloads

Security posture management



Azure
Sentinel

AI-driven Security Information and Event Management (SIEM)



SQL
Analytics

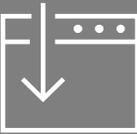
Unique database security monitoring for your cloud SQL

Enterprise-wide security analytics



Intel
SGX

Industry leading confidential computing



Free security updates

Extended security for Windows Server and SQL Server 2008/R2 workloads

+ Partner solutions



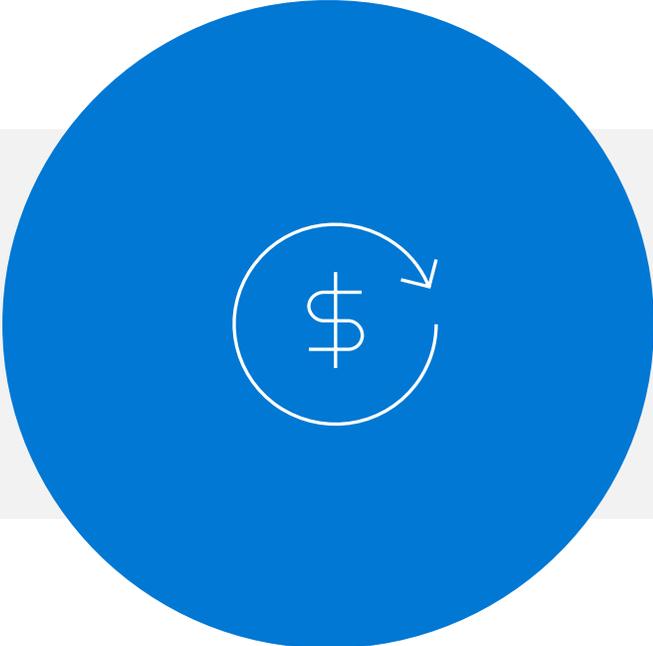
Layers of security



Compliance: FedRAMP, HIPAA, PCI, EU Model Clauses, GDPR, UK G-Cloud, ISO

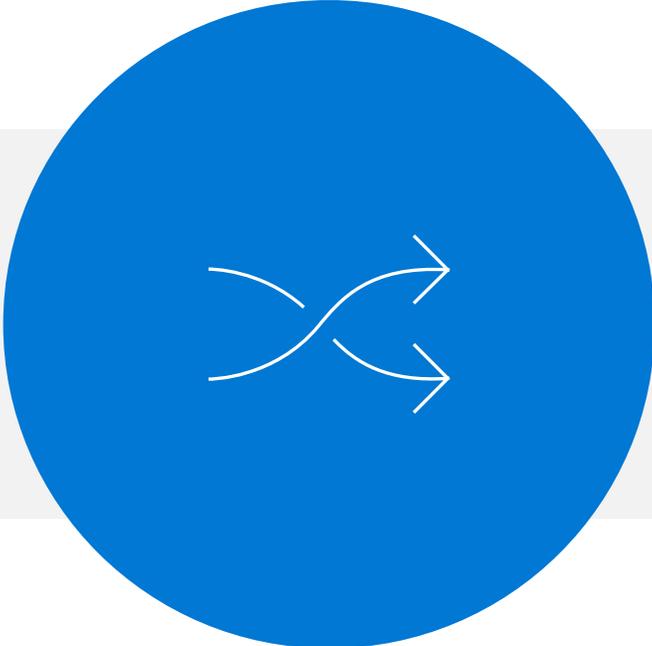
Azure Hybrid Benefits

Cost Savings



Leverage software investments to reduce costs in Azure

Flexibility



Use software commitments to run on premise or in Azure, and shift over time

Unique to Azure



Save 50%+ vs other cloud providers



Azure Hybrid Benefit for SQL Server

Azure only benefit for customers with active SA (or subscriptions) on SQL cores

 Significantly reduce the costs of running SQL IaaS and PaaS in Azure

 Pay only the 'base rate' in Azure on SQL IaaS, SQL DB PaaS, and ADF v2 SSIS

 Available for SQL Server core licenses only

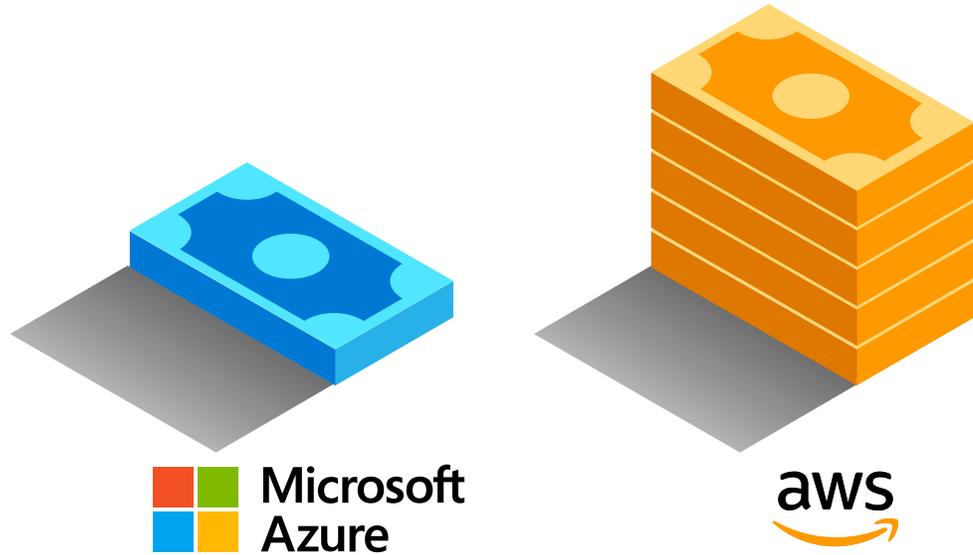
 Customers can use their cores on premise, **OR** as vCores in Azure

 However, cores can be used on premise and in Azure simultaneously for up to 180 days, to allow for migration

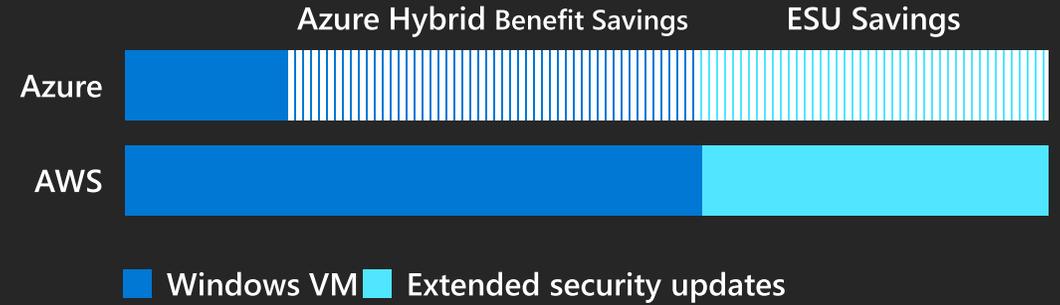




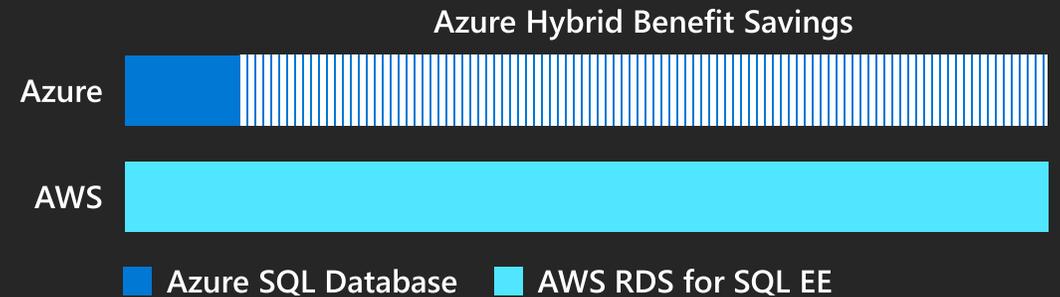
Pay less with Azure.



Windows Server savings illustration

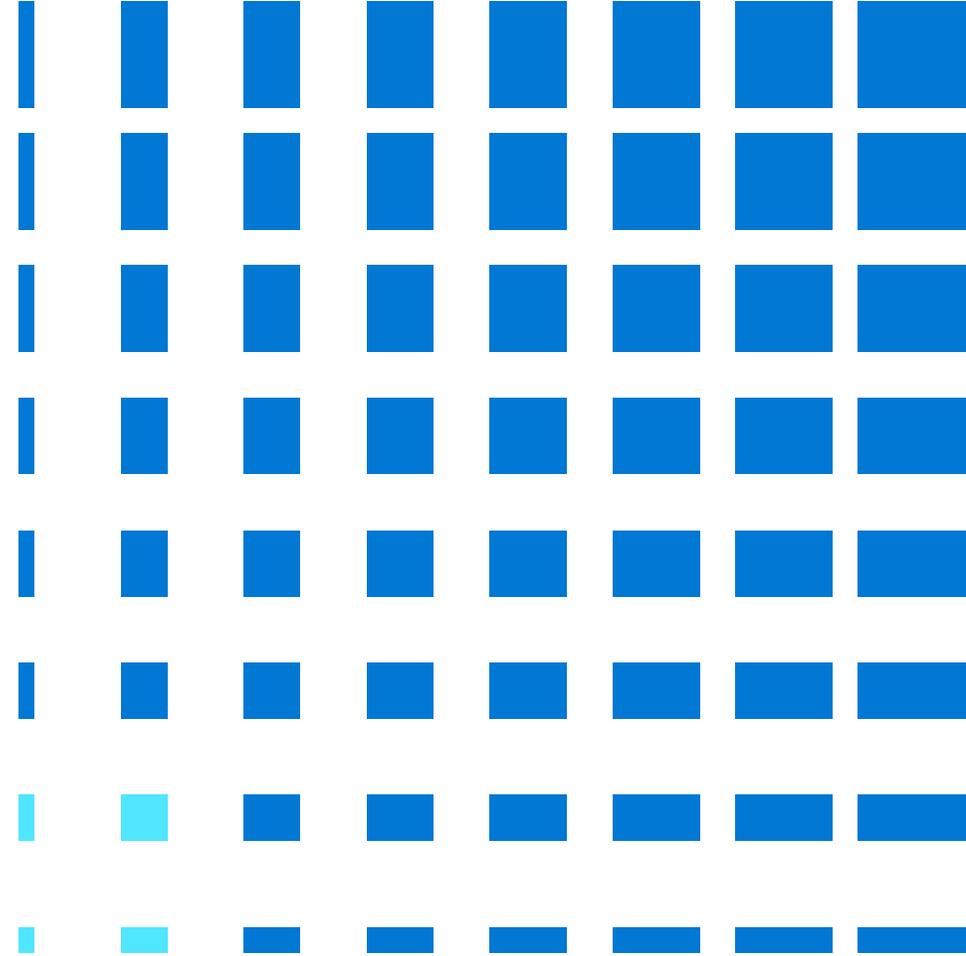


SQL Server savings illustration (PaaS)



Learn more: aka.ms/why5xmore

Getting started with migration





Migration planning and execution

A step by step approach

Migration plan

TCO | Target workloads | Approach (e.g., Rehost) | Timelines



Assess



Migrate



Optimize



Secure and manage

Azure Migrate | Azure Database Migration Service | Azure Cost Management | Azure Security & Management

FastTrack for Azure + Specialized migration partners



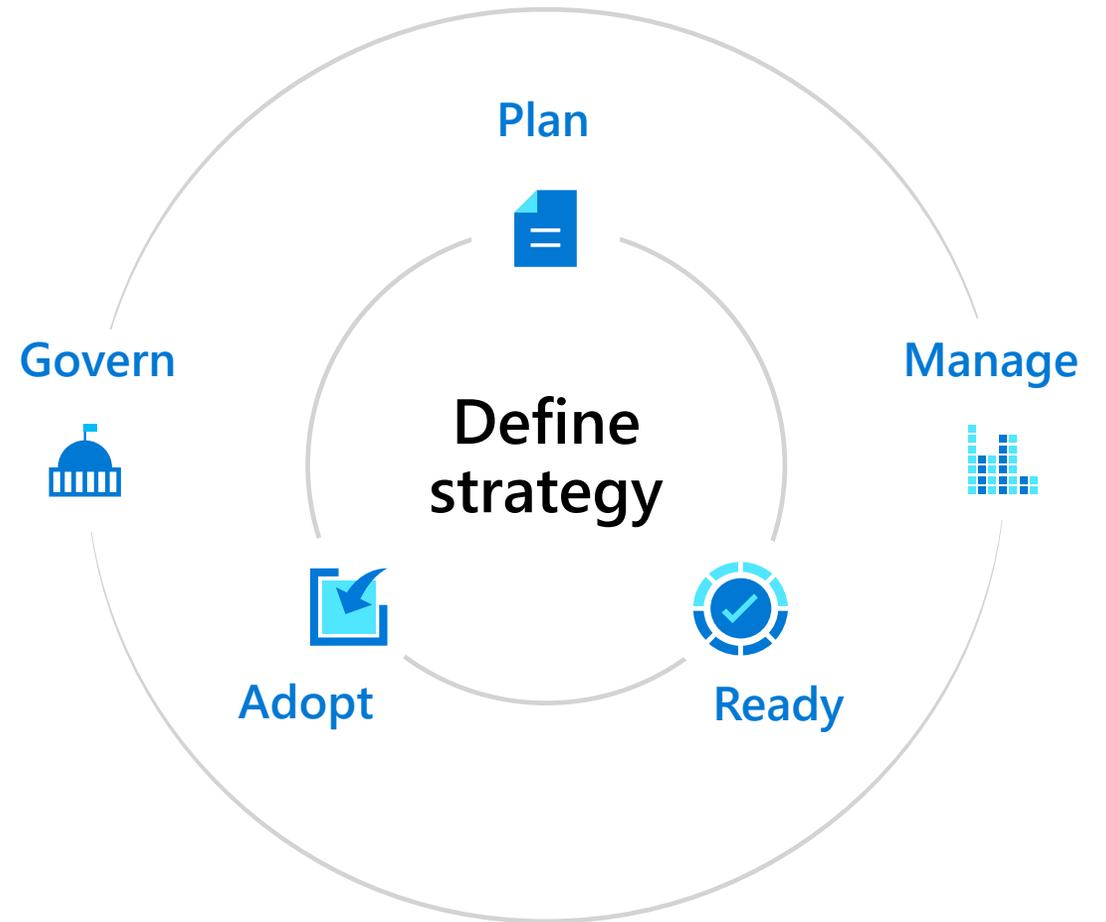
Best practice guidance

Leverage a consistent methodology

Microsoft Cloud Adoption Framework for Azure

Proven guidance from Microsoft
to accelerate cloud adoption journey

<http://aka.ms/cloudadoptionframework>



Azure Migrate is a hub for migration

The screenshot displays the Azure Migrate portal interface. At the top, there is a navigation bar with the Microsoft Azure logo, a search bar, and user information. The main content area is titled "Azure Migrate" and features a central heading: "Migrate your on-premises datacenter to Azure". Below this heading, there is a sub-heading: "Discover, assess and migrate your on-premises applications using Microsoft or third-party tools, or you can also find an expert to help with your migration. Learn more".

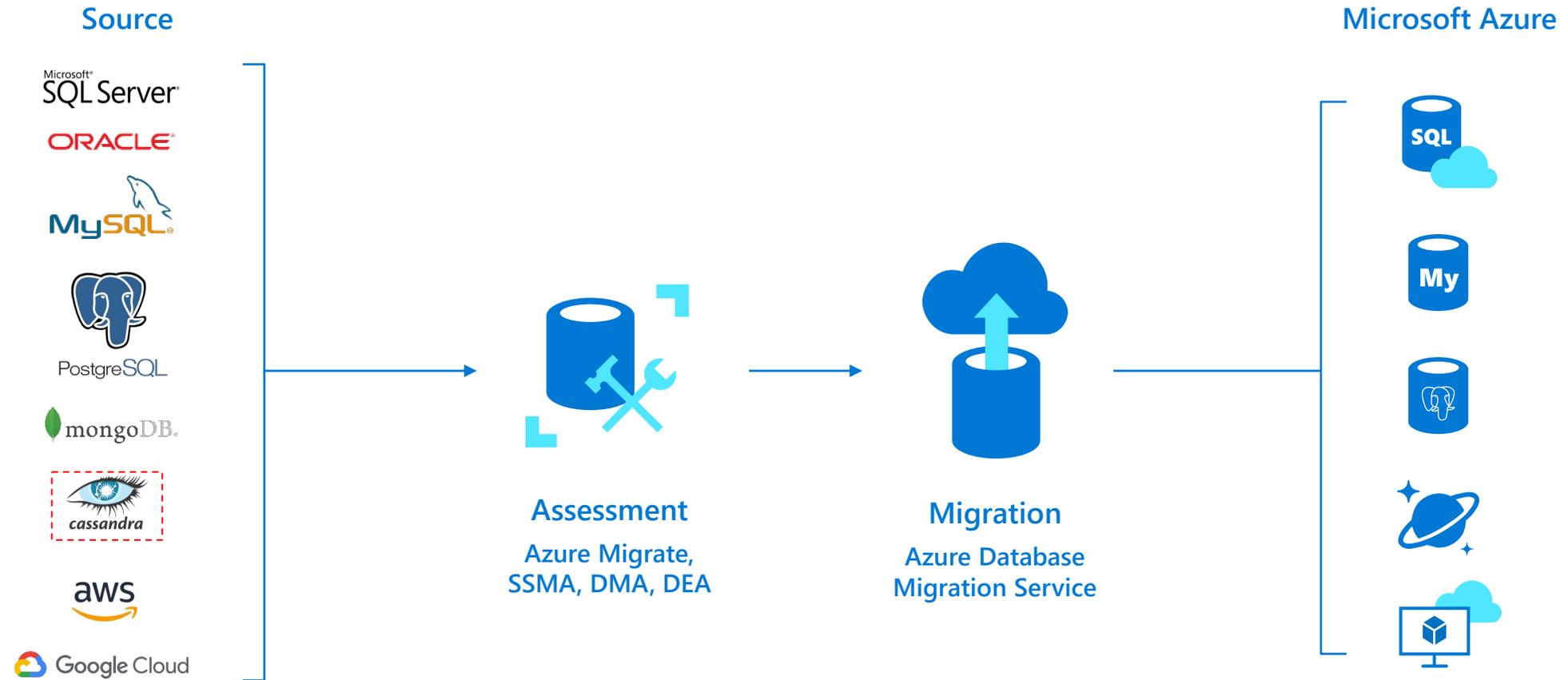
The interface is divided into three main sections for migration options:

- Discover, assess and migrate servers:** This section includes an icon of server racks and a rocket launching into a cloud. The text describes discovering, assessing, and migrating on-premises VMware and Hyper-V virtual machines or physical servers to Azure. A button labeled "Assess and migrate servers" is provided.
- Discover, assess and migrate databases:** This section includes an icon of database cylinders and a rocket launching into a cloud. The text describes discovering, assessing, and migrating on-premises databases to Azure SQL Database Managed Instance or Azure SQL Database. A button labeled "Assess and migrate databases" is provided.
- Assess and migrate web apps to Azure:** This section includes an icon of a globe and a rocket launching into a cloud. The text describes assessing, migrating, and optimizing .NET web apps to Azure's Platform-as-a-Service, Azure App Service. A button labeled "Assess and migrate web apps" is provided.

Below these sections, there is a "Quick Starts" section with a link to "Learn how to onboard to Azure..." and a "TCO Calculator" link. To the right, there is a "Need help?" section with links for "FastTrack for Azure" and "Connect with an Azure Expert MSP partner".



Your data journey to Azure



Seamless, end to end solution | Near-zero downtime | Resilient | Migrate at-scale from multiple sources

Azure migration center

Provides guidance and tools in context of your migration scenario

Enables you to:

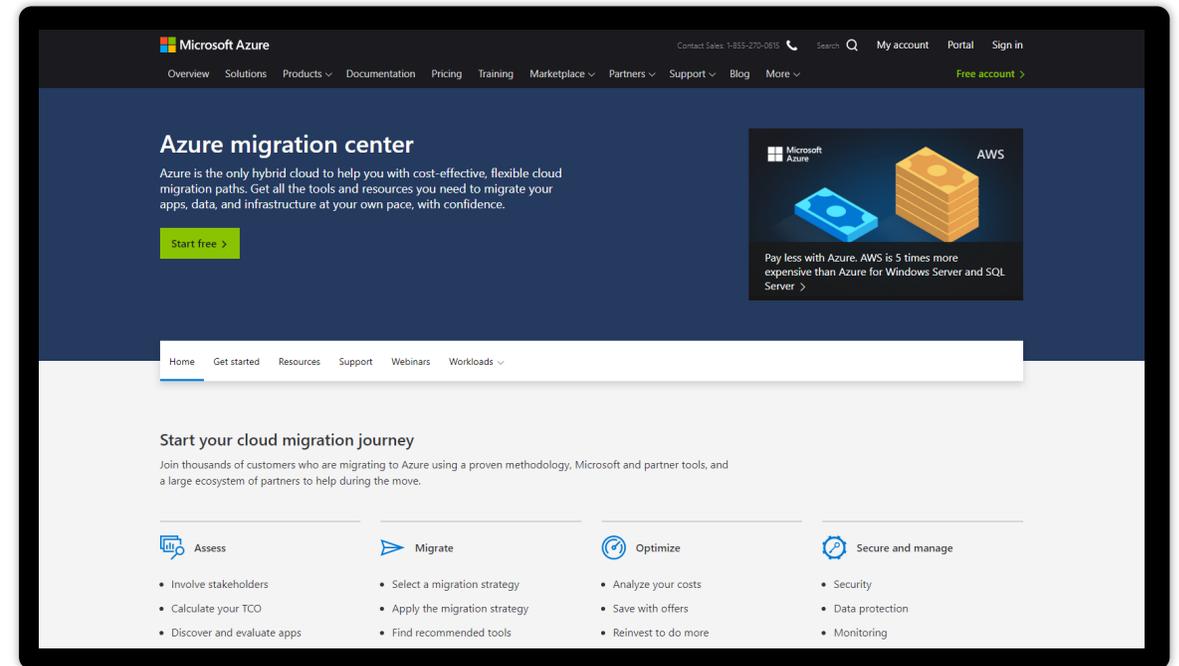
Build a business case, find case studies

Identify the right migration strategies

Download Microsoft assessment & migration tools

Connects you to Microsoft experts

Guides you to FastTrack for Azure, Azure Migration Program, or sales/partner rep

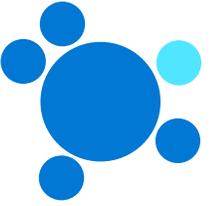


[Azure.com/migration](https://azure.com/migration)



Thank you for joining us.

Resources



Windows Server and SQL Server are best on Azure

<https://azure.microsoft.com/campaigns/best-on-azure/>

Azure Migration Center

www.azure.com/migrate

Cloud Adoption Framework

<http://aka.ms/cloudadoptionframework>

Data Migration Guide

<https://datamigration.microsoft.com/>