



CODE Presents:  
Costs and Benefits of .NET Application  
Migration to the Cloud

# Kicking Things Off

## Jim Duffy

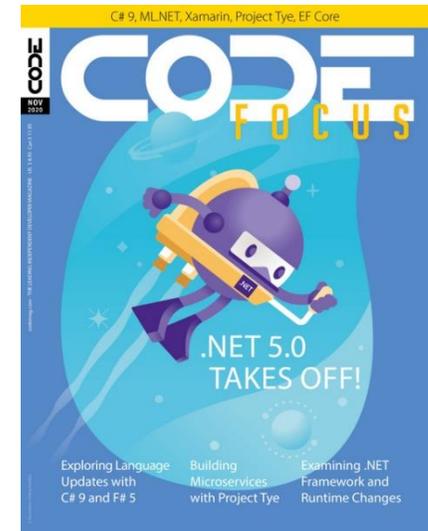
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- International Author and Speaker
- Former Microsoft RD (Regional Director) 9 years
- Former 11 time Microsoft Most Valuable Professional (MVP)
- Twitter: @jmduffy



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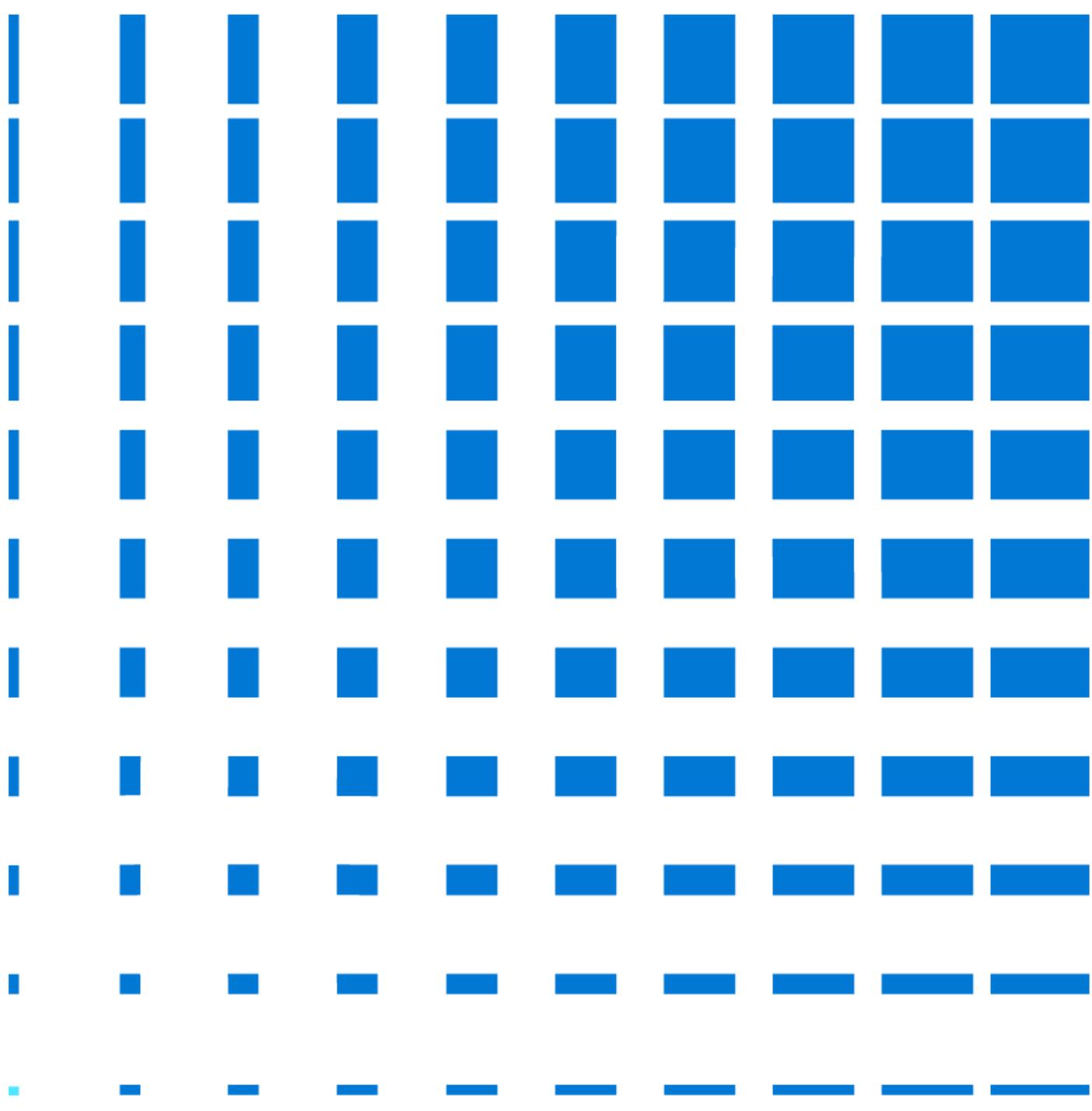
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**THIS SLIDE WILL BE REPEATED AT THE END AND  
SURVEY LINK REPEATED IN THE CHAT WINDOW!**

Azure webinar series

# Migrate Your .NET Web Apps to the Cloud to Save Time and Costs



# Meet our **speakers**



**Gaurav Seth**

Program Manager  
Azure App Service



**Ned Bellevance**

Analyst, GigaOm

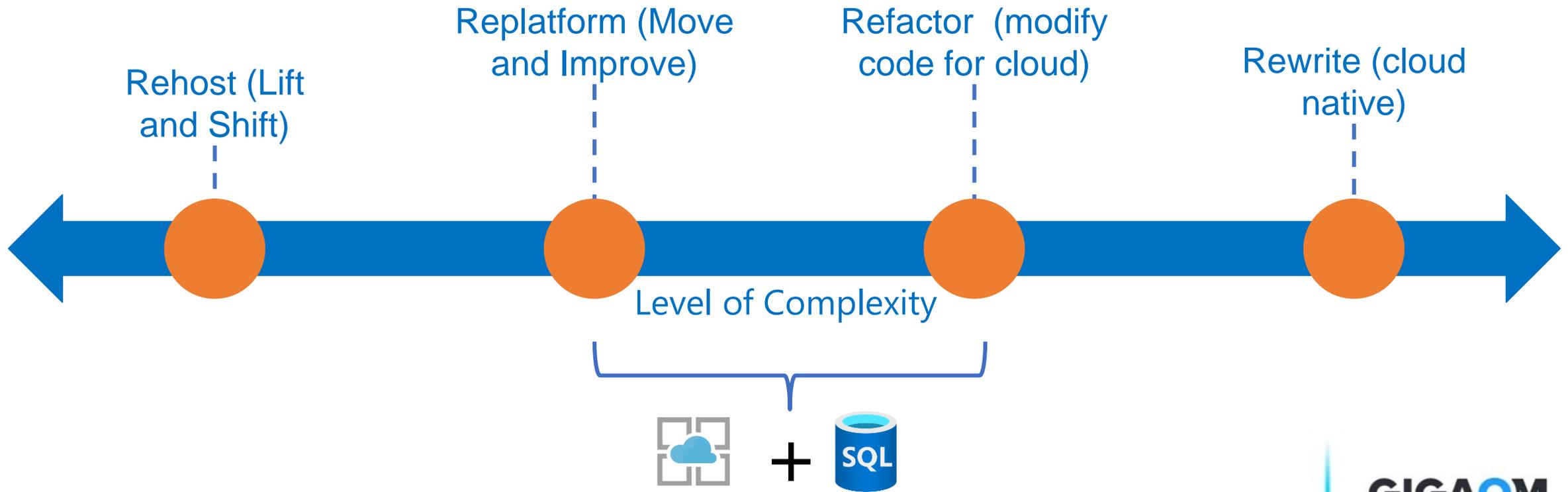
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# Agenda

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GigaOm benchmark study findings  
Benefits and trade-offs between platforms  
Considerations for your ASP.NET migration  
Azure Services for .NET Apps  
How to get started

# Migration options



# Scenario

- Migrate an ASP.NET web application
- Maintain or improve performance
- Simplify administration
- Lower total cost of ownership

# Benchmark Environments



## On-Premises

VMware virtual machines for NGINX load balancer, web front-end and MS SQL Server back-end sized same as Azure and AWS.



## Microsoft Azure

Azure App Service Premium P1V3 SKU for web front-end and Azure SQL Gen5 w/ 4 vCores for back-end.



## Amazon Web Services

Elastic Beanstalk to create m5d.large EC2 instances for web front-end and RDS db.m5.xlarge for MS SQL Server back-end.

[Parts Unlimited – ASP.NET Application](https://github.com/microsoft/PartsUnlimited/tree/aspnet45)  
<https://github.com/microsoft/PartsUnlimited/tree/aspnet45>

**GIGAOM**

# Migration Process



On-Premises

Deploy application to VMware using Visual Studio IIS Publish option and back up SQL database



Microsoft Azure

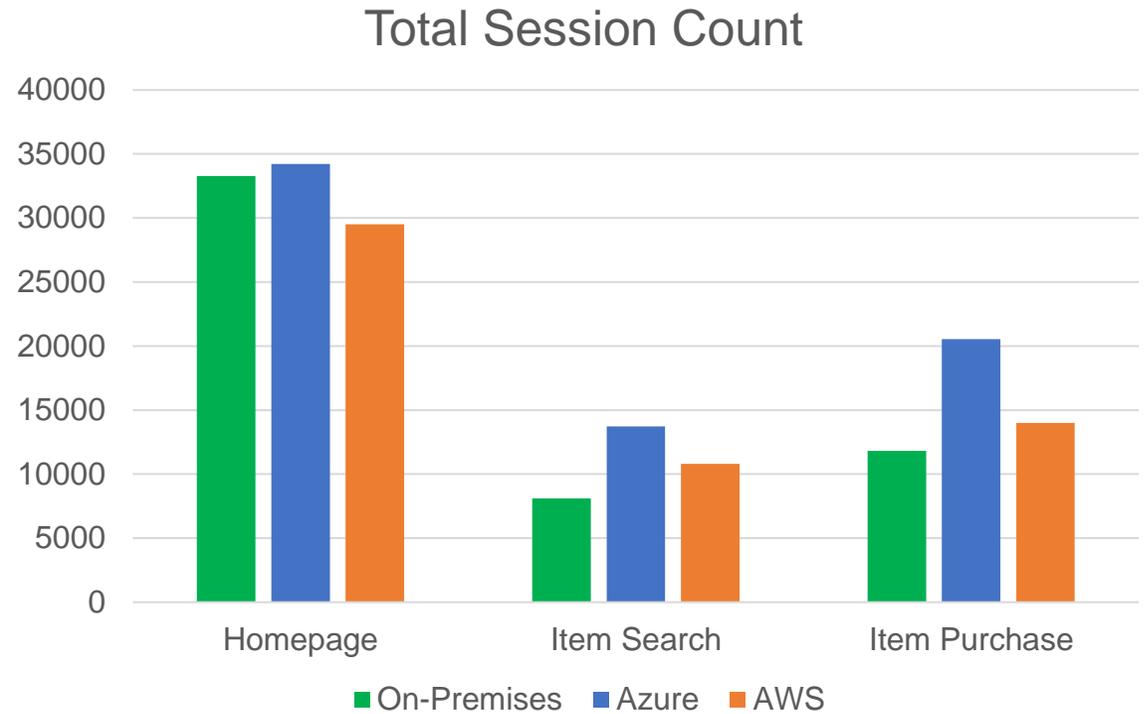
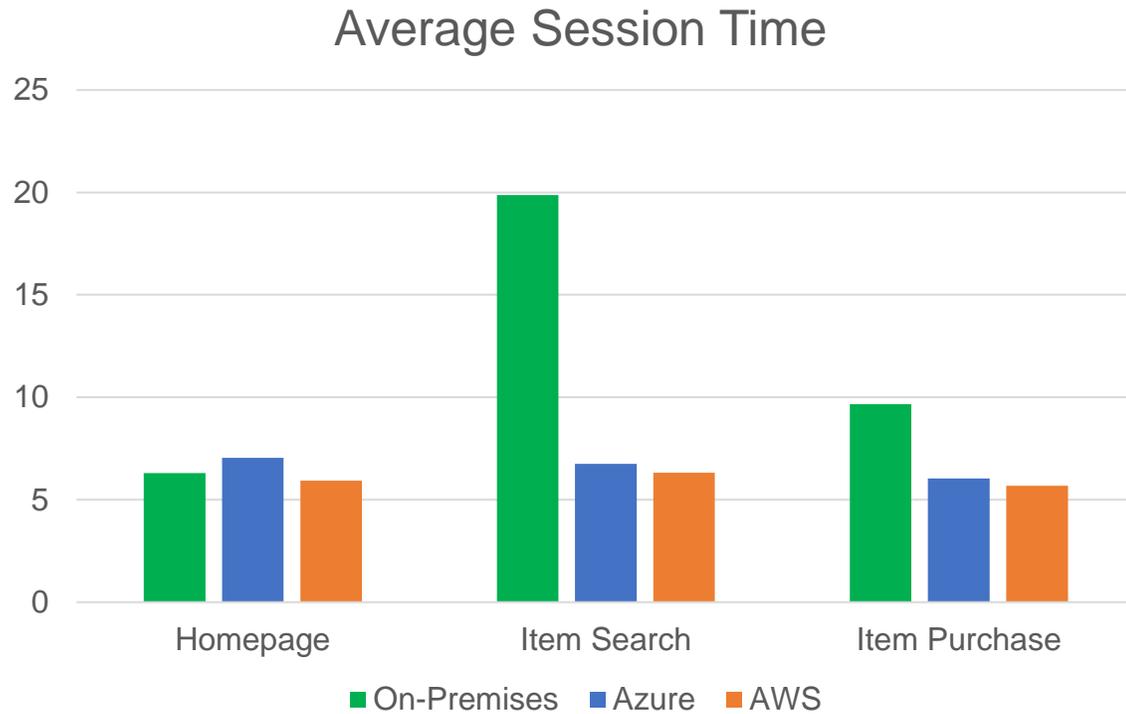
Deploy application to Microsoft Azure using Visual Studio Azure Publish option and restore database



AWS

Deploy application to AWS using Visual Studio AWS Toolkit Extension and restore database

# Testing process and Results



# Total Cost of Ownership



39%

Savings over an on-premises environment



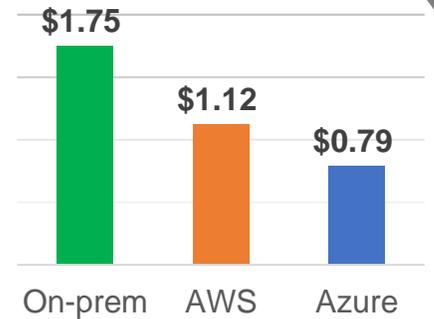
54%

Savings over an on-premises environment with Azure Hybrid Benefit



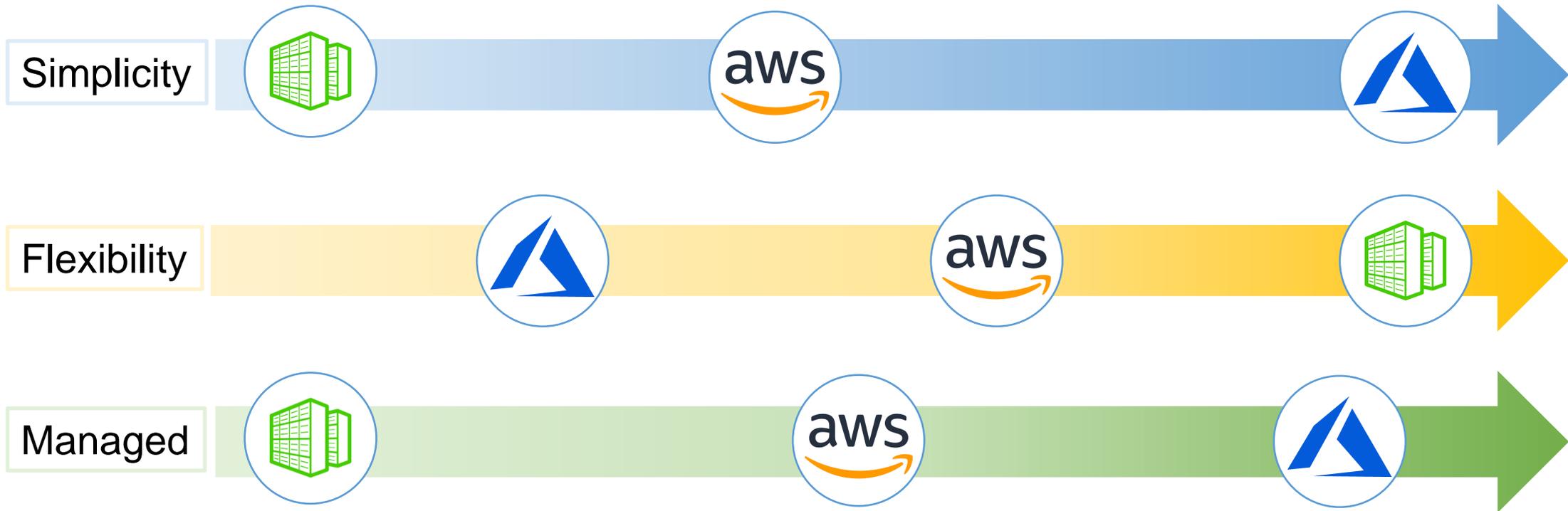
30%

Savings over an Elastic Beanstalk environment



Cost per 10k sessions

# Challenges and trade-offs



# Azure is the best cloud for .NET Apps

Migrating and modernizing .NET Apps on Azure enables customers to [optimize costs, operate confidently and ship new features faster](#)



**Cost  
effective**

App Service and Azure SQL Database are [optimized to be the home in the cloud for .NET apps and their databases](#)



**Fully managed  
offerings**

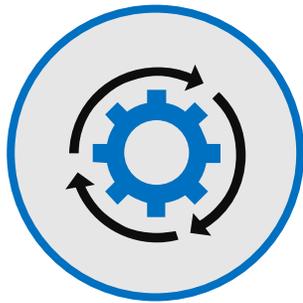
Azure Migrate and our migration assistants [provide a seamless migration path to the cloud](#)



**Seamless  
migration**

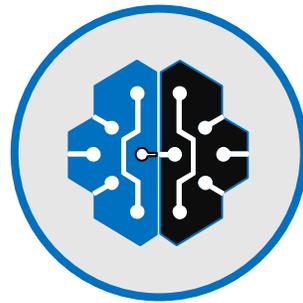
# Optimize cost

## Azure App Service and Azure SQL Database



### Azure manages your applications and databases

End-to-end hosting platform and evergreen SQL free up teams to focus on what matters most



### Built-in intelligence optimizes resources and reduces spend

Sense and surface opportunities to save with out-of-the-box monitoring for ASP.NET applications and AI-powered SQL optimizations



### Get more cloud for less

With leading SQL price-performance and savings up to 80% off pay-as-you-go rates with Azure Hybrid Benefit and reservation pricing

# Optimize cost

## Azure App Service and Azure SQL Database

### Save on data and infrastructure

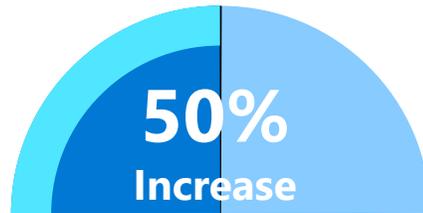
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savings with the Enterprise Dev/Test Offer<sup>1</sup>

### Optimize technical teams

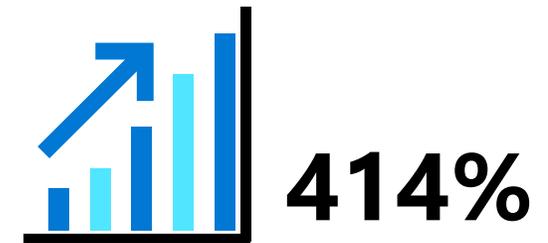
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in database admin and developer efficiency and team velocity<sup>2,3</sup>

### Drive long-term returns

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3-year return on investment with Azure Managed Services<sup>2</sup>

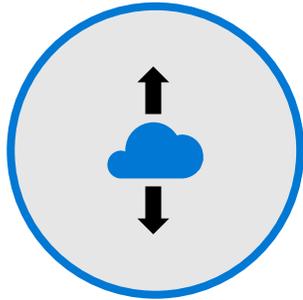
(1) Available to Enterprise Agreement Customers and Visual Studio subscribers. Actual savings may vary based on region, instance size, and performance tier. <https://azure.microsoft.com/en-us/offers/ms-azr-0148p/>

(2) The Total Economic Impact™ Of Microsoft Azure Serverless —a commissioned study conducted by Forrester Consulting, July 2019

(3) The Total Economic Impact™ of Migration to Microsoft Azure SQL Managed Databases — a commissioned study conducted by Forrester Consulting in March 2020 on behalf of Microsoft

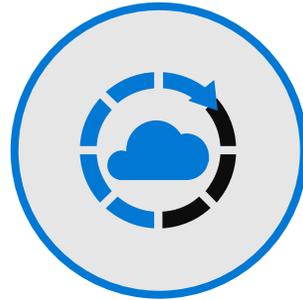
# Operate confidently

## Azure App Service and Azure SQL Database



### Right-size your infrastructure and increase availability

Ensure zero-down-time deployments using an enterprise-grade web hosting platform that serves over 2M sites and processes 41B requests and 9T SQL queries per day



### Get up to speed quickly on a platform tailored for .NET

Purpose-built features and interface designed to be familiar from day one for .NET developers and SQL DBAs



### Secure your applications and improve performance

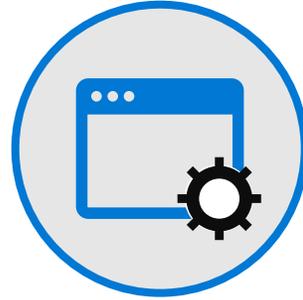
Protect your applications and improve security posture with built-in web app and database security controls

# Ship new features faster



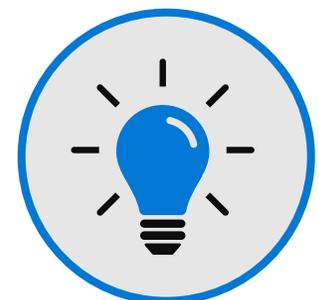
## Increase developer productivity

Visual Studio and DevOps integration offers unparalleled developer productivity to ship new features faster



## Extend applications faster

Add new modalities and connect your app to the data and systems it needs to serve users

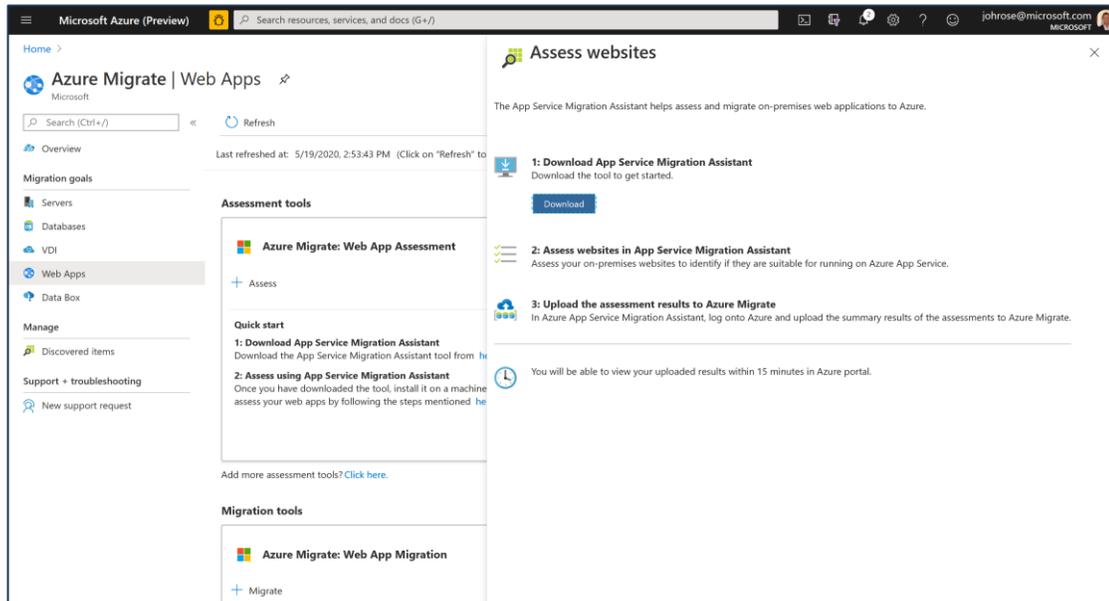


## Innovate with confidence

Adjust to new realities and pivot to meet new requirements on a trusted cloud platform

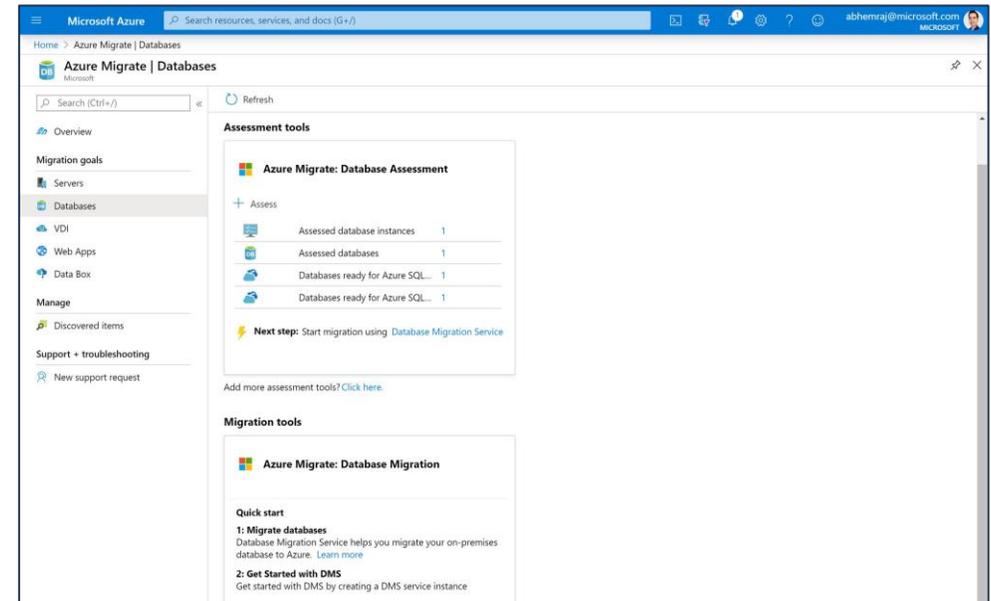
# Seamlessly migrate .NET Apps with Azure Migrate

## App Service Migration Assistant



Assess .NET Apps for migration and migrate from on-premises to App Service in just a few clicks

## Database Migration Assistant



Assess for migration blockers, unsupported and partially supported features. Migrate SQL Server 2005-2017 databases.

[https://aka.ms/dotnet\\_azure\\_migration\\_learn](https://aka.ms/dotnet_azure_migration_learn)

# Customer success



"We looked at moving to the cloud for better DDOS protection and lowered cost of operations for our apps. We have successfully migrated 200 apps to Azure, while using the App Service Migration Assistant to migrate 60 different .NET Apps. The Azure Migrate App Service Migration Assistant really simplified our migration journey by identifying any migration blockers and enabling us to migrate apps with just a few clicks. As an App development team, we really like the value proposition of Azure's managed services for .NET Apps such as App Service and Azure SQL Database. We don't have to worry about patching virtual machines or containers."

**Tim Fragakis,**

Director of Cloud Services, IT, Clover Imaging Group



"We were looking to migrate several .NET based line of business applications to the cloud for Viking River Cruises. We leveraged the Azure Migrate App Service Migration Assistant and it worked seamlessly for 95% of the .NET web apps we migrated. The migration assessment gave us confidence that we can migrate these .NET apps to App Service. We also used the Azure SQL Database Migration Assistant to migrate SQL Server databases used by these applications. With these Azure migration tools, we were able to migrate more than a dozen line of business apps in a matter of minutes and have them up and running in the cloud."

**Hamad Riaz,**

Principal Consultant and Azure Architect, Mobiz Inc



"Our move to .NET Core, Visual Studio Code, TypeScript, and Azure services worked out just like we had planned. Our new website makes us much more agile in supporting Chipotle's primary mission: bringing people responsibly sourced, classically cooked, real food, with wholesome ingredients."

**Mike Smith,**

Lead Software Developer, Chipotle Mexican Grill



# Azure Migration Program (AMP) for .NET Apps

Simplify your path to the cloud



Proven methodology:  
Cloud Adoption Framework



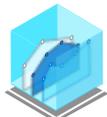
Free tools: Azure Migrate



Cost-effective offers & incentives



In-depth assistance from FastTrack  
for Azure engineers



Technical skill building



Expert help from specialized partners

Learn more and nominate | [Azure.com/AMP](https://azure.com/AMP)

# Resources

## GigaOm Benchmarking Study

[aka.ms/dotnet\\_apps\\_gigaom\\_report](https://aka.ms/dotnet_apps_gigaom_report)

## App Service Migration Assessment

<https://azure.microsoft.com/en-us/migration/web-applications/>

## Azure Database Migration

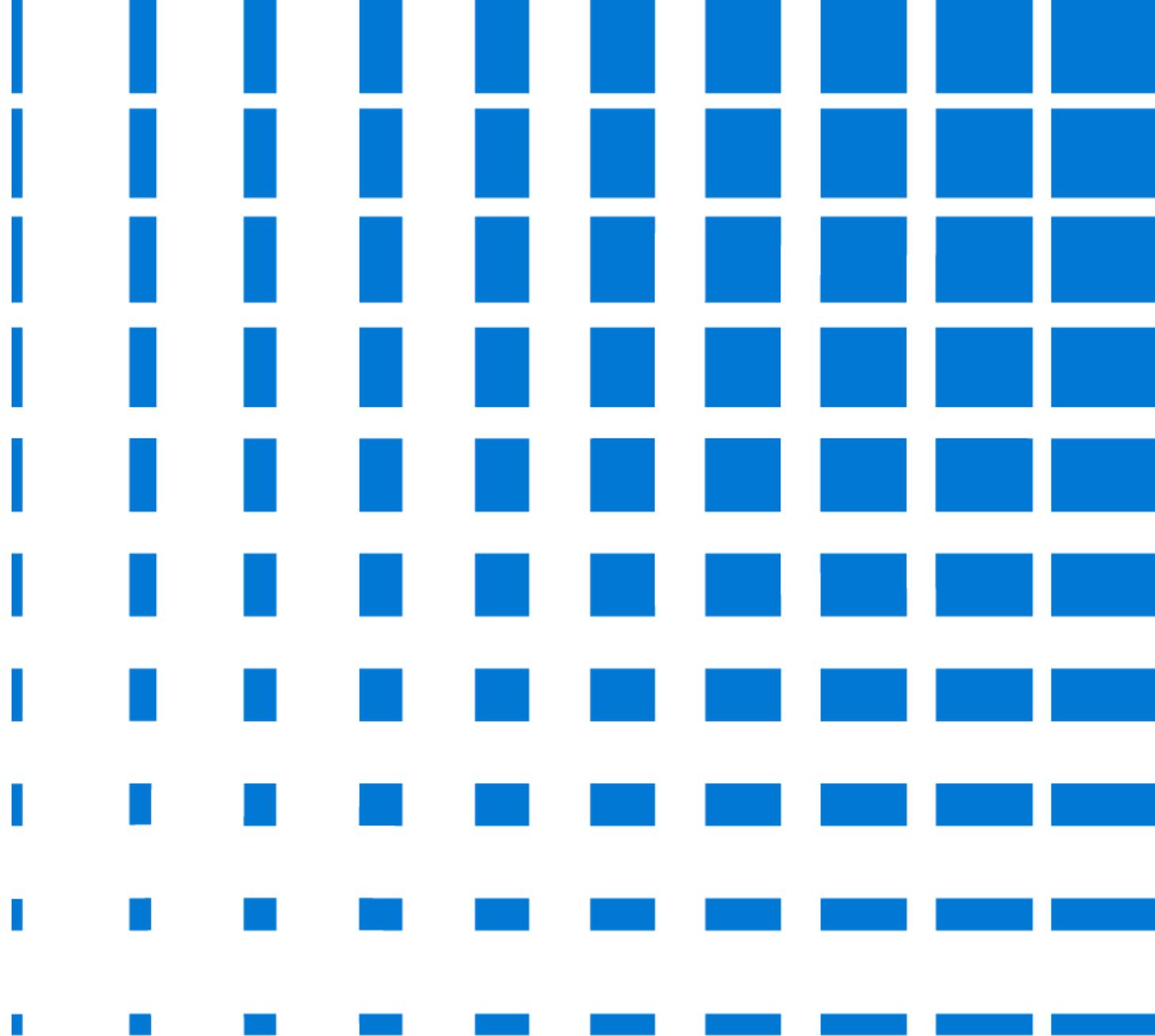
<https://azure.microsoft.com/en-us/services/database-migration/>

## ASP.NET Apps Migration Learning Path

<https://docs.microsoft.com/en-us/learn/paths/migrate-dotnet-apps-azure/>

# Q&A

Please submit your questions into the Q&A window. We have Subject Matter Experts ready to answer your questions.

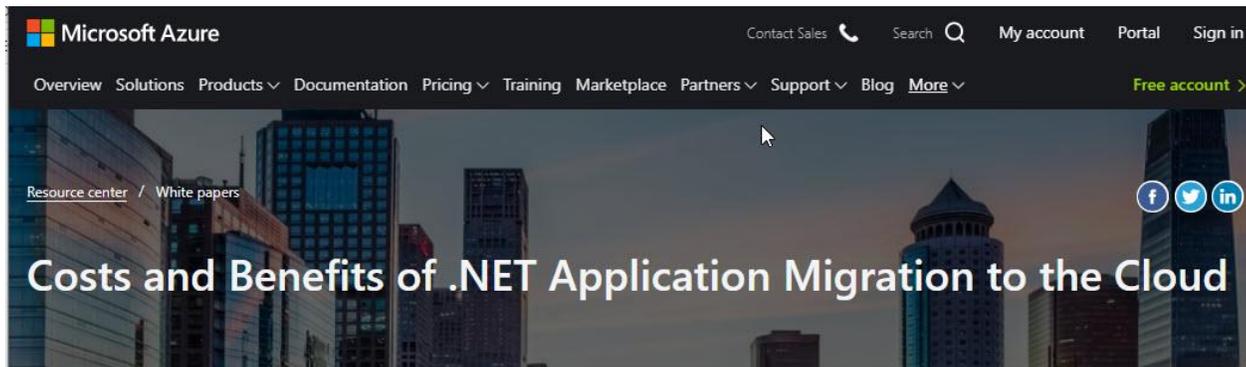




Thank you for joining us.

# GigaOm Benchmarking Study (PDF)

- [aka.ms/dotnet\\_apps\\_gigaom\\_report](https://aka.ms/dotnet_apps_gigaom_report)



Read this analyst report to learn how to save up to 54% vs. on-premises and up to 30% vs. AWS by migrating your ASP.NET applications to Azure. The scalability and managed features of Azure App Service and Azure SQL Database help you improve developer productivity, simplify your operations, and manage your apps more efficiently.

In the report, we review the findings of a modernization platform test that compares a traditional ASP.NET application running on-premises, in Azure App Service, and on AWS Elastic Beanstalk.

You'll also learn:

- How to increase app availability with zero downtime through deployment slots.
- How to get started with the Azure Migrate web apps migration tool—specifically designed for .NET web applications.



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