
AWS
re:Invent

WIN202

Accelerate innovation for your Windows workloads on AWS

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General Manager for Windows on AWS

AWS

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Facing unprecedented challenges



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Agenda



What we heard from customers



Meeting the demands of 2020: Customer stories



Innovation for Windows on AWS

THREE CUSTOMER USE CASES:



Migrate to AWS



Modernize with AWS



Build on AWS

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What we heard from customers

- Reliability and performance are more important than ever—unplanned downtime across business-critical workloads can quickly undermine customer trust and employee productivity
- Rapid responses to coronavirus pandemic are increasing risk and security breaches
- They want experienced partners to support their digital transformation and migration to the cloud
- Customers run increasingly diverse workloads in the cloud and are looking for partners who support their unique use cases
- Now more than ever, customers tell us that they are looking to drive efficiencies and realize long-term cost—it's no secret that every business leader is always looking to reduce cost
- Customers also consistently share their frustrations with the high cost of commercial licensing and what options are available to use regarding new and existing Microsoft software licenses on AWS



Meeting the demands of 2020: Customer success stories



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Innovation for Windows on AWS



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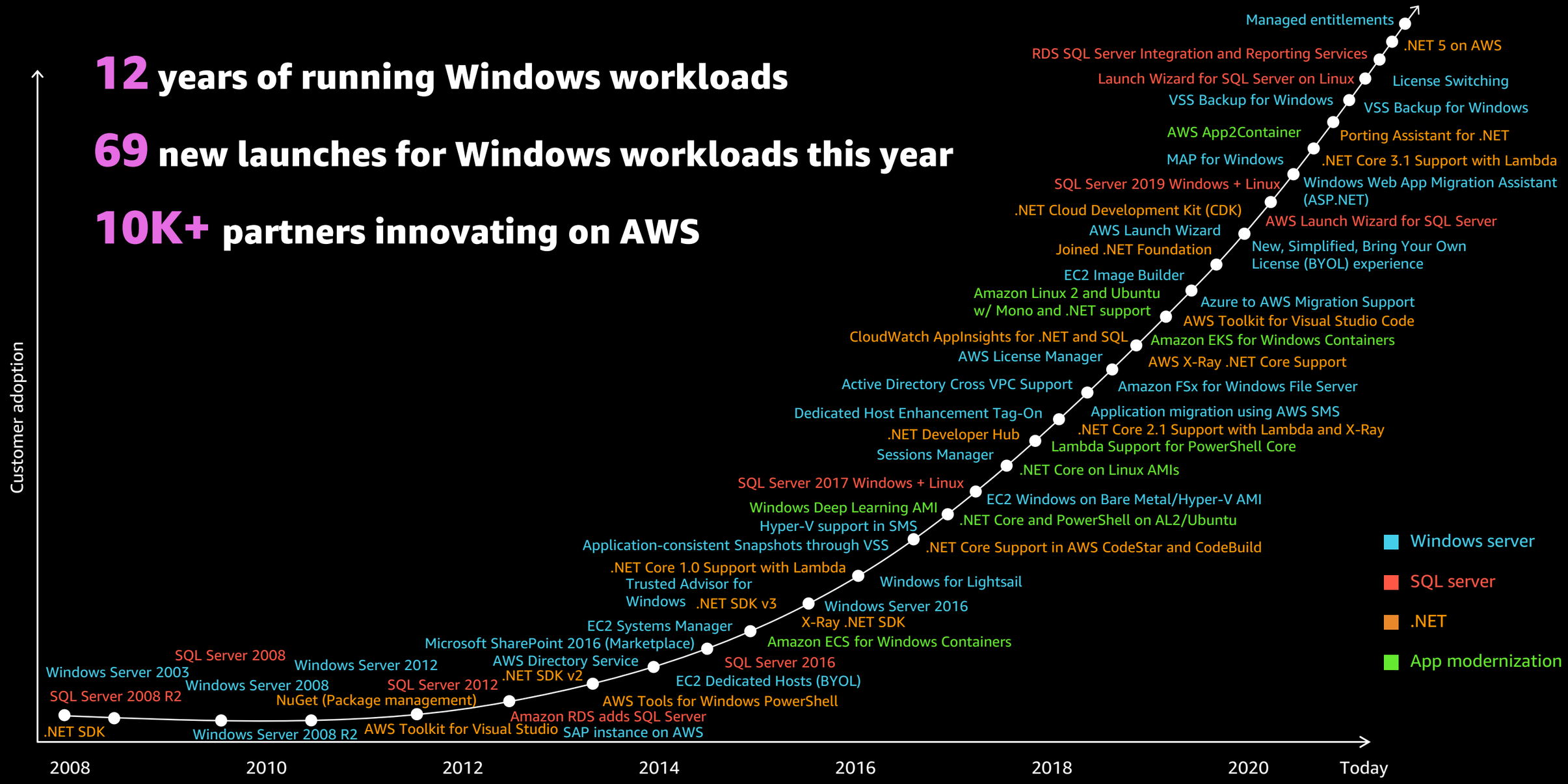
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Innovations for AWS customers

12 years of running Windows workloads

69 new launches for Windows workloads this year

10K+ partners innovating on AWS



Three customer use cases



Migrate to AWS



Modernize with AWS



Build on AWS

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Migrate to AWS



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What are we hearing from our customers?

What do I have in my environment?

How do I get started?

Does AWS support my on-premises workloads?

Can I move my existing license?

What do we do after we migrate?

If it is a Windows workload, shouldn’t I consider Azure first?

How can I lower my TCO?

How do I move these workloads?

How does Microsoft licensing work on AWS?

Is AWS more expensive than Azure?

What should I move to the cloud?

How can I remain flexible to innovate in future?

Migrate to AWS

Assess your readiness | Migrate with AWS programs | Optimize Windows workloads



Assess your readiness

Evaluate Windows workloads on-premises and cloud environments to determine your readiness to migrate



Analyze your usage

Analyze resource utilization, third-party licensing, and application dependencies to inform cost and optimization scenarios



Build a business case

Build a TCO model that includes a migration and licensing strategy using AWS programs and tools

Migrate to AWS

Assess your readiness | **Migrate with AWS programs** | Optimize Windows workloads



Identify cloud capabilities

Uncover gaps in your existing skills and processes and identify capabilities needed for a successful migration



Build and mobilize

Address the capability gaps and dependencies in your environment and determine which workloads to migrate first



Migrate

Migrate your applications, servers, and databases with AWS tools and services while testing for application performance and security

Migrate to AWS

Assess | Mobilize | Migrate and modernize



Monitor usage and spend

Access custom reports to visualize, understand, and manage your costs and usage; identify trends, cost drivers, and detect anomalies



Optimize workloads

Analyze historical usage to optimize your workloads for additional cost savings and improved performance



Automate operational tasks and modernize

Automate tasks such as monitoring, security, and backup services using AWS Managed Services; modernize to open source for asses cost savings, greater flexibility, and access to innovation

AWS programs help you migrate to cloud

Optimization and licensing assessment



Understand how to optimize your environment and licensing assets when migrating to the cloud

Migration acceleration program

for Windows



AWS services, best practices, and tools to help customers save costs and accelerate migrations of Windows workloads to AWS

End-of-support migration program

for Windows server



Helps customers upgrade legacy applications to run on newer, supported versions of Windows Server without any code changes

“We moved our legacy Windows workloads out of 20 datacenters to cut costs in half to achieve $2.7 million in savings in 2020 using learnings from MAP for Windows to upskill our staff. We'll be able to meet our ambitious timeline of 2 years to complete this migration.”

—Avi Boru, senior manager of cloud engineering at World Fuel Services

New innovations to support your SQL Server migrations on AWS

OVER A DECADE OF MIGRATION EXPERIENCE IN 300,000+ DATABASES

"With the breadth of first-class services on AWS, we're able to maintain flexibility in our technology as we continue to evolve with our customer demands to provide the features and functionality that our customers need."

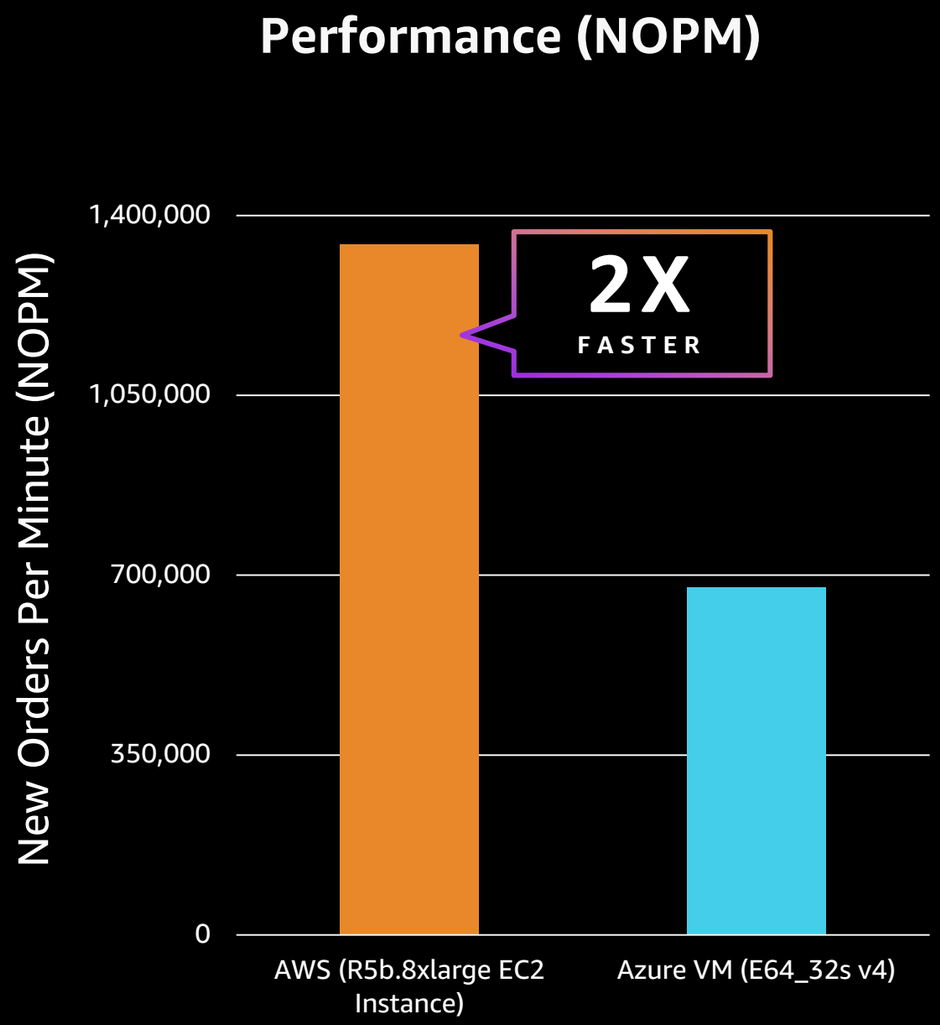
—Johnathan Strong
Senior Director of Production Engineering
MindBody

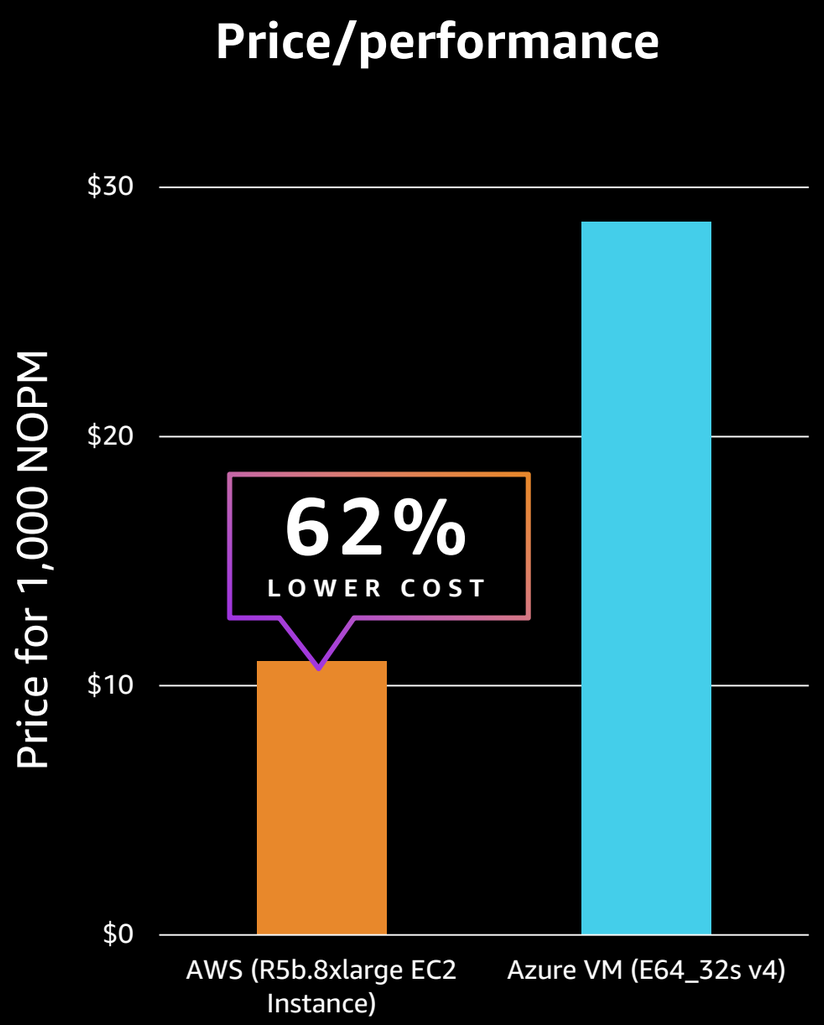
"The variety of services that AWS provides and gives access to is what made us move in the first place."

—Rob Howe
VP Operations
Guinness World Records

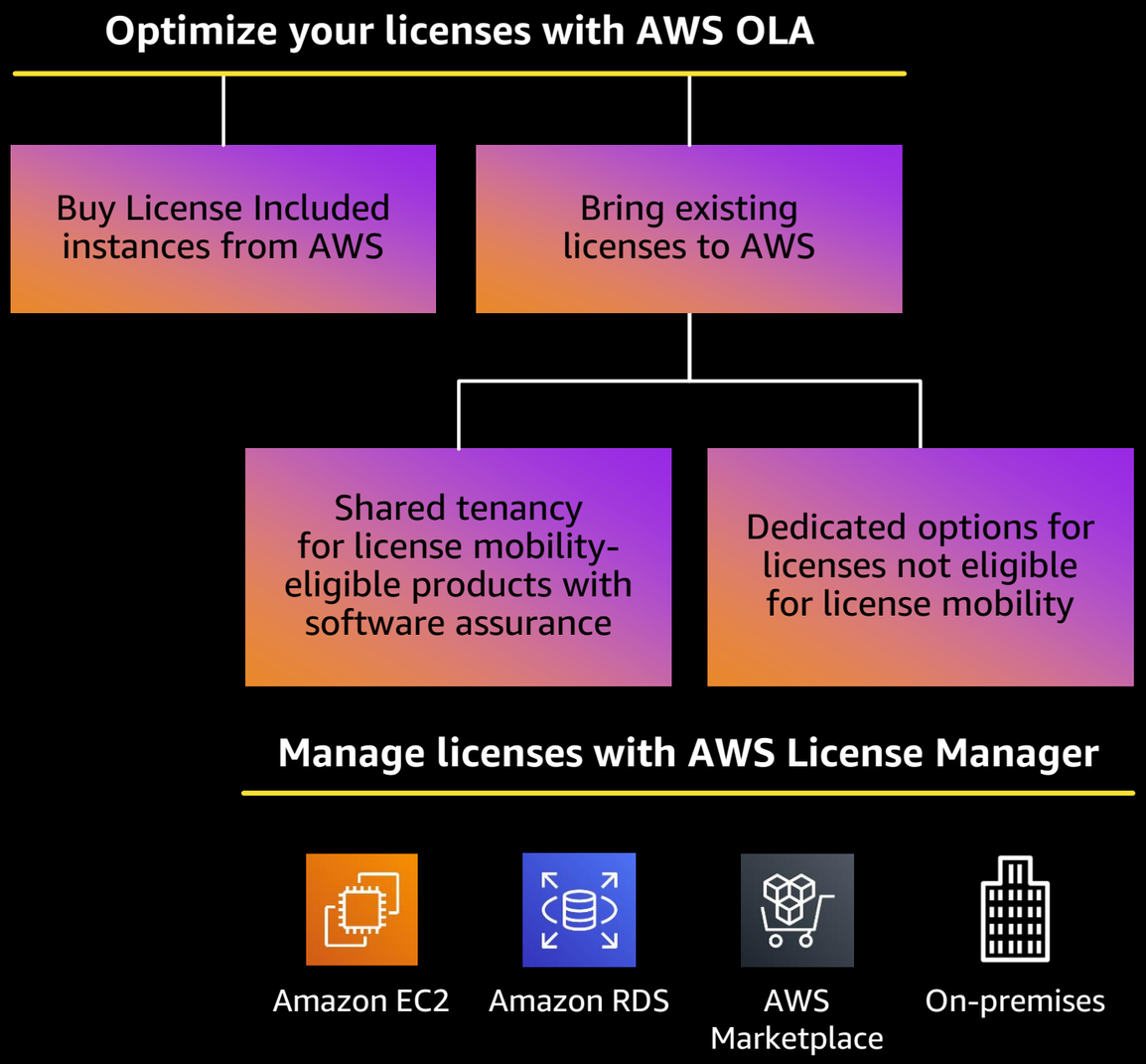
- SQL Server Integration, Reporting, and Analytics Services (SSIS, SSRS, and SSAS) support in Amazon RDS
- In-region Read Replica support in RDS for SQL Server to improve performance
- New memory optimized instance type with 3x faster block storage performance
- New EBS volume with 4x improvement in throughput, IOPS, and storage capacity
- Application-consistent backup for Windows workloads using AWS Backup

AWS is 62% cheaper than Azure by price/performance





Flexible licensing options for your workloads



1. **Windows Server License Included**

   On dedicated hosts

2. **AWS License Manager automatic discovery capabilities**

   Tag-based search and detection of software uninstalls

3. **AWS License Manager managed entitlements**

   Automate third-party software license distribution

Modernize with AWS



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Key challenges faced by IT organizations



Pressure to increase **innovation velocity**



Increasing **“technical debt”** of monolithic architectures



Rising **cost** of maintaining legacy applications



Maintaining security and operational **resilience**



Challenges **scaling** infrastructure to meet business needs



Providing **performance and reliability** during demand peaks/spikes

“88% of enterprise IT organizations have a cloud-first strategy, yet 86% of enterprise infrastructure spend is still directed to technology on-premises.”

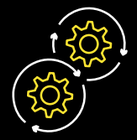
Gartner

Meeting developers on the journey they choose

	Relocate/rehost	Replatform	Refactor/rewrite
Windows applications	**MIGRATE TO THE CLOUD** Apps/DBs run on VMs No code changes  VMC on AWS WinEC2 SQL on EC2	**CONTAINERIZE APPLICATIONS** Develop and deploy faster Application portability No code changes  ECS Fargate EKS	**MOVE TO OPEN-SOURCE** License freedom/savings Performance improvement Cross-platform support .NET
		VMs → Containers	.NET Framework → .NET 5
SQL databases	Customer operates everything above the infrastructure	Managed provisioning, backups, patching, monitoring, and scaling No code changes  RDS SQL	High performance and scalability Purpose-built database services Licensing savings  Aurora DynamoDB Neptune Redshift
	On-prem → Cloud-native	Self-serve → Managed	SQL → Aurora/DynamoDB/etc.

App2Container

CONTAINERIZE AND MIGRATE EXISTING APPLICATIONS



Streamline operations



Analyze your applications and **automatically generate** a container image



Easily deploy an existing application

https://aws.amazon.com/app2container

Porting assistant for .NET

INSIGHT AND ASSISTANCE FOR PORTING FROM .NET FRAMEWORK TO .NET CORE



Scan your entire .NET Framework application portfolio to generate .NET Core compatibility assessment reports



Analyze your applications and automatically generate a container image



Identify incompatible .NET APIs and packages from your .NET Framework applications and automatically find known replacements

https://aws.amazon.com/porting-assistant-dotnet

Build on AWS



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AWS empowers you to build modern applications



Scales to
millions of users



Global
availability



Rapid
response time



Handles
petabytes of data

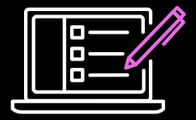


AWS Lambda
Serverless functions

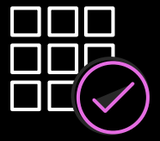


AWS Fargate
Serverless containers

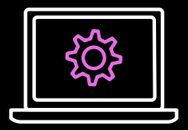
.NET developer experience on AWS



Rich IDE and editor support



Full-featured, easily consumable SDK



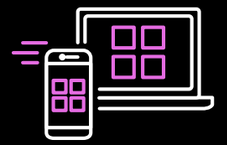
Easy debugging and testing



Command line support



CI/CD integration



Support for cross-platform development with .NET

.NET development is even better on AWS

IDE INTEGRATION

AWS Toolkit for Visual Studio



AWS Toolkit for Visual Studio Code



AWS Toolkit for Rider



PROGRAMMABLE SDK

AWS SDK for .NET



AWS CDK for .NET



COMMAND LINE TOOLS

AWS Tools for PowerShell



'Dotnet' CLI extensions



AWS CLI



AWS SAM



CI/CD INTEGRATION

AWS Toolkit for Azure DevOps



AWS CodePipline/ CodeBuild





AWS is .NET 5 ready!


Amazon
EC2


EC2
Image Builder


AWS
Elastic Beanstalk


Amazon Elastic
Container Service


Amazon Elastic
Kubernetes Service


AWS
Fargate


AWS
Lambda


Amazon Simple
Storage Service


Amazon
DynamoDB


Amazon Quantum
Ledger Database


Amazon
RDS


AWS
CodePipeline


AWS
CodeCommit


AWS
CodeDeploy


Porting Assistant
for .NET


Amazon
CloudWatch


Amazon
API Gateway


Amazon
Cognito


AWS
Secrets Manager

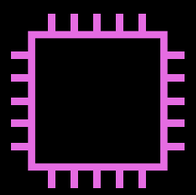

Amazon Simple
Queue Service


Amazon Simple
Notification
Service

go.aws/build_net

.NET 5 with AWS Graviton2

IMPROVE PRICE PERFORMANCE WITH THE ARM64 AND .NET 5



Amazon EC2 instances running AWS Graviton2 provide up to **40% better price performance** over comparable current generation x86-based instances.

AWS is the **only** major cloud provider that enables an ARM64 architecture option using AWS Graviton2, helping customers running **.NET 5 to realize ARM64 performance improvements** with all .NET 5 Linux supported distributions (Alpine Linux, Debian, and Ubuntu).

https://aws.amazon.com/ec2/graviton/

AWS network of partners

PLANNING AND COLLABORATION

- ATLASSIAN
- asana
- monday.com
- GitLab

TEST AUTOMATION

- TRICENTIS
- Webomates
- SMARTBEAR

CI/CD

- ATLASSIAN
- cloudbees
- circleci
- GitLab
- harness
- GitHub
- JFrog
- XebiaLabs (Enterprise DevOps)
- weaveworks
- Travis CI

CODING

- JETBRAINS
- GitLab

DEVSECOPS

- snyk
- VERACODE
- CONTRAST SECURITY
- WhiteSource
- GitLab

DEPLOYMENT AND INFRASTRUCTURE AUTOMATION

- HashiCorp
- pulumi
- armory
- RED HAT OPENSHIFT
- ANSIBLE
- CHEF
- puppet
- SALTSTACK

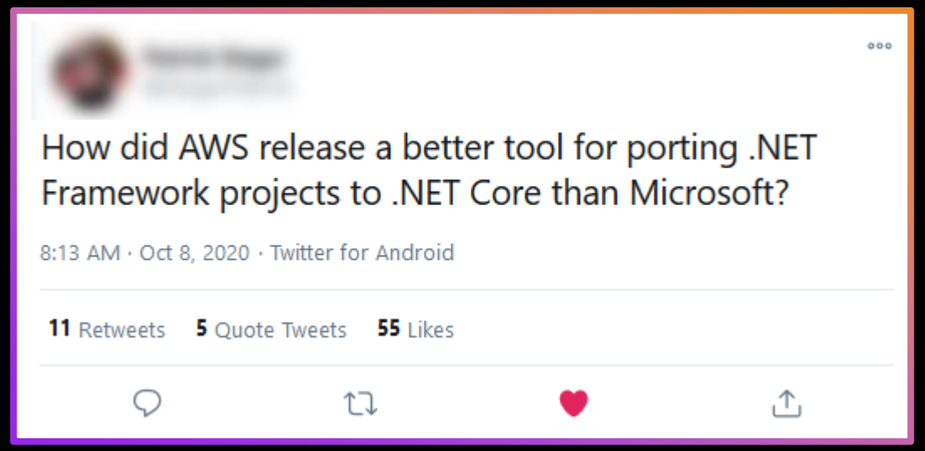
OBSERVABILITY, LOG ANALYTICS, AND MONITORING

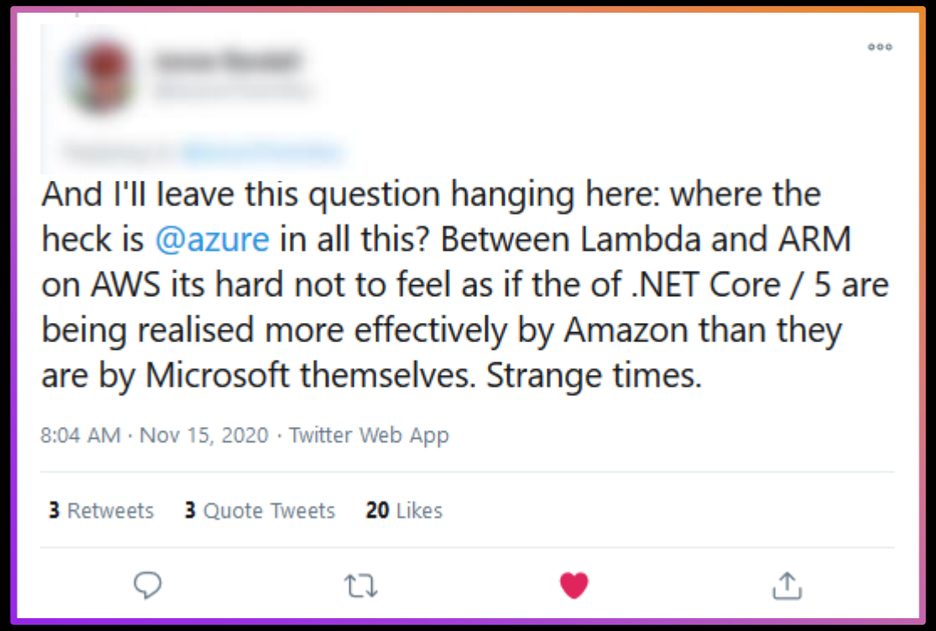
- DATADOG
- dynatrace
- APPDYNAMICS part of Cisco
- splunk>
- New Relic
- sumo logic
- epsagon
- logz.io
- influxdata

OPERATIONS

- PagerDuty
- servicenow
- Gremlin
- moogsoft
- bigpanda

What .NET influencers are saying…





Windows workloads run best on AWS



Higher performance and reliability



Greater security



More migration experience



Broader and deeper functionality



Lower TCO



Flexible licensing options

2x

performance advantage over Azure running SQL server when comparing price of a workload

2x

number of regions with multiple Availability Zones and 99.999% availability for each Amazon EC2 region

Call to action

1

Schedule your AWS Optimization and Licensing Assessment by emailing us at aws-ola@amazon.com

2

Learn more by attending our ten live and on-demand Windows sessions

aws.amazon.com/blogs/modernizing-with-aws/windows-reinvent-2020/

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