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# AWS INNOVATE

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# Implementing Windows

Workloads on the AWS Cloud

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# Agenda

1

A brief history of Windows on AWS

2

Applications types and AWS Capabilities

3

Why customers choose AWS for their Windows workloads

# Windows is a first-class citizen on AWS

Customers can:

Run Windows Server 2003 (32 and 64bit), 2008, 2012, and 2016  
SharePoint, Exchange, Skype for Business Server  
.NET Applications, SQL Server, Dynamics, CRM

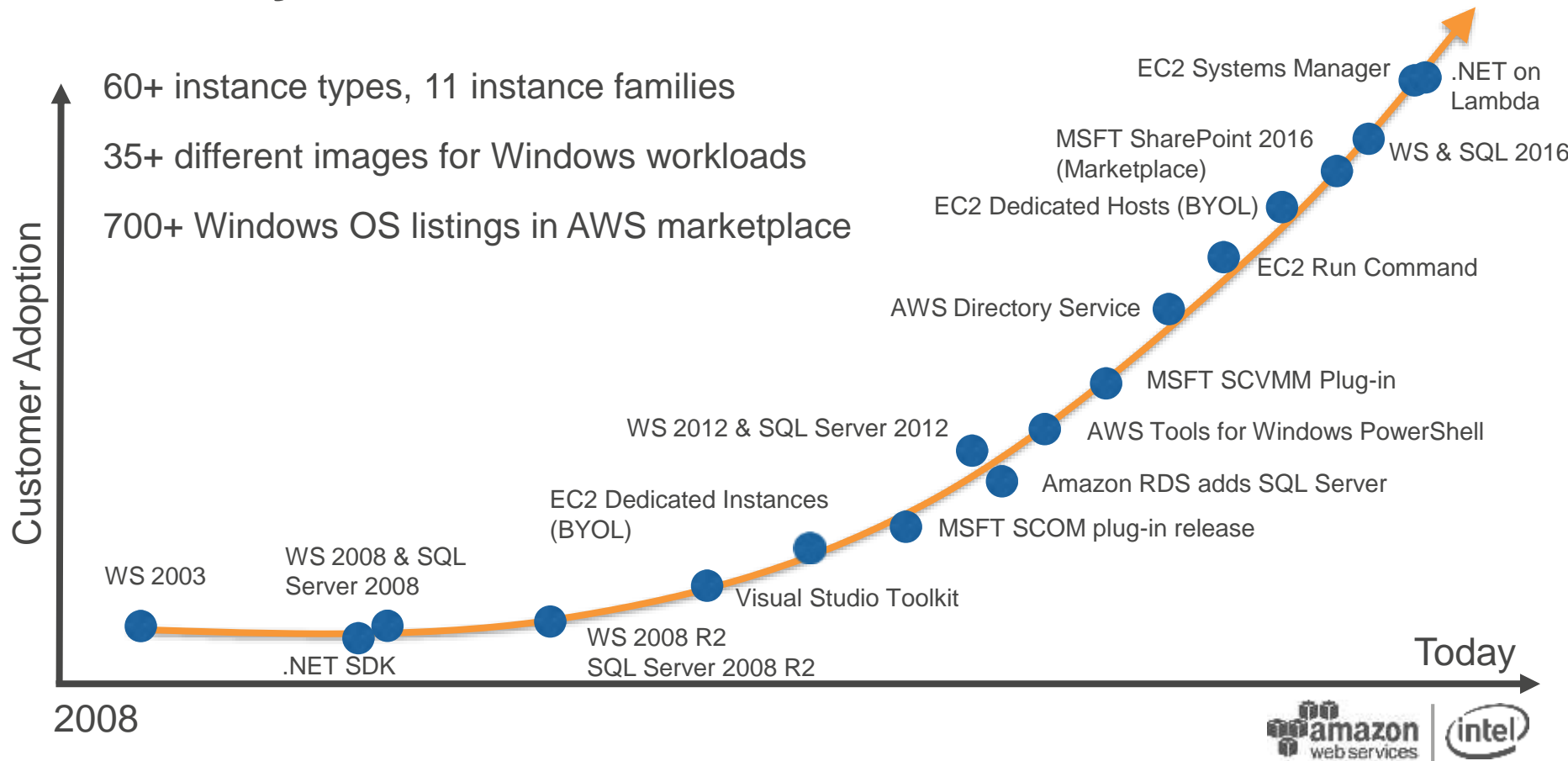
Use Microsoft-based Managed Service Offerings, including:  
Managed SQL Server (RDS for SQL)  
Managed Desktop (Workspaces)  
Managed Active Directory (Directory Service)  
Application Services (Elastic Beanstalk)

Code in Microsoft Visual Studio and deploy to AWS

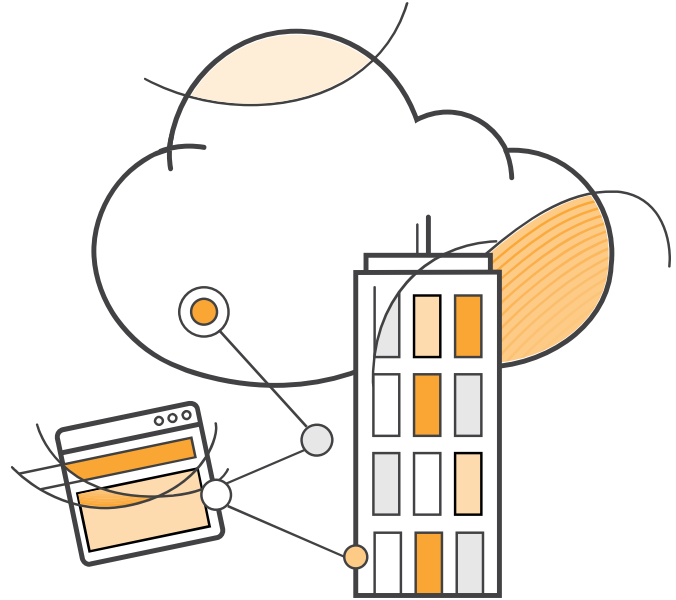


# A History of Innovation

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# Deployment Types and AWS Capabilities



# Line of Business Applications

When we say “line of business applications (LoB Apps)” we refer to software programs integral to a business’s day-to-day operations.

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## Examples include:

- Internally-developed applications
- Microsoft Dynamics, SAP applications
- Enterprise resource planning (ERP) applications

Typically use SQL Server

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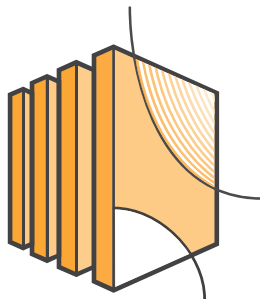
AWS provides an extensive set of services to help you run line-of-business applications and their underlying databases for customers.



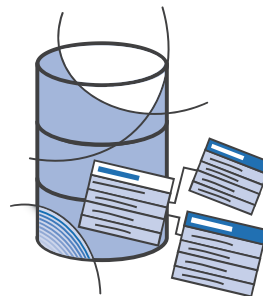
Line of Business Applications on AWS

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# Options for running SQL Server on AWS



**Self-managed using  
Amazon EC2**



**As a managed service  
using Amazon RDS**



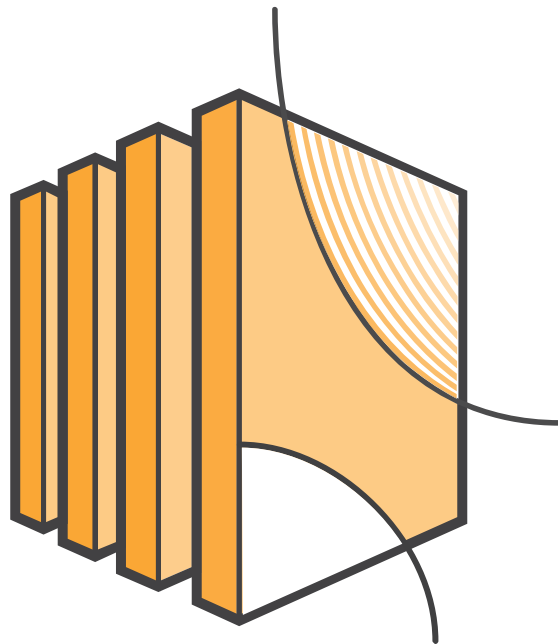
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# Self-Managed with EC2

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Launch a SQL Server database in minutes

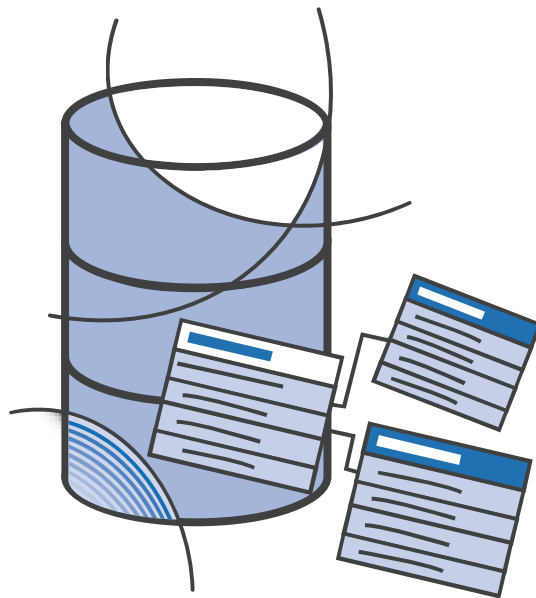
- Most cost-effective option for hosting LoB apps on AWS
- You manage and control software, compute, and storage resources
- SQL built-in images enable rapid provisioning
- Support for SQL 2005, 2008, 2012, 2014, 2016
  - Express, Web, Standard, and Enterprise
- Rent or Bring Your Own License with License Mobility



# As a managed service with RDS

Amazon Relational Database Service (RDS) is a managed service that makes it easy to deploy SQL Server on AWS

- Automates provisioning, patching, backup, recovery, failure detection, and repair
- High availability with Multi-AZ deployments
- Integrates with AWS Identity and Access Management for granular resource permission controls
- Supports SQL 2008 R2, 2012, 2014, 2016
  - Express, Web, Standard, and Enterprise (varies by version)
- Rent or Bring Your Own License with License Mobility



## Line of Business Applications on AWS

# Customer Case Studies



*“Normally, an effort to upgrade GameStop’s database systems would constitute its own project. Through collaboration, deliberate planning, and Pariveda’s expertise, our team quickly evaluated and upgraded to Microsoft SQL 2016 on AWS”*

- John Schoonover  
Director of Enterprise Technology

*We’ve seen much stronger performance for our database-backup workloads with the Amazon EBS st1 volumes, and we’re also saving 75% on our monthly backup costs.*

- Randy Young,  
Director of Cloud Operations

*“We chose AWS for our data center workloads, including Windows, based on our assessment of the security, availability and performance of the platform.”*

- Rajeev Bhajwardi,  
Sr. Director Enterprise Technology

AWS re:Invent  
S P E A K E R



# Corporate Applications

Corporate applications are software programs developed by an ISV that are used for collaboration and/or productivity.

## Examples include:

- Microsoft SharePoint
- Microsoft Exchange
- Microsoft Skype for Business Server (formerly Lync)

AWS lets you run corporate applications more efficiently and flexibly, while maintaining the management and control of on-premises.



## Corporate Applications on AWS

# Customer Case Studies



*"We had great success with the initial cost savings. We didn't have to put any capital in. It saved us at least \$350,000... I'm a great champion of the cloud."*

— Joanna, Dyer,  
Director of IT Solutions



*"We moved a number of high volume critical workloads that are Windows-based from our colo data center that was starting to fail in to AWS."*

— Kyle Pause,  
Director of SaaS Solutions

AWS re:Invent  
S P E A K E R



*"The new AWS platform provides improved levels of security, availability and performance that will support massive future growth."*

—Duncan Ritchie  
Chief Platform Officer

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# Why AWS for Windows?

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Platform with Proven Experience

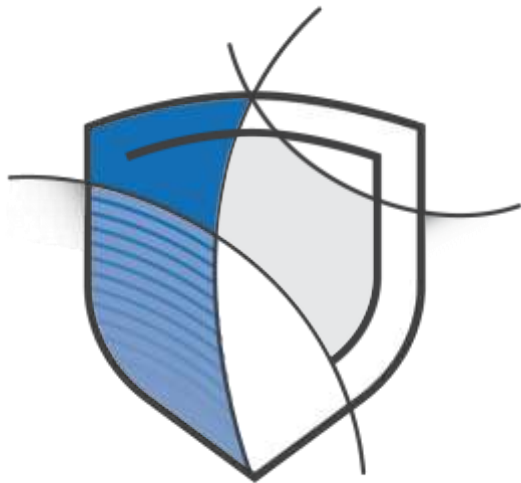
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Global Reach

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Largest Customer and Partner Ecosystem

# Comprehensive Security



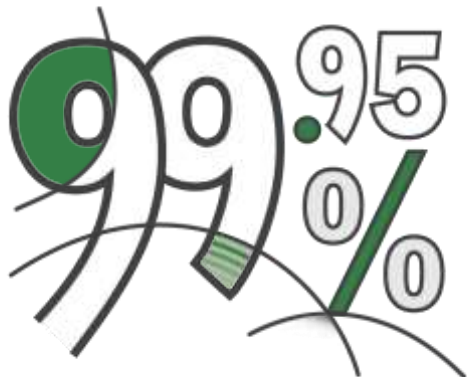
- 52 compliance certifications
- Broad and deep security management functionality
- Identity and access controls
- Tracking and logging

## LIONSGATE

*“Amazon Virtual Private Cloud (Amazon VPC) gives us a secure environment in the AWS Cloud with the flexibility and scalability we need to manage our SharePoint environment with zero impact to our on-premises datacenter”*

- Jeremy Fuchs, Vice President of Financial and BI Systems, Lionsgate

# Highly Available Architecture



- Global Reach
- Highly Available Architecture
- Experience Running Windows Server Workloads in the Cloud
- Strong Uptime Record



*"Before migrating to AWS, we experienced 10 to 20 hours of downtime a month. With AWS, our downtime is significantly reduced. Our average uptime increased rapidly from 98.8 percent to 99.9 percent without re-architecting applications."*

- Augusto Rosa, Server Operations Manager,  
Shaw Media



# Outstanding Performance



- Enterprise-grade computing on-demand
- Automation for both complex and routine tasks
- Dedicated, low-latency network connections
- Automated Scaling
- Capable of delivering 48,000 IOPS with consistency

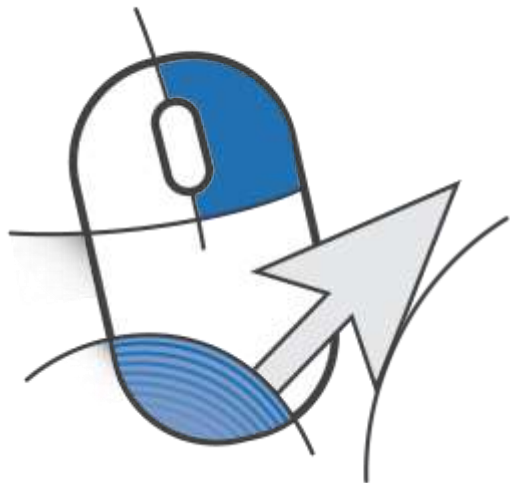
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*"From the super computer-like capabilities driving every design, validation, rendering and sharing of data, to the infrastructure on which the future of Autodesk is being built, AWS has played an instrumental role."*

- Amar Hanspal, SVP Products,  
Autodesk

# Familiar Environment



- Windows-based application support
- AWS Tools for PowerShell and add-ons for Microsoft System Center, Microsoft Visual Studio, and VMware vCenter
- Utilize existing VMs (32bit or 64bit)
- License as you see fit

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*"We didn't have time to re-design applications. AWS could support our legacy 32-bit applications on Windows Server 2003, a variety of SQL Server and Oracle databases, and a robust Citrix environment."*

- Jim McDonald, Lead Architect,  
Hess Corporation

# Familiar Infrastructure Ecosystem

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Windows Server

SharePoint

Exchange

SQL Server

Microsoft Dynamics

Microsoft System Center

Active Directory

MSFT Apps

Intel Security

TREND MICRO

paloalto

SOPHOS

Symantec

APPDYNAMICS

Security

f5

CISCO

CITRIX

Networking

MarkLogic

TERADATA

EDB  
ENTERPRISEDB

mongoDB

Databases

SAP

TIBCO  
Jaspersoft

Matillion

tableau

MicroStrategy

BI

SoftNAS

NetApp

wandisco

Storage

WOWZA  
Streaming Engine

Haivision

Media Server 5

Media

amazon  
web services

intel

# Familiar Development Environment

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Windows Server  
on EC2



MS SQL on  
EC2



Elastic Beanstalk -  
.NET



Amazon  
RDS – MS SQL Server



.NET SDK



AWS Toolkit for  
Visual Studio



AWS Tools for  
Windows PowerShell



AWS  
Directory  
Service



Amazon  
Workspaces



# Cost Effective Infrastructure



- No hardware procurement/deployment costs
- Improved hardware utilization
- Bring your own licenses
- Value-oriented culture
- No long-term commitments

## Deltek

*"When we moved our SQL Server licenses to Amazon EC2 Dedicated Instances and Dedicated Hosts, we saved 15% on SQL licensing costs. Additionally, when we move our Windows licenses to Amazon EC2 Dedicated Hosts, we will save 10% on Windows licensing. With dedicated compute offerings from AWS, we can now fully optimize our Windows and SQL licensing in the same way a company running in its own data center could.."*

- Cris Carlin VP Global Cloud Operations,  
Deltek

# Hybrid Cloud Architecture



- Seamless integration between AWS and on-premises datacenters
- Amazon VPC, Direct Connect
- “Single pane of glass” management for Microsoft and VMware
- Amazon EC2 Systems Manager

*Johnson+Johnson*

The company currently leverages the AWS Cloud to run 120 applications and for its big data architecture allowing it to complete highly intensive and complex data modeling. Next, the company plans to triple the number of applications it hosts on AWS and launch 25,000 [Amazon Workspaces](https://aws.amazon.com/solutions/case-studies/johnson-and-johnson/) cloud-based desktops for its consultants and employees to use around the globe.

<https://aws.amazon.com/solutions/case-studies/johnson-and-johnson/>

# Extensible Management Tools

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Deploy, Configure,  
and Administer



Run Command



State Manager

Track and  
Update



Inventory



Patch Manager



Automation

Ease Automation



Maintenance  
Window



Parameter Store

In AWS or  
On Premise



# Microsoft Licensing Options on AWS





# Buy licenses from AWS

## ▶ Rent Licenses from AWS

Bring Existing Licenses  
to AWS



You can buy Windows Server, or Windows Server + SQL Server from AWS with EC2 and RDS Instances

- AWS manages licensing compliance
- Supports current and many legacy versions
- Windows Server Client Access Licenses (CALs) are not required

# Bring existing licenses to AWS

Buy Licenses from AWS

▶ Bring Existing Licenses to AWS



Using License Mobility through Software Assurance or dedicated AWS infrastructure, you can use existing Microsoft licenses on AWS and derive a number of benefits:

- Take advantage of the efficiencies of the cloud while still purchasing perpetual licenses
- Extend the lifecycle of your software without additional hardware costs
- Expedite your migration to the cloud by using existing virtual machine images

# Next Steps

Leverage learning opportunities to familiarize yourself with AWS

Schedule a follow-up assessment with an AWS partner

Determine the first workload to move to the cloud

Contact Us: [Microsoft@Amazon.com](mailto:Microsoft@Amazon.com)

Learn more at

<http://aws.amazon.com/windows/>

Watch the re:Invent 2016 Windows Track

<http://tinyurl.com/rinvnt16>

Take a free Test Drive

<http://aws.amazon.com/testdrive/>

Take a Hands-on Lab

<https://www.qwiklabs.com/quests/13>

Sign up for free at

<http://aws.amazon.com/getting-started>

# Thank You

**microsoft@amazon.com**

