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Running Microsoft Workloads with Eplexity on AWS

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Table of Contents

Introduction

Why AWS for Windows?

Customers have been running Microsoft workloads on Amazon Web Services (AWS) for over a decade. We run nearly 2x more Windows Server instances than the next largest cloud provider, according to an IDC report. Our experience running Windows applications has earned our customers' trust, and the number of AWS enterprise customers using Amazon EC2 for Windows Server has grown 5x since 2015.

You can select from a number of Windows Server versions including the latest version, Windows Server 2019. In addition, AWS supports everything you need to build and run Windows applications including Active Directory, .NET, System Center, Microsoft SQL Server, Visual Studio, and the first and only fully managed native-Windows file system available in the cloud with FSx for Windows File Server.

Customers have successfully deployed every Microsoft application available on AWS, including (but not limited to) Microsoft Office, Microsoft Windows Server, Microsoft Active Directory, Microsoft SQL Server, Microsoft Exchange Server, Microsoft SharePoint Server, Microsoft Skype for Business, Microsoft Dynamics, Microsoft Remote Desktop Services, and more. Many customers with large volumes of Microsoft workloads, including NextGen Healthcare and Jobvite, are "all in" with AWS. Some of the largest enterprises in the world, including Dole, Hess, Expedia, Suncorp, and Pitney Bowes run their Microsoft workloads on AWS as part of a hybrid architecture.

AWS has an active Premier Support agreement with Microsoft, meaning that customers who host their Microsoft workloads on AWS receive support from both AWS and Microsoft. AWS is a member of the Microsoft Partner Network, licensed to resell Microsoft software via the Service Provider License Agreement (SPLA), an authorized License Mobility partner, and a Microsoft Gold Certified Hosting Partner.

Why Windows on AWS

AWS offers the best cloud for Windows, and it is the right cloud platform for running Windows-based applications today and in the future. Windows on Amazon EC2 enables you to increase or decrease capacity within minutes, not hours or days.

The right cloud infrastructure helps you ensure better performance, availability, and security of your Windows-based applications. AWS also offers hundreds of Amazon EC2 instances compatible with your existing infrastructure and configurations to meet your price-to-performance requirements. You can use EC2 instances optimized for your workloads, or leverage discounted instances such as EC2 Spot.

Broader and Deeper Functionality

AWS offers a far broader selection of services along with much deeper functionality within most of these services than any other cloud provider. We have the widest selection of cloud services, including 48 services where comparable options are simply not available on the next largest cloud provider, including deeper functionality for Windows.

Greater Reliability

With 69 availability zones (AZs) across 22 regions, the AWS regions/AZ model has been recognized by industry analysts as the recommended approach for running enterprise applications that require high availability. AWS provides two times more regions with multiple availability zones than the next largest cloud provider (22 vs. 10)—giving AWS seven times fewer downtime hours than the next largest cloud provider*. Industry-recognized infrastructure design and global reliability make AWS the best infrastructure for running critical enterprise workloads.

Stronger Security

AWS offers 210 security, compliance, and governance services and key features, which is about 40 more than the next largest cloud provider. We also support 89 security standards and compliance certifications, including PCI DSS, HIPAA/HITECH, FedRAMP, GDPR, FIPS 140-2, and NIST 800-171, which is meaningfully more than any other cloud provider. For encryption, all AWS services that store customer data offer the ability to encrypt that data, and we offer encryption across 116 different AWS services, which is five times more than the next largest cloud provider.

Why Windows on AWS (cont.)

Faster Performance

Testing from DB Best found that SQL Server on AWS consistently shows 2-3 times better performance using HammerDB, a TPC-C-like benchmark tool compared to the next largest cloud provider. ZK Research also points out that AWS has at least a two times price/performance advantage over the next largest cloud provider when comparing the price of a workload, including storage, compute, and networking.

Lower Costs

AWS helps customers lower their overall costs of running Windows in the cloud with the most comprehensive family of EC2 instances and unique pricing models like Spot, which can help customers save up to 90 percent on their Windows compute costs. Customer can also save money by moving their eligible Microsoft licenses to dedicated hosts on AWS. Customers have the flexibility to choose from a variety of available licensing options, including buying fully compliant licenses from AWS with a pay-as-you-go model or bringing their eligible licenses to AWS Customers can use AWS License Manager to centrally manage their software licenses across their AWS and on-premises environments.

Simpler Migration Experience

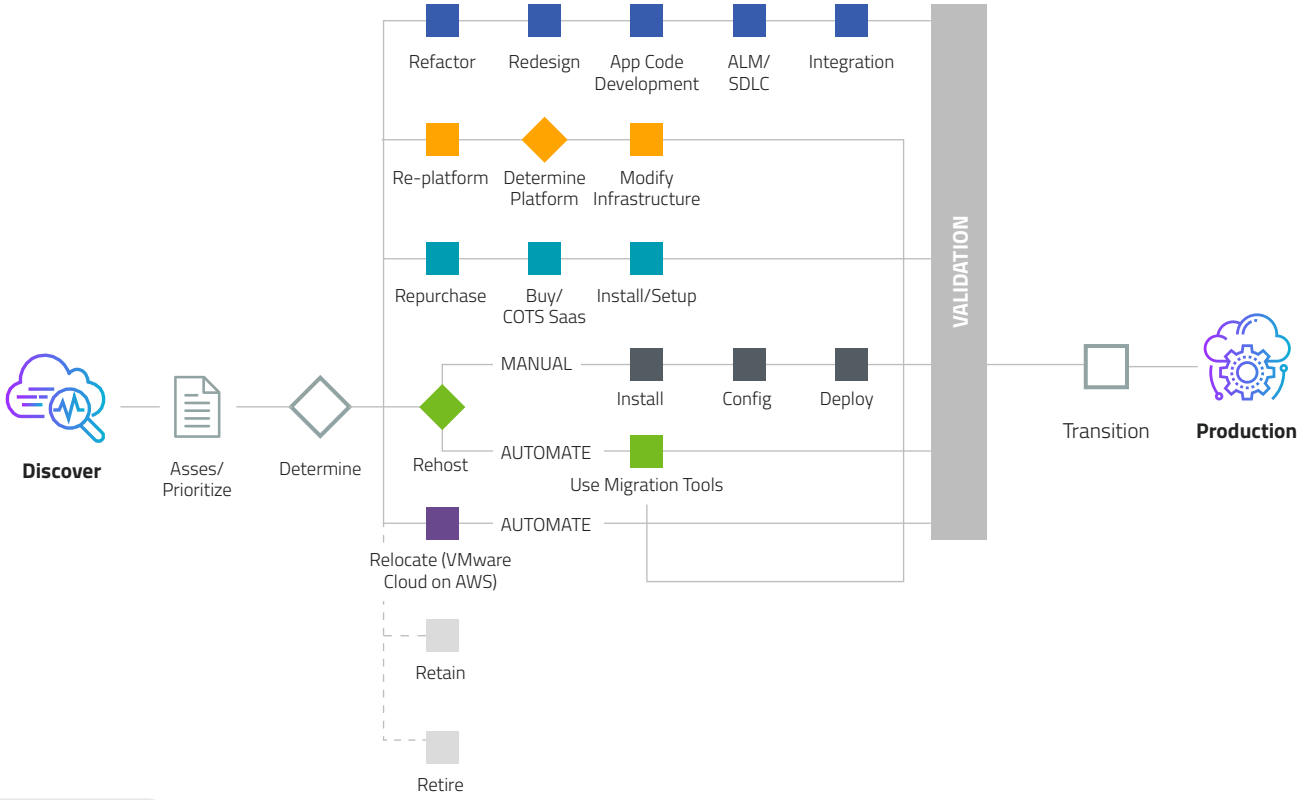
AWS has over a decade of unmatched experience, helping thousands of organizations, including global enterprises such as Sysco, Hess, Sony DADC, Ancestry, and Expedia migrate and modernize their Microsoft workloads on AWS. This experience is translated in our new Migration Acceleration Program (MAP) for Windows, which is based on our proven MAP methodology of best practices that is recognized by IDC* as the most extensive library of cases covering thousands of successful migrations. MAP for Windows also helps customers modernize their Windows, SQL, and .NET workloads on cloud native Linux, and opensource solutions.

* Source: IDC, Fostering Business and Organizational Transformation to Generate Business Value with Amazon Web Services, Doc #US43535718, February 2018.

Sharper Migration Strategies

Assessing your application portfolio and determining the migration pattern for all your applications are critical steps to the success of your migration planning and execution. You will want to consider where your cloud journey fits into the larger business strategy and find opportunities for alignment of vision, so the organization can better rally behind a common goal. A well-aligned migration strategy, with a supporting business case and a well-thoughtout migration plan, sets the groundwork for cloud adoption success.

Most Common Application Migration Patterns



Microsoft SQL Server

AWS is ideal for supporting lines of business applications (such as internally developed applications, Microsoft Dynamics, SAP applications, etc.) and the Microsoft SQL Server databases that they rely on. You have the flexibility to run Microsoft SQL Server for as much or as little time as you need, and you only pay for what you use.

If you want to maintain granular control over the configuration and management of your Microsoft SQL Server database, you can host it on Amazon EC2. Or, you can use Amazon Relational Database Service (Amazon RDS) to turn your Microsoft SQL Server deployment into a managed service—AWS will handle administrative tasks such as hardware provisioning, patching, backups, and more.

AWS also allows you to use your existing Microsoft SQL Server-based applications without having to refactor code, which is a common requirement of many other cloud platforms. VM Import/Export allows you to migrate an existing Microsoft SQL Server database to AWS using a command-line interface such as Windows PowerShell.

With SQL Server 2008 and 2008 R2 end of support in July 2019, you can use AWS Systems Manager to easily upgrade your SQL Server 2008 and 2008 R2 databases to SQL Server 2016 to address end-of-support timelines and/or take advantage of the latest capabilities.

Microsoft SQL Server (cont.)

Corporate Applications

You can also rapidly deploy and scale Microsoft SharePoint, Microsoft Exchange, Microsoft Skype for Business, and other Windows-based corporate applications used for productivity and collaboration on AWS. Unlike many other cloud platforms, AWS is fully compatible with thirdparty updates and add-ons. You will never get locked into a contract—take your data and licenses whenever you wish.

One common use case for corporate applications on AWS is upgrading to a modern version. Many organizations are using legacy versions of these applications on-premises and want the performance, security, and functionality of modern versions. Upgrading to modern versions onpremises would require massive investments in new hardware—in places where upgrades are typically not an option.

With AWS, you can use the latest versions without this large capital investment. To help improve Microsoft SharePoint performance, you can leverage Binary Large Object, or BLOB, offloading using Amazon Simple Storage Service (Amazon S3). AWS CloudFormation is a resource templating service that can be used to automate the creation of entire Microsoft SharePoint server farms.

.NET Dev/Test

Building .NET applications on AWS allows you to leverage cloud agility and automation to complete and deploy projects faster, with lower risk. All the same tools you use on-premises are available, including a broad range of APIs, toolkits for Microsoft Visual Studio and PowerShell, and a .NET Developer Center. Additional third-party applications are available on the AWS Marketplace as Amazon Machine Images (AMIs) or software-as-a-service (SaaS) offerings.

If you want to apply a DevOps approach to your .NET development efforts, AWS is optimized for CI/CD, microservices, infrastructure as code, logging and monitoring, platform-as-a-service, version control, and other DevOps practices. Your existing Microsoft Developer Network (MSDN) subscription can be used with Amazon EC2 Dedicated Hosts to help keep costs low. MSDNsubscriptions purchased prior to October 1, 2019, or added as a true-up under an active Enterprise Enrollment that was effective prior to October 1, 2019, are eligible for deployment on EC2 Dedicated Hosts or EC2 Dedicated Instances. Microsoft has made changes to the license terms for MSDN subscriptions purchased/renewed after October 1, 2019[1], and these new terms are effective at subscription renewal. Please visit aws.amazon.com/windows/faq/ for details.

[1] Or added as a true-up under an active Enterprise Enrollment that was effective prior to October 1, 2019.

Licensing Microsoft Workloads on AWS

Using License Mobility through Software Assurance

If you have purchased Software Assurance with your Microsoft software, you may be able to take advantage of your existing Microsoft license investments and move to AWS without paying additional Microsoft licensing fees (as long as the licenses are purchased prior to October 1, 2019)[1]. The License Mobility benefit is available to Microsoft customers with eligible server applications covered by active Microsoft Software Assurance. You can use AWS VM Import to bring virtual machine images from your on-premises environment to AWS, including both Microsoft software licenses and virtual machine configurations.

Customers who wish to use Software Assurance can purchase Amazon EC2 instances with licensed Microsoft Windows Server pre-installed and bring existing licenses for products like Microsoft SQL Server, Microsoft SharePoint, and more.

Dedicated options for licenses not eligible for License Mobility

Amazon EC2 Dedicated Hosts give you access to hardware that's fully dedicated for your use. This allows you to use your own licensed Microsoft software, including Microsoft Windows Server, on dedicated infrastructure, even without Software Assurance (as long as the licenses were purchased prior to October 1, 2019)[1]. Amazon EC2 Dedicated Hosts may also enable you to use an active MSDN subscription on AWS for development and testing.

Buy Licenses from AWS

Using license-included instances allows you access to fully compliant Microsoft software licenses bundled with Amazon EC2 or Amazon RDS instances and the ability to pay for them as you go with no upfront costs or long-term investments.

For Amazon EC2, you can choose from Amazon Machine Images (AMIs) with just Microsoft Windows Server, or with Microsoft Windows Server and Microsoft SQL Server pre-installed. Amazon RDS for Microsoft SQL Server offers databases without the time-consuming administrative tasks.

Whether using Amazon EC2 or Amazon RDS, when you use AWS licenseincluded instances, AWS manages Microsoft licensing compliance, and your licensing spend is rolled directly into your AWS bill. Current and many legacy versions of Microsoft software are available, and Windows Server Client Access Licenses are not required.

Using AWS Marketplace, you can also launch Microsoft SharePoint Server, Microsoft Exchange Server, Microsoft Dynamics, Microsoft Visual Studio, and other Microsoft Server products from APN partners with pay as-you-go pricing.

[1] Or added as a true-up under an active Enterprise Enrollment that was effective prior to October 1, 2019.

Licensing Microsoft Workloads on AWS (cont.)

Bring your Own Licenses

If you have already purchased Microsoft licenses, you can bring your own licenses (BYOL) to AWS. The BYOL approach allows you to capitalize on both your existing license investments and all the benefits of running Microsoft workloads on AWS. Using Amazon EC2 Dedicated Hosts, it is possible to bring Microsoft software licenses that do not have Software Assurance or License Mobility benefits as long as the licenses are purchased prior to October 1, 2019.[1]

Please visit aws.amazon.com/windows/resources/licensing/ for more information on bringing licenses without Software Assurance or License Mobility benefits.

AWS License Manager

AWS License Manager makes it easier to manage your software licenses from software vendors such as Microsoft, SAP, Oracle, and IBM across AWS and on-premises environments.

AWS License Manager lets administrators create customized licensing rules that emulate the terms of their licensing agreements and then enforces these rules when an instance of EC2 gets launched.

Administrators can use these rules to help prevent licensing violations, such as using more licenses than an agreement stipulates. The rules in AWS License Manager enable you to help prevent a licensing breach by stopping the instance from launching or by notifying administrators about the infringement. Administrators gain control and visibility of all their licenses with the AWS License Manager dashboard and reduce the risk of non-compliance, misreporting, and additional costs due to licensing overages.

AWS License Manager also simplifies the management of your software licenses that require Amazon EC2 Dedicated Hosts. In License Manager, administrators can specify their Dedicated Host management preferences for host allocation and host capacity utilization. Once set up, AWS takes care of these administrative tasks on your behalf, so that you can seamlessly launch instances just like you would launch an EC2 instance with AWS-provided licenses.

AWS License Manager is offered at no additional charge. You only pay for AWS resources you use to run your applications. Visit the AWS License Manager Console - https://aws.amazon.com/license-manager/ to start managing your licenses.

[1] Or added as a true-up under an active Enterprise Enrollment that was effective prior to October 1, 2019.

End-of-Support Migration Program for Windows Server

Many organizations struggle with migrating their legacy applications due to tight dependencies on older, unsupported operating systems (OS), limited in-house expertise, and/ or missing access to installation media or source code. Moreover, getting extended support for these applications does not resolve the inevitable end-of-support problem, it just delays the inevitable. To mitigate these challenges, AWS offers the End-of-Support Migration Program (EMP) for Windows Server - https://aws.amazon.com/emp-windows-server/.

EMP for Windows Server includes technology and expert guidance that can help your teams migrate legacy applications from Windows Server 2003, 2008, and 2008 R2 to newer, supported versions on AWS, without the need for refactoring. The EMP technology decouples the applications from the underlying OS, enabling AWS Partners or AWS Professional Services to migrate your critical applications to a newer, supported version of Windows Server on AWS. Once on AWS, you can further optimize the operations and costs for these applications.

AWS EMP technology identifies your application's dependencies on the outdated OS, and creates a package that includes all the resources necessary to run on the newer version of Windows Server. This resolves the dependencies and decouples the application from the underlying OS—enabling you to run the packaged application on future versions of Windows Server without having to worry about upgrading these applications when the next end of support event for Windows Server arrives.

Resources

Learn more about Windows on AWS

Microsoft Licensing on AWS

Case Studies: Windows on AWS

AWS migration resources

Try AWS for free

Getting Started Resource Center

To learn more about AWS, visit http://aws.amazon.com

To learn more about Eplexity, visit https://eplexity.com/foundational/aws-windows-migrations/

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Premier

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