Azure e-book series

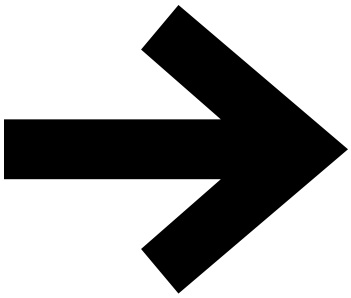
Microsoft

Preparing for Windows Server 2008 end of support

Options and tools for planning your next move

Who should read this e-book?

This e-book is intended for business decision makers, technical decision makers, solution architects, technology architects, IT leaders, and IT managers. In this book, we'll walk you through your options for a cloud migration, key considerations, and resources to help you along the way.



01 Introduction

As Windows Server 2008 and 2008 R2 reach end of support on January 14, 2020, it's the ideal time to look for opportunities to move your digital assets to the cloud.

Whether you have one legacy server and application or hundreds of servers, a digital transformation to the cloud can help you ensure compliance, enhance security, and take advantage of a decade of innovation in Windows Server.

Options for moving to the cloud

Microsoft provides various benefits for Windows Server 2008 support extension, upgrade, and licensing.

Upgrade Windows Server on Azure at no additional cost. When migrating Windows Server 2008 to Microsoft Azure, you can upgrade later to a newer edition of Windows Server VM at no extra cost.

Migrate to Azure, get free Extended Security Updates. End of support is an ideal time to transform your IT estate with the cloud. But we know that it can be hard to upgrade everything before the end-of-support timeline. To address this need, we are pleased to announce that Extended Security Updates will be available for free in Azure for 2008 and 2008 R2 versions of Windows Server (and SQL Server) to help secure your workloads for three more years after the end-of-support deadline. You can rehost these workloads to Azure with no application code changes. This gives you more time to plan your future path, including upgrading to a newer version such as Windows Server 2016 and utilizing the rich set of platform services available in Azure.

Use existing Windows Server licenses. Azure Hybrid Benefit lets you use existing Windows Server licenses to save on VMs in the cloud. See how much you can save.

02 Why upgrade?

There are compelling reasons to upgrade from Windows Server 2008, as technology has evolved considerably since the release of that edition.

The current edition of Windows Server is a cloud-ready operating system that supports workloads and introduces new technologies for an easy transition to the cloud. You can move to a newer edition of Windows Server on-premises and incorporate hybrid coexistence, enabling a mix of upgraded on-premises applications and rehosted workloads. Eventually, you can rearchitect, rebuild, or build new applications that are 100 percent cloud ready.

End of support means the end of regular security updates. With cyberattacks becoming more sophisticated and frequent, running apps and data on unsupported versions can create significant security and compliance risks. The 2008 family of products was great for its time, but we highly recommend upgrading to the most current versions for better performance, efficiency, and regular security updates.

Take the opportunity to transform

Cloud computing offers a fundamental shift in the way technology resources are procured, used, and managed. In the older model, organizations had to take responsibility for all levels of technology. With cloud computing, the responsibility is distributed between cloud providers and the organizations that use their solutions. This shift in responsibility is one of the essential concepts in developing your plan for migration to the cloud.

03
Three steps to planning your migration

Step one: Assess

When creating a cloud adoption plan, it's critical to discover existing infrastructure and workloads that need to move. You'll have to identify the workloads that are on Windows Server 2008 or 2008 R2, assess existing infrastructure to determine exact workloads to migrate, create a migration portfolio based on business priorities, account for migration risks, and estimate how much it will cost to run workloads on Azure.

Tools and guidance for infrastructure assessment

Microsoft provides tools and guides to help you inventory existing workloads, accurately assess them, and identify the level of compatibility for migration. Detailed assessment reports can help you better manage your migration portfolio.

Microsoft Assessment and Planning Toolkit

The Microsoft Assessment and Planning (MAP) Toolkit is an agentless, automated, multi-product planning and assessment tool that enables faster and easier desktop, server, and cloud migrations. MAP provides detailed readiness assessment reports and executive proposals with extensive hardware and software data, as well as recommendations to help accelerate your IT infrastructure planning process.

Azure Migrate

Azure Migrate is a service within Azure that helps you assess on-premises virtual machines for migration readiness. It determines the migration suitability

of the machines and provides sizing recommendations for Azure VMs based on performance history.

Identifying compatibility with the cloud

Before migrating, run assessments to determine whether on-premises workloads are suitable for migration. Azure Migrate assesses on-premises machines for suitability and categorizes them as *Ready for Azure, Conditional ready for Azure, Not ready for Azure*, or *Readiness unknown*.

Defining a migration portfolio

To determine which applications you should move, it's important to create a well-attributed catalog of applications managed by IT, weigh the relative importance of each attribute, and build a prioritized list of applications.

Inventory/migration portfolio

You might include the following in a workload migration portfolio:

- Custom line-of-business applications
- Microsoft server applications
- Apps from other software vendors
- Server roles

Right-sizing Azure resources

After a machine is marked as ready, Azure Migrate sizes the VM and its disks for Azure. If performance-based sizing is specified, Azure Migrate analyzes the performance history of the machine to identify the VM size and disk type for Azure.

Assessing app migration risk

Once a migration portfolio is created, it's important to determine migration risks and assess and define scores based on the complexity of apps and impact of migration. Migration risk depends on two factors:

Business impact. Assess how important the workload is to your business operations.

Complexity. Evaluate how complex the application is and how well your team understands it.

A critical workload will score a higher risk even if it's simple, whereas a more complex but less critical workload might end up with a lower risk score—and so might be a better candidate for early migration.

Calculating the cost of cloud adoption

To calculate total cost of ownership (TCO) and estimate monthly budgets, you can use free Microsoft tools, including:

Azure TCO Calculator

The Azure Total Cost of Ownership (TCO) Calculator is used to quickly compare the TCO of an on-premises infrastructure with a comparable Azure deployment so you can estimate the savings.

Azure Hybrid Benefit Savings Calculator

You can significantly reduce costs—up to 80 percent as compared to pay-as-you-go prices—with a one- or three-year term on Windows. Save by using on-premises Windows Server licenses with Software Assurance. For each license, Microsoft will cover costs of the OS (on up to two VMs), while you pay only for base compute costs. The Azure Hybrid Benefit Savings Calculator can help you estimate how much you'll save.

Building readiness and training plans

While preparing for cloud adoption, you'll need to build readiness and training plans. A variety of options are offered to help learners at all levels develop their skills. These options include Microsoft Virtual Academy, IT Pro Cloud Essentials, and IT Pro Career Center.

Step two: Migrate

Microsoft migration tools and guidance can help your IT teams understand various approaches for migrating Windows Server 2008 and 2008 R2 workloads. From there, you just decide the right mix of approaches for your workloads.

Upgrade

It's time to upgrade if you have some workloads running on Windows Server 2008 or 2008 R2 that you want to keep on-premises. You'll benefit from the latest edition of Windows Server, which helps you get cloud- and DevOps-ready while you support current workloads. Windows Server gives you two upgrade options to choose from:

A clean installation allows you to set up a new server, install Windows Server 2016, and then reinstall your applications and server roles.

Upgrade allows you to maintain your existing server and upgrade only the operating system.

Migration

You can migrate Windows Server 2008 and 2008 R2 VMs by rehosting (also known as "lift and shift") to minimize the amount of change required to move an application or workload. Rehosting involves moving applications or services to Azure-based VMs. This approach doesn't require code changes and allows quick migration. You can rehost by using Azure Virtual Machines or Windows Server containers.

Modernization

Based on your migration portfolio, you can modernize workloads on-premises and move them to Azure, or you can onboard workloads to Azure with lift and shift and modernize later.

Refactor applications

Refactor by modernizing application deployment architectures. This retains existing application code and logic. Check out Windows Containers or Azure Kubernetes Service (AKS) for refactoring.

Rearchitect applications

Rearchitecting is modifying an existing application's code base to optimize it for scalability and the cloud platform. Learn how this approach lets you develop independently.

Rebuild applications

When rebuilding greenfield applications, consider using cloud-native technologies to take advantage of the high productivity of platform as a service (PaaS) and rapid application development.

Step three: Optimize

Optimizing workloads on Azure is a process of streamlining your cloud resources continuously to enhance security, improve performance, and maximize return on investment (ROI).

Cost Management. Azure Cost Management allows management of cloud spending with transparency and accuracy. Learn more about the tools for monitoring cloud costs and budgets.

Security and governance. Rely on the Azure Security Center for unified security management and advanced threat protection across your hybrid cloud workloads. Detect threats quickly, take responsive action, and reduce your exposure by enabling adaptive threat protection.

Cloud health monitoring. Monitor your Azure apps with tools like Azure Monitor or Log Analytics to get visibility into their performance, infrastructure, and data.

Data protection. Avoid costly business disruptions, meet compliance goals, and protect your data against ransomware and human error by backing up your apps in Azure. Learn about the benefits of Azure Backup.

04 Why choose Azure?

Cloud adoption is on the rise, with 87 percent of organizations planning to merge their on-premises datacenters with a hybrid cloud or the public cloud, according to a recent IDC survey.[1] Likewise, worldwide spending on public cloud services and infrastructure is forecast to reach 160 billion USD in 2018, an increase of 23.2 percent over 2017.[2] In this environment, it's important to understand the benefits of Azure as a comprehensive cloud platform. Azure is a consistent hybrid cloud with an unmatched number of regions. It enables unparalleled developer productivity, and offers comprehensive compliance coverage—including meeting the requirements of the General Data Protection Regulation (GDPR).

[1] Worldwide Semiannual Public Cloud Services Spending Guide. IDC

[2] Worldwide Public Cloud Services Spending Forecast to Reach $160 Billion This Year. IDC

Azure—the cloud for Windows Server

You can migrate to Azure with confidence. Azure runs on Windows Server, so it's easy to move workloads to the Azure cloud platform. You can take advantage of your existing investments in Windows Server licenses and get support in one place. Azure connects data and apps on-premises to the cloud and lets your organization determine which computing resources stay in-house and which move to the cloud.

The business value of moving to Azure

By migrating Windows Server workloads to Azure, you can minimize the time and resources spent managing infrastructure and focus instead on innovation and business growth.

Flexibility to deploy or develop. Azure enables you to quickly migrate, create, and configure Windows Server VMs. You can easily lift and shift on-premises Windows Server 2008 VMs to Azure. Once on Azure, legacy applications can be modernized for the cloud. You can move applications into containers, rearchitect them using microservices architectures, or rewrite them using Azure PaaS services.

Global scalability. Moving to a cloud like Azure enables global distribution, with defined service-level agreements (SLAs) on performance. The more locations you need to work with, the greater the potential benefit from the global reach and high availability features of Azure.

Improved security and compliance. Azure continuously works to protect data and its integrity with a robust suite of security monitoring tools and controls. Powerful network security, access and authorization controls, and auditing features add oversight and peace of mind. Moving workloads to Azure can help you focus on managing the application actions and policies required to remain compliant.

Reduced maintenance overhead. You can reduce IT overhead and maintenance costs by moving line-of-business applications built on older editions of Windows Server to the latest edition—significantly reducing the work required to operate, secure, and maintain these applications.

05
Key understandings

- Cloud adoption can help your organization meet its business and technology requirements.
- Azure can help you manage the Windows Server 2008 end-of-support transition. For no extra charge, you get three more years of security updates for Windows Server 2008 and 2008 R2.
- By using Azure Hybrid Benefit, you can save up to 80 percent on Azure virtual machines.

Azure Migration Guide for Windows Server

Windows Server 2008 end-of-support resource center