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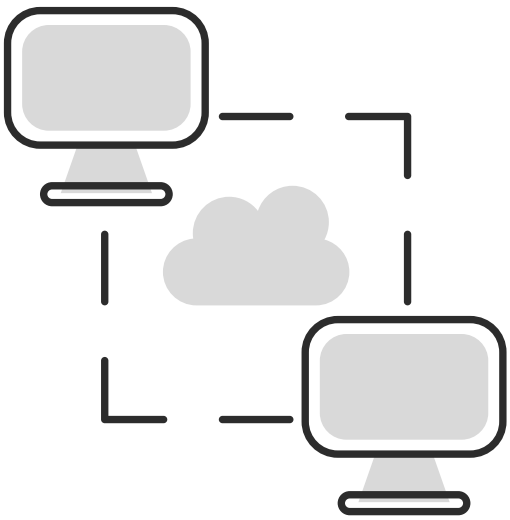
WINDOWS SERVER ON AZURE

THE ULTIMATE GUIDE

1. Cloud computing presents opportunity
2. Azure: best cloud for Windows Server shops
3. Understand the new IT cost model
4. Azure and Windows Server: industry-leading security
5. Tap into Azure services for innovation
6. What to do first: migrate or extend?
7. Getting started



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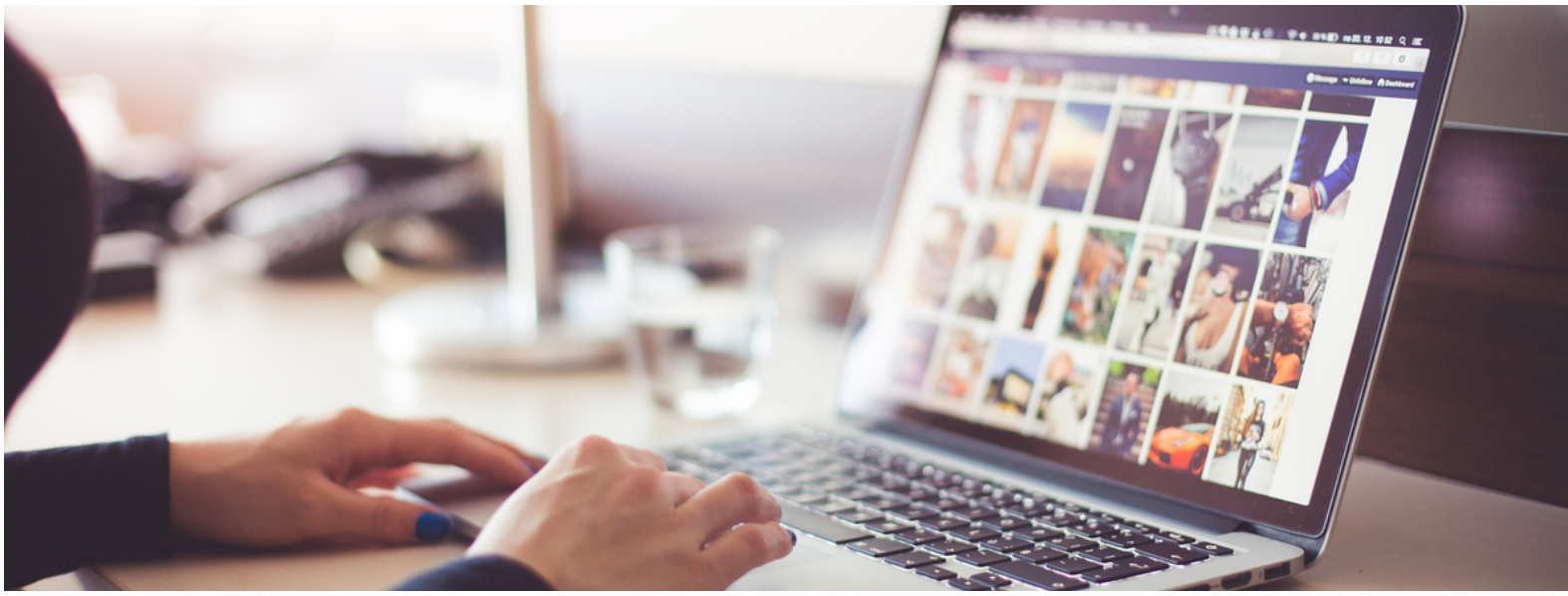
You're running a lot of your business on Windows Server today— mission-critical apps, Active Directory, Domain Name Servers, not to mention virtual machines and storage. For more than 20 years, in fact, Windows Server has been the operating system of choice for enterprise workloads



GIVE YOUR ORGANIZATION A BOOST IN THE AGE OF CLOUD COMPUTING

This guide shows you how you can use your Windows Server expertise to give your organization a boost in the age of cloud computing, addressing these topics and others.

- Why move to the cloud?
- What are some ways to use Azure for Windows Server workloads?
- What about security?
- Who else is doing this?
- How do I get started?

1

CLOUD COMPUTING PRESENTS OPPORTUNITY

Cloud adoption is on the rise, with 87 percent of organizations saying they plan to merge their on-premises datacenter with a hybrid cloud or the public cloud, based on a recent survey (2017 IDC Worldwide Public Cloud Services Spending Guide).

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CLOUD ADOPTIONS ON THE RISE

Analysts predict increasing cloud adoption. Speed is the new currency

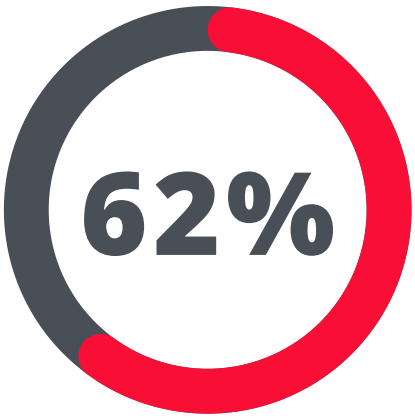
↓

This can feel like an incredible opportunity

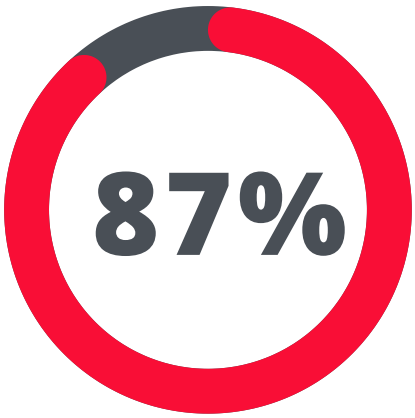
↓

To get there, organizations need to be ready to act

Public cloud market by 2021



Use cloud as a platform for modernizing IT enviroments



Plan to integrate their on-premises datacenter with public cloud

START WITH A STRATEGY

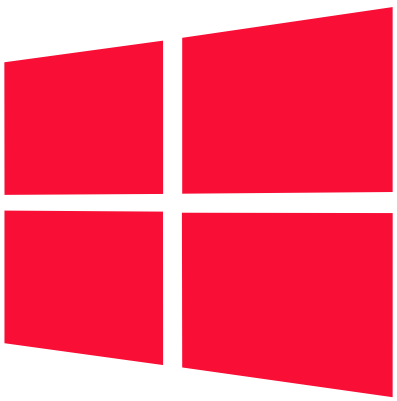
Cloud strategy development is an evolutionary process in most enterprises. It requires coordination among a variety of stakeholders including IT professionals, developers, compliance experts, procurement, and security.

Part of moving to the cloud is understanding the technology, but you also have to consider business and organizational impacts. Typical stages organizations go through include:

Stage	Impact
Cloud aware	IT staff is aware of broad cloud trends
Cloud experimentation	IT organization begins to learn about various cloud services such as Software as a Service, Platform as a Service, and Infrastructure as a Service
Opportunistic cloud	IT organization begins to actively migrate workloads to cloud to meet new business requirements
Cloud first	Default assumption is that cloud services will fulfill the majority of the computing needs

SUPPORT FOR WINDOWS SERVER 2008/2008 R2 IS ENDING SOON.

Let's ensure your infrastructure and applications stay protected from security vulnerabilities and noncompliance. By migrating your digital assets to Microsoft Azure, you can avoid these risks and accelerate innovation with greater cost savings and improved levels of security



Windows Server 2008/2008 R2

Azure has you covered:

- Lift and shift your existing Windows Server 2008/2008 R2 workload to Azure with minimal code changes, helping you reduce risk and save on added costs.
- Get three years of extended security updates at no additional cost to you—leaving the option open to upgrade to a current version when you're ready.
- Save up to 80 percent on Azure Virtual Machines (with Azure Hybrid Benefit and Reserved Instances) by using existing Windows Server licenses.

2

AZURE:BEST CLOUD FOR WINDOWS SERVER SHOPS

You probably already have a significant investment in Microsoft technology within your datacenter: Windows Server, as well as Exchange, SQL Server, SharePoint or Dynamics. You might use Active Directory for authentication, certificate management, file server, and other pivotal IT functions as well as System Center to simplify configuration and operations management

AZURE LITERALLY RUNS ON WINDOWS SERVER, SO IT'S EASY TO MOVE WORKLOADS TO MICROSOFT'S CLOUD PLATFORM AND USE EXISTING SKILLS, FAMILIAR TOOLS, AND ESTABLISHED PROCEDURES.

You'll still have one place to go to for support, and even your Windows Server licenses can be leveraged in Azure.

It doesn't matter, because all these and other computing and database environments can also be integrated with or migrated to Azure using a consistent set of tools and services. Azure is also the only consistent hybrid cloud. You can connect data and apps on premises to those in the cloud.

Azure offers hybrid consistency in application development, management and security, identity management, and across the data platform. This means your organization is free to decide what computing resources stay in-house and what moves to the cloud.

3

UNDERSTAND THE NEW IT COST MODEL

As enterprises grew, more capital would be spent on building new datacenters and even more computers.

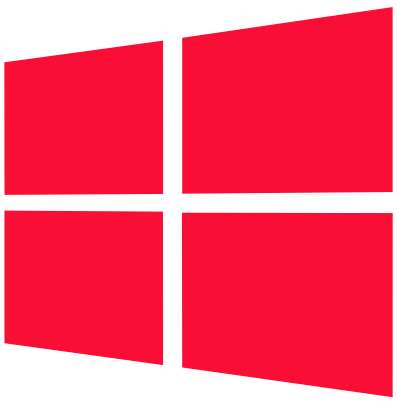
With cloud computing, enterprises pay for what they use, introducing a subscription-based operating expense model. Services essentially become metered by usage, meaning the more you use the more you're charged.

Azure Cost Management (also known as Cloudyn) enables you to track cloud usage and expenditures for your Azure resources and other cloud providers.

Want to know how much Azure will cost? Contact us

SAVE ON AZURE VMS WITH YOUR WINDOWS SERVER LICENSES

For existing Windows Server licenses, with the Azure Hybrid Benefit, you can use existing Windows Server licenses with Software Assurance to save on virtual machines in Azure. For each Windows Server license, Microsoft will cover the cost of the operating system on up to two virtual machines in Azure, while you pay only base compute costs.



Windows Server Licenses

Whether you want to enable a hybrid cloud model or move completely to the cloud, you can maximize the value of existing licenses to make Azure the most cost-effective cloud for Windows Server workloads.

- Save up to 40 percent on Azure virtual machines with Azure Hybrid Benefit.
- Boost savings to 82 percent when you also reserve the Azure virtual machine instances for one-year or three-year terms

4

AZURE AND WINDIWS SERVER INDUSTRY-LEADING SECURITY

Microsoft spends more than $1 billion each year on cyber security to keep workloads safe. Azure offers a secure platform for your cloud workloads, providing industry-leading security intelligence, multi-layer threat discovery and defense, and a strong network of integrated partner solutions. These easy-to-deploy, built-in protections maximize security, reduce complexity, and free up operations team resources for more critical functions.

Windows Server also includes multiple layers of security built right into the operating system to protect workloads whether you run them on-premises or in a cloud environment.

Using the Windows Server capabilities, you can enable unique, extra layers of isolation for applications running in Azure virtual machines.

Additionally, Azure Security Center helps you:

- Understand security state across workloads.
- Extend advanced threat protection to your workloads.

5

TAP INTO AZURE SERVICES FOR INNOVATION

Beyond efficiency and reliability, extending the datacenter to the cloud provides an opportunity to enhance and extend IT offerings. Most organizations begin with small steps: quickly start up some VMs on Azure for DevTest, migrate simple workloads, develop some cloud-aware apps.

Find what you need in the table on the next page.

Category	Services
Compute	Virtual Machines, VM Scale Sets, Batch, Service Fabric, Containers, and more
Networking	Load Balancer, VPN Gateway, Azure DNS, Content Delivery Network, Azure DDoS Protection, and more
Storage	Blob, Queue, File, Disk, Data Lake, StorSimple, Backup, Site Recovery
Web & Mobile	Mobile Apps, API Management, Media Services, Notification Hubs, Streaming, Content Protection, and more
Containers	Container Registry and Instances, Azure Container Service, Container Instances, Batch, App Service
Databases	SQL Database, Azure Database for MySQL and PostgresSQL, Data Warehouse, Stretch Database, and more
Data & Analytics	Stream Analytics, Data Lake Analytics, Power BI Embedded, Log Analytics, Customer Speech Service, and more
AI & Cognitive Services	Machine Learning, Bot Service, Cognitive Services, Computer Vision API, Speech Services, and more
Internet of Things	IoT Hub and Edge, Time Series Insights, Stream Analytics, Notification and Event Hubs, and more
Enterprise Integration	Service Bus, StorSimple, SQL Server Stretch Database, Data Catalog, Data Factory, Event Grid, and more
Security & Identity	Key Vault, Security Center, Azure Active Directory, Active Directory B2C and Domain Services, MultiFactor Authentication
Developer Tools	Visual Studio Team Services, Azure DevTest Labs, Application Insights, API Management, HockeyApp
Monitoring & Management	Azure portal, Azure mobile app, Resource Manager, Automation, Scheduler, Service Health, and more

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WHAT TO DO FIRST: MIGRATE OR EXTEND?

Azure allows IT to quickly create and configure new Windows Server virtual machines. With the proper tools and procedures, you can literally set up thousands of servers (VMs) in the cloud in minutes, compared to the weeks it typically takes to set up on-premises servers. Also, with data centers in 19 regions around the world, Azure achieves 99.95 percent availability, along with 24/7 support and constant health monitoring.

To ensure the success of your organization's adoption of Azure, it's important to consider the need of your business and the requirements of your applications. You'll need to determine:

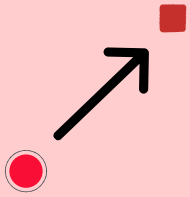
- Which apps can you "lift and shift" directly to the cloud?
- Which apps benefit from integrating with Azure services?
- Which apps require a transformation or re-architecting?

Based on the analysis of your operating systems and applications, you have a number of options:

- Migrate the applications and data to the Azure platform
- Extend existing on-premises Windows Server environments to the cloud with new Azure services.
- Modernize legacy applications for the cloud. Move applications into containers, re-architect applications using microservices architectures or rewrite using Azure PaaS services.

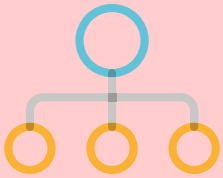
If you're building a cloud plan, begin by getting an inventory of all on-premises workloads and then decide on a strategy.

BUILD YOUR CLOUD PLAN



I am ready to move these apps to Azure

Commodity workloads	→	SaaS: Eg. Office 365
Rewrite as cloud-native apps	→	Azure PaaS Services
Lift & modernize	→	Containers and microservices
Lift & shift	→	Azure IaaS virtual machines



I need to keep these apps on-premises

New cloud-native apps	→	Azure Stack
Existing apps	→	Upgrade to Windows Server 2016

To assure a successful migration, it's important to fully evaluate your current datacenter environment using a discovery process.

To minimize the risk of migration, Microsoft provides several comprehensive tools for doing the initial discovery and assessment of your environment, and prioritizing what workloads should migrate first.

USES CASES

Use cases	
Discover: Catalog existing applications; identify migration candidates	To understand what applications should be moved, when and how, it's important to create a complete catalog of applications managed by IT. Use Azure Migrate or other tools to assess current computing environment, identify what can be moved, and understand costs
Discover: Catalog current data environment prior to migration	Use Data Migration Assistant to catalog the existing data environment, identify compatibility issues, and suggest performance and reliability improvements.
Migrate: Shift VMs and workloads to Azure	Azure Site Recovery offers one-click failover and replication of applications and workloads from Windows Server, Linux and VMware machines. Automation reduces time and complexity of migration tasks
Migrate: Shift data and databases to Azure	Database Migration Service migrates existing on-premises SQL Server, Oracle, and MySQL databases to Azure SQL Database, Azure SQL Database Managed Instance or SQL Server on Azure virtual machines
Modernize: Lift and shift existing .NET applications by optimizing deployments with Windows containers	Improve your DevOps operations for your dev/test/production environment. Make your application cloud DevOps-ready. Containers remove friction caused by application dependencies when you deploy in multiple stages.
Optimize: Manage your cloud spend with transparency and accuracy	Azure Cost Management (also known as Cloudyn) provides granular, real-time visibility into cloud consumption, cost, and performance

SOME OF THE WAYS ORGANIZATIONS HAVE USED THE AZURE SERVICES TO EXTEND THE CAPABILITIES OF THEIR EXISTING IN-HOUSE WINDOWS SERVER ENVIRONMENT.

Use cases	How Microsft Azure helps	How organizations benefit
Assure business continuity and data protection	Azure Backup and Azure Site Recovery increase compliance, reduce complexity, lower costs. Replicates on-premises virtual machines to Azure and orchestrates failover and failback	Reduce disaster recovery infrastructure by paying for only the compute, storage and network needed in Azure with software as a service--no need to purchase hardware. Onboard faster, because the capability is built into Azure
Manage diverse hybrid cloud environment	System Center simplifies deployment, configuration, management, and monitoring of your infrastructure and virtualized datacenter. Use Azure monitoring and analytics to collect, correlate, and search your systems and application data across Azure and on-premises servers	Gain visibility into the health, performance, and utilization of your applications, workloads, and infrastructure. Proactively find and fix issues before they impact your users
Extend on-premises file servers to the cloud	Use Azure Virtual machines to simplify and speed the process of running a devtest environment. Spin up as many virtual machines as you need, network them, and allocate to your developers	Give your developers freedom and speed to develop in Azure, and then deploy where needed. Choose Linux or Unix. Use your own virtual machine image or download a certified pre-configured image. Use your preferred coding language natively

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GETTING STARTED

How you get started with Azure depends on where your organization is in the cloud evolution. Are you just beginning to investigate what's out there? Or, are you already moving datacenter workloads to the cloud or developing cloud-native applications?

You can also speed up the entire process by engaging with Microsoft partners who have tools and expertise that help guarantee success.

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