



Windows Server 2025

Sven Langenfeld, November 2024
L100

Topics

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- Security
- Hybrid cloud agility
- Performance & innovation

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How to scale fast and seize opportunities...

...while minimizing security risks & complexity?



According to a survey by McKinsey & Company, **72% of companies are using AI in at least one business function in 2024.**



2023 saw a **72% increase in data breaches** compared to 2021, which held the previous record.

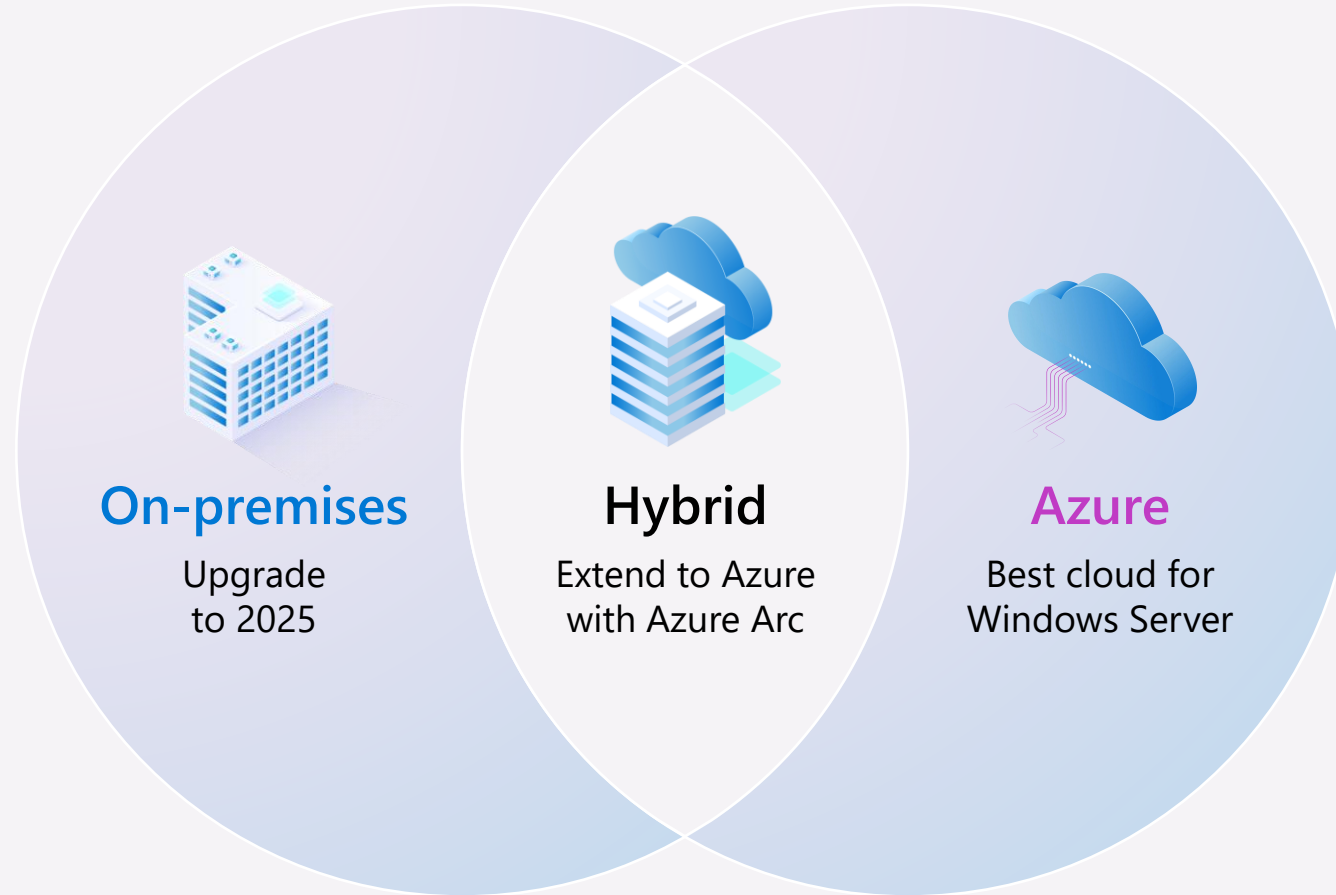


73% of organizations are embracing a hybrid cloud approach.



66% of organizations plan to spend more on cybersecurity in the next year, compared to last.

Windows Server 2025: Innovate and secure, anywhere



In the cloud | In your datacenter | At the edge

Windows Server customers



FOREVER 21



Alaska



rackspace



Create



PEARLABYSS



GMO

Bradley

Introducing Windows Server 2025

Drive innovation, secure your data, and improve IT agility with the latest Windows Server



Advanced, multi-layered security

Improved protections against ever-evolving threats; multilayered safeguards, and improved resilience.



Cloud agility anywhere

Get the power of Azure delivered to your edge and hybrid cloud environment with Azure Arc.



High-performance, future-ready infrastructure

Leaps ahead in scalability, performance, storage, and capabilities to support AI and ML.

Advanced multi-layered security

Operate more securely and guard against evolving threats, with Windows Server 2025

- Maximize hardware, firmware, and operating system capabilities to protect your environment with secured-core server
- Prevent the lateral spread of attacks and internal attacks with software-defined networking and micro-segmentation
- Virtualization-based security with Hyper-V
- Easier patching with fewer restarts, so you can implement crucial security patches quickly with less downtime
- Enhanced identity management with a scalable, next-generation Active Directory



Cloud agility anywhere

Windows Server 2025 is optimized for edge, multicloud, and hybrid cloud deployments.

- Easier to connect to Azure Arc so you can take advantage of Azure Arc hybrid and multicloud management capabilities
- Flexible pay-as-you-go option available for Azure Arc-connected customers
- Additional options for Azure Arc-connected servers, including hotpatching for on-premises servers, and hybrid management services*
- More secure, scalable, and adaptive software defined networking, and easier networking setup

*Note: some services that can be optionally added via Azure Arc connection involve additional cost.



High-performance, future-ready infrastructure

Gain performance, scalability, and the compute power you need for AI and ML workloads.

- Built to support AI workloads and inferencing at the edge with GPU partitioning across VMs with Live migration and failover clustering
- Increased scalability: Larger virtual machines now support 240 TB of RAM and 2048 virtual processors
- Better portability and efficiency with containers; smaller container image size
- Software-defined storage enhancements: ReFS (Resilient File System) optimized deduplication and compression
- Easier upgrades to help you move faster: OS upgrade through Windows Update



New feature highlights in Windows Server 2025

Explore [documentation](#) for a full list of new features



Advanced security and resiliency

- Modern identity management with next-generation Active Directory
- Hyper-V for virtualization-based security; VBS enclaves and VBS key protection
- Secure your data in transit, with TLS 1.3 and SMB signing required by default
- SMB over QUIC now available in all editions
- Prevent the lateral spread of attacks with software-defined networking and micro-segmentation



Cloud agility anywhere

- Easier security updates with fewer reboots via on-premises hotpatching*
- Better, faster networking and unified network policy across locations with SDN Multisite
- Networking setup and management made simple with Network ATC and Network HUD.
- Easier than ever to connect to Azure Arc and access hybrid cloud features and Azure advancements including:
- Pay-as-you-go option for Azure Arc-connected on-premises Windows Servers



High-performance, future-ready infrastructure

- Be AI-ready: GPU partitioning across VMs with live migration and failover clustering for AI workloads and inferencing at the edge
- Better portability and efficiency with containers
- Move faster with easier OS upgrades through Windows Update
- Increased scalability: Larger virtual machines support 240 TB of RAM and 2048 virtual processors
- Software-defined storage enhancements: ReFS (Resilient File System) optimized deduplication and compression

*Note: some services that can be optionally added via Azure Arc connection involve additional cost.

**Achieve cloud agility anywhere:
Windows Server features
available with Azure Arc**



Azure Arc enabled Windows Servers

Extend Azure security, operations and management across your entire environment



Reach

Virtual machine & bare-metal
Visibility into Windows and Linux
Servers
On-premises, in Azure, across
clouds



Management

At-scale searchable inventory
Unified management experience
Consistent VM Extensions
Connect and subscribe to
premium management services



Governance & security

Built-in Azure policies
Server security baseline
Role-based access control
Compliance across environments

Single control plane **with Azure Arc**



Be flexible, pay as you go

Pay-as-you-go for additional
virtual machines for on-premises
Windows Server 2025

- Designed for Windows Server Standard customers, who do not have unlimited virtualization.

- Conveniently transact and scale up quickly to meet sudden capacity needs or temporary seasonal requirements.

- Take advantage of flexible subscription-based pricing and Azure Arc capabilities, including Azure Update manager, Change Tracking and Inventory and more.

- Available for on-premises Windows Server 2025, when connected to Azure Arc.



Be more productive & minimize restarts

Hotpatching for on-premises
Windows Server 2025

- Minimize business disruptions and be more agile when it's time to install updates

- Lower workload impact with fewer reboots: Instead of 12 mandatory reboots a year, only 4 scheduled reboots needed

- Less preparation time for administrators; can help updates get installed quickly

- Available by subscription for on-premises Windows Server 2025, when connected to Azure Arc

Hybrid and multcloud management features for Windows Server Azure Arc-enabled services*

These management services available at no additional cost for customers **with Software Assurance or enrolled in Windows Server 2025 pay-as-you-go**:

- ✓ Azure Update Manager
- ✓ Azure change tracking and inventory
- ✓ Azure Policy guest machine configuration

You also qualify for easier setup and access to the following services (which may incur additional charges based on usage):

Disaster recovery workload replication

Windows Server Best Practices assessment

Remote support access

Network HUD / Accelnet

*For Azure-Arc enabled customers with software assurance or Windows Server 2025 pay as you go. Refer to documentation for details on Azure Arc enabled services for Windows Servers <https://aka.ms/WSPGSAfeatures>

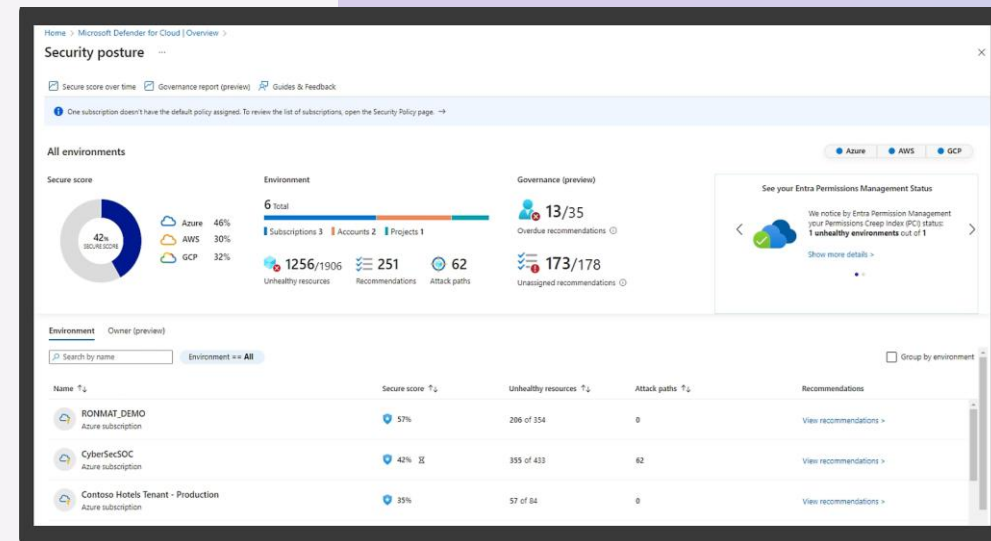
Why Windows Server
is even better on
Azure



Simplified and more secure operations with Windows Server in Azure

Take advantage of industry-leading security capabilities

- Protect your organization with unified security management in [Microsoft Defender for Cloud](#)
- Industry-leading [confidential computing](#): Run on confidential VMs in Azure, with trusted launch capabilities
- Proactively secure your server workloads with [Microsoft Sentinel](#), a cloud-native SIEM
- Still have old servers? [Extended Security Updates](#) (ESUs) for up to 3 years available at no additional cost in Azure

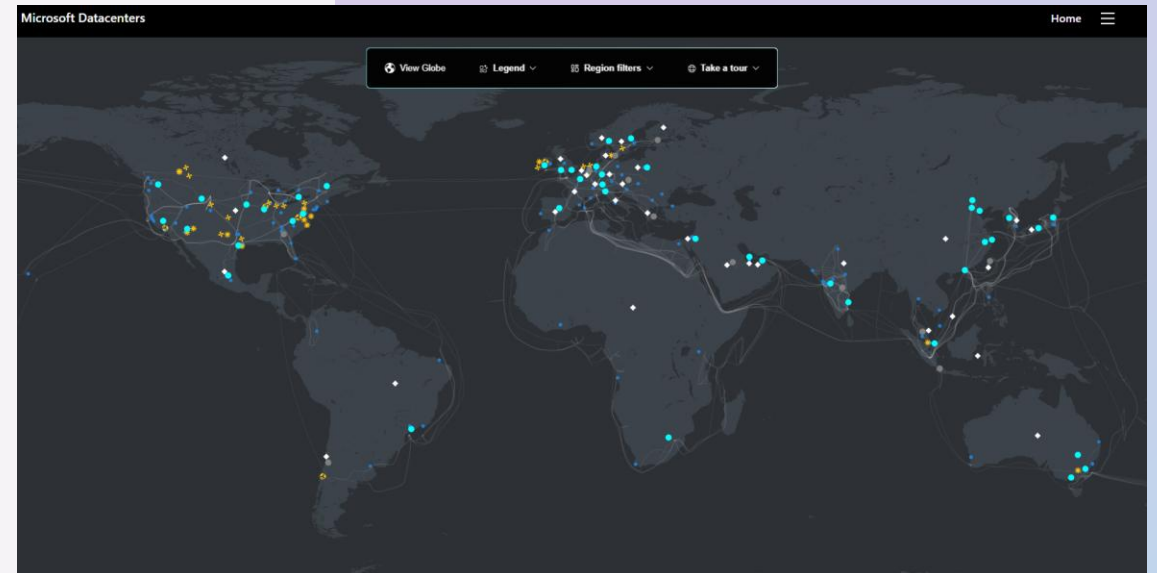


Get the cloud on your terms

with Windows Server in Azure

Take advantage of innovative multicloud, hybrid and edge solutions, and a cloud that meets you where you are

- Bridge your multicloud and edge environments, adapt quickly, and manage it all seamlessly with [Azure Arc](#)
- Meet data residency and low latency requirements with a [comprehensive, global cloud](#) including more than 60 Azure regions
- Migrate or extend your on-premises VMware and Nutanix environments with [Azure VMware Solution](#)
- Save with existing licenses: Azure Hybrid Benefit and Azure Reserved VM instance can help Windows Server customers save when moving to Azure*

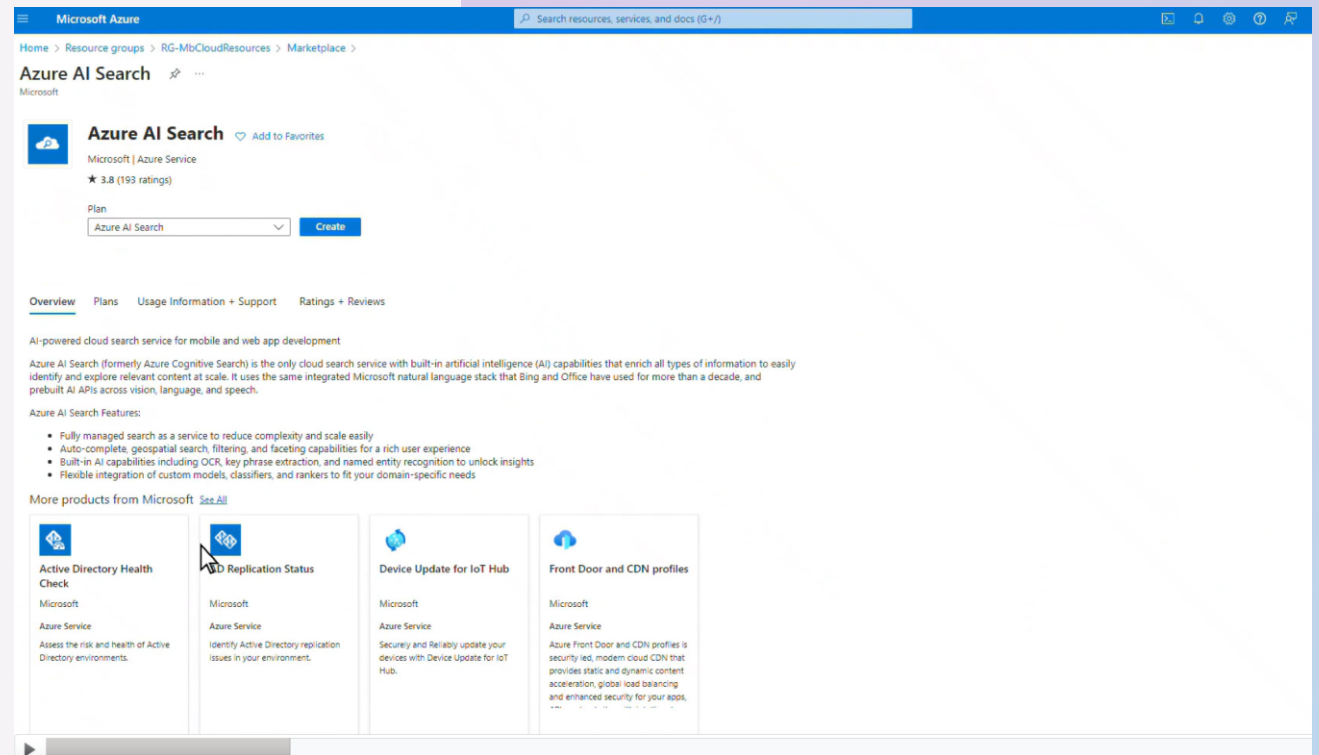


Achieve AI readiness & prepare for what's next with Windows Server in Azure

Migrating Windows Servers to Azure helps organizations realize AI ambitions at scale

- Cloud migration can reduce barriers to AI adoption ¹
- By collocating your data and AI you can optimize cost and performance
- Innovate responsibly: Azure offers more than 100 compliance certifications – the most in the industry
- Azure offers cloud scale and agility for your Windows Server, SQL Server, Linux and other workloads

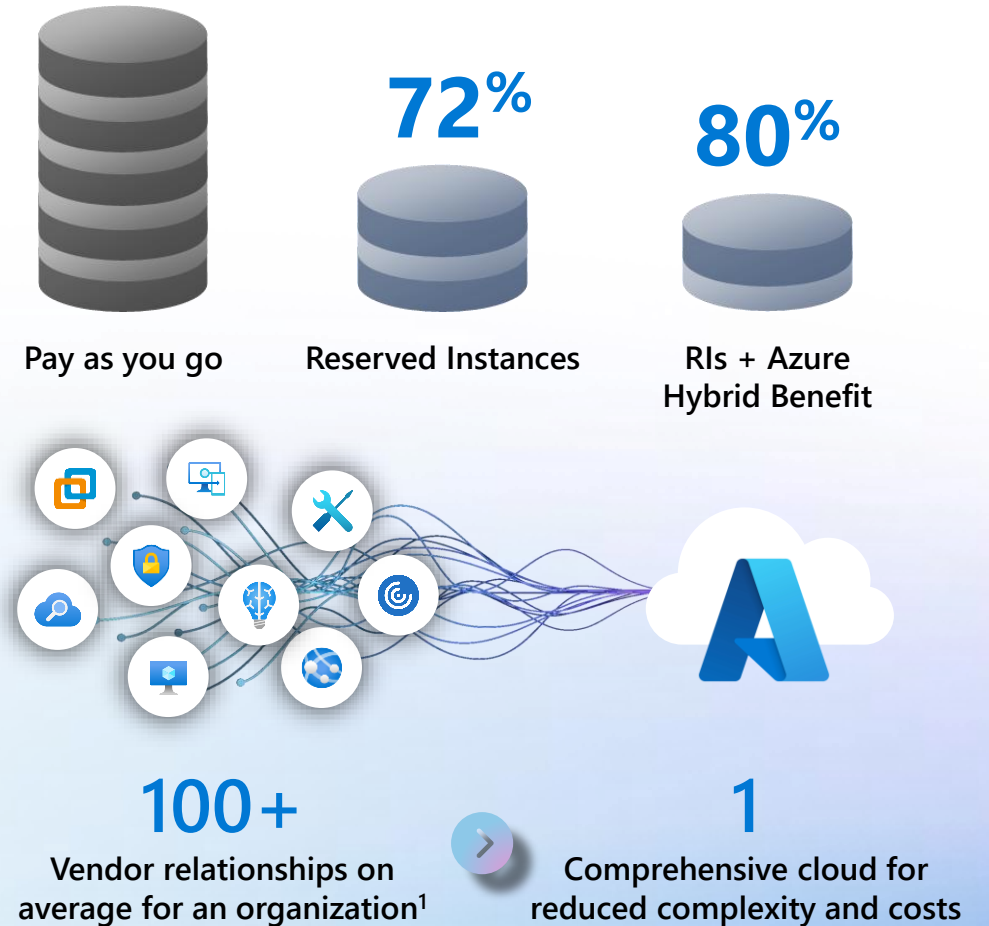
And so much more!



1. Forrester: [The Total Economic Impact of Migrating to Microsoft Azure for AI Readiness June 2024](#)

Unparalleled value for Windows Server and SQL Server

- **Save when you migrate to Azure** with offers such as Azure Hybrid Benefit and free Extended Security Updates
- **Continue to use VMware stack and skills** on Azure with Azure VMware Solution. Lock-in pricing for up to 5 years.
- **Get up to 406% 3-year ROI** when modernizing your SQL Server workloads to Azure SQL MI²
- **Save with various consumption models** such as Reserved Instances, Spot Virtual Machines, and Azure Savings Plan
- **Streamline third-party tools and vendors** to the Microsoft Cloud and save on time and costs¹
- **Strategic and collaborative partnerships** with your preferred vendors like VMware, Citrix and NetApp



1. [Going lean: How vendor consolidation creates big gains, MIT Technology Review](#), June 2020
2. [IDC. The Business Value of Microsoft Azure SQL Database and Azure SQL Managed Instance](#). August 2023.

Azure offers unmatched scalability and resilience

Scalable

- > Purpose-built AI supercomputing infrastructure for the velocity to accelerate innovation
- > Dynamic compute capacity – up to 832 CPU threads, up to 24TB RAM, 700+ VM size options
- > Scalable storage – up to millions of IOPS, double-digit GBps, and single-digit millisecond latencies



60+ regions

more than AWS
and GCP combined

Resilient

- > Ensure business continuity with a real-time second instance in case of catastrophic failure
- > Protect applications in Azure with end-to-end observability and effortless troubleshooting
- > Backup on-premises data to Azure and keep your applications running in case of outages



80%

reduction in average
data recovery time¹

Windows Server 2025 editions

See [documentation](#) for full
edition comparison

Standard edition

Ideal for physical or minimally
virtualized environments

Core-based licensing model

Requires Windows Server CAL

2 Virtual Machines; plus one Hyper-
V host per license

Virtual OSE / Hyper-V isolated
containers: 2

Datacenter edition

Ideal for highly virtualized datacenters
and cloud environments

Core-based licensing model

Requires Windows Server CAL

Unlimited virtual machines, plus one
Hyper-V host per license

Virtual OSE / Hyper-V isolated
containers: unlimited

Next steps



Get started

Software Assurance customers have New Version Rights and can get Windows Server 2025 at no additional cost: [Learn more](#)

Upgrading is now easier than ever:
aka.ms/HowToUpgradeWS

Download Windows Server 2025 evaluation:
aka.ms/TryWS2025

Connect hybrid servers with Azure Arc:
[Learn how](#)

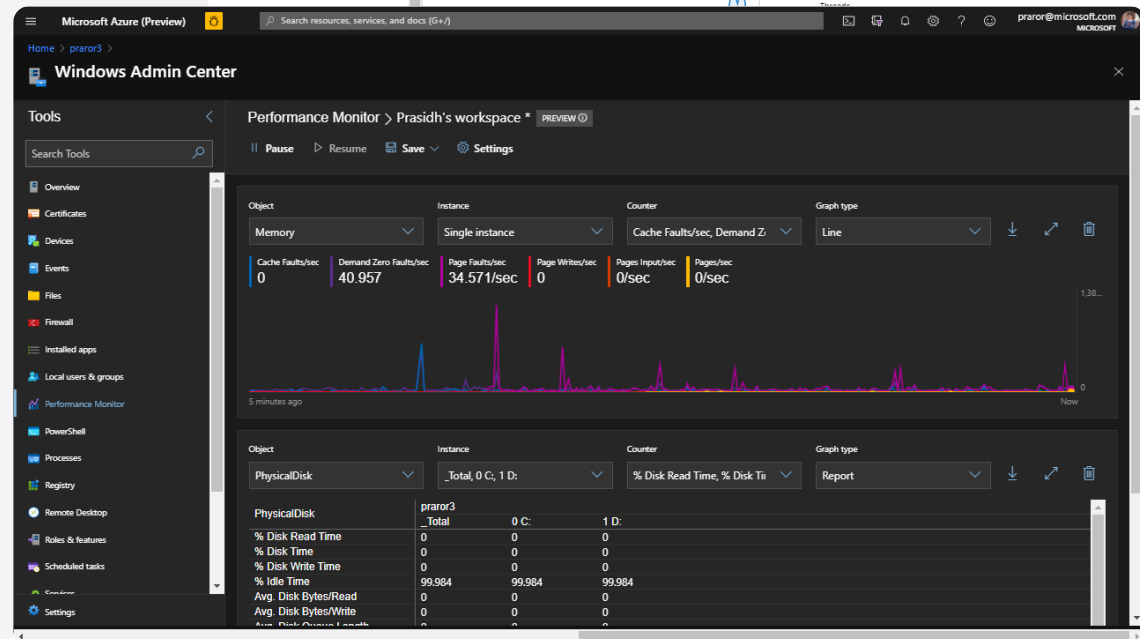
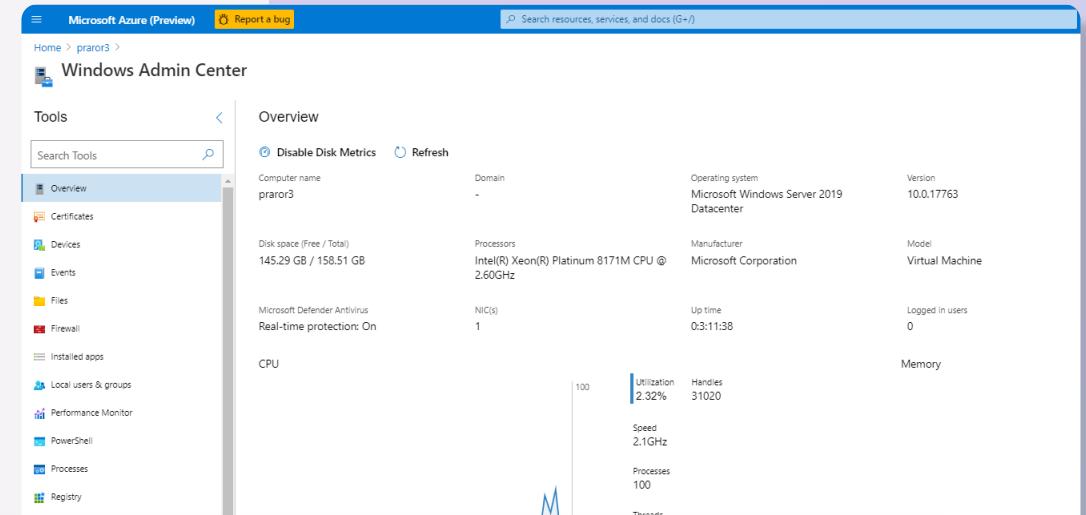
Appendix

Windows Admin Center

Available in Public Preview Azure

Your favorite **server management tool** available natively in the Azure Portal

- Included to manage your Azure VMs
- Granular management, configuration, troubleshooting, and maintenance functionality
 - Support for VMs with Private IP addresses
 - Integrated certificate experience
- Available for Windows Server 2016 and 2019 VMs
- Always up to date with the newest features



Manage Windows Server from anywhere with Windows Admin Center

Windows Admin Center offers the latest and greatest features for your server management experience.

Introducing

- A new look to Event Viewer
- Improved virtual machine management with unique customization and seamless live migration support
- Automatic in-app updates that keeps your Windows Admin Center gateway and extensions always up-to-date
- Significant performance and accessibility improvements with an upgrade to HTTP/2
- Support for management over a web proxy

And so much more!

