

Windows Server 2025 mit Azure Arc und WAC

Die beste Kombination für die
Hybrid Cloud

Gregor Reimling
Chief Azure Technologist @ adesso SE



About Me "Gregor Reimling"



Focus

Azure Governance, Security
and IaaS

From

Cologne, Germany



[cloudinspires](https://cloudinspires.com)

My Blog

<https://www.reimling.eu>

Certifications

Cloud Security Architect, MVP
for MS Azure and Security

Hobbies

Family, Community,
Worldtraveler

Contact

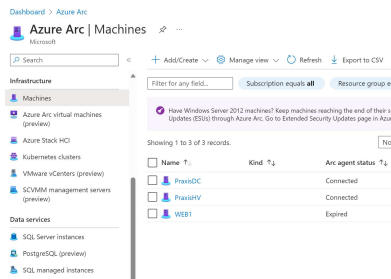


@GregorReimling

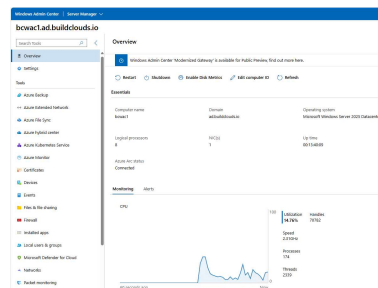
@CloudInspires



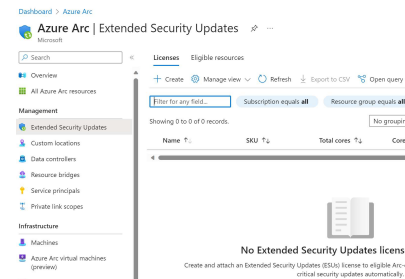
Agenda



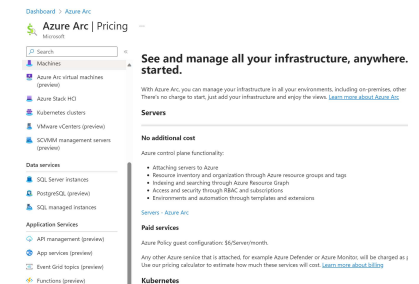
Overview about
Windows Server
2025



Windows
Admin Center



Azure Arc



Wrap Up



General Availability since
11/12/2024

What's new in Windows Server 2025



Active Directory News

32k DB Page Size

NUMA compatibility

LDAP TLS 1.3

Kerberos support for AES SHA256/384

Replication Priority Boost

Mailslots disabled

New Domain and Functional Level (2016 minimum)

Local KDC built-into Windows

NTLM on way to deprecate & maybe removal – <https://aka.ms/ntlm>





Failover Cluster Features



Cluster aware updating

Upgrade from WS2022 to WS 2025 without Downtime

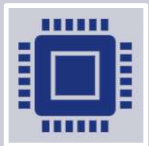


Workgroup Cluster Livemigration

Announced with Windows Server 2016

Initially for SQL Server Availability Groups without need for AD

Customers need this also for Hyper-V



Dynamic Processor Compatibility

Up to now, an "old" feature set has been used for processor compatibility

Now the cluster evaluates the lowest common feature set and uses this cluster-wide



Hotpatching

Installation von Windows Updates ohne Neustart

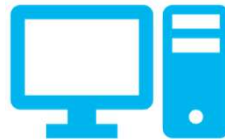


WS 2022 Datacenter: Azure Edition Server Core

Azure = GA

Azure Stack HCI = GA

Hotpatch im Standard aktiviert



WS 2022 Datacenter: Azure Edition mit Desktop

Azure = GA

Azure Stack HCI = GA



Hotpatching for Azure Arc

Support for Windows Server 2025
(Standard and Enterprise)

Niedrigere Server OS – unbekannt
In Preview verfügbar

[Hotpatch für Windows Server: Azure Edition | Microsoft Learn](#)

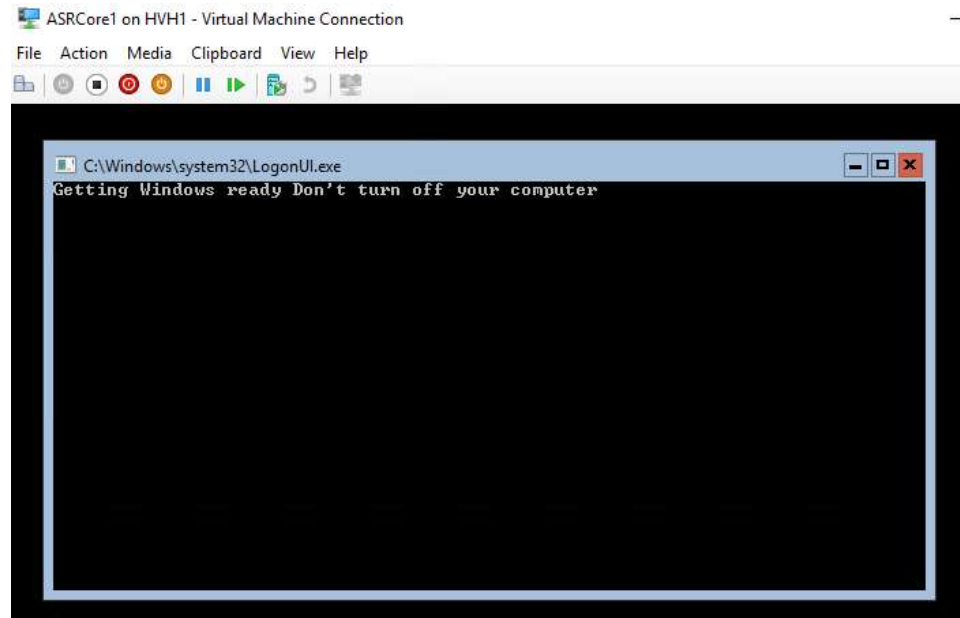
[Hotpatching: Improving server security and productivity | Windows Server Summit 2024](#)



Windows Admin Center Release 2410



Servercore Management bisher



Commandline

PowerShell (Remote)

Server Manager

NIC
ENPOWER



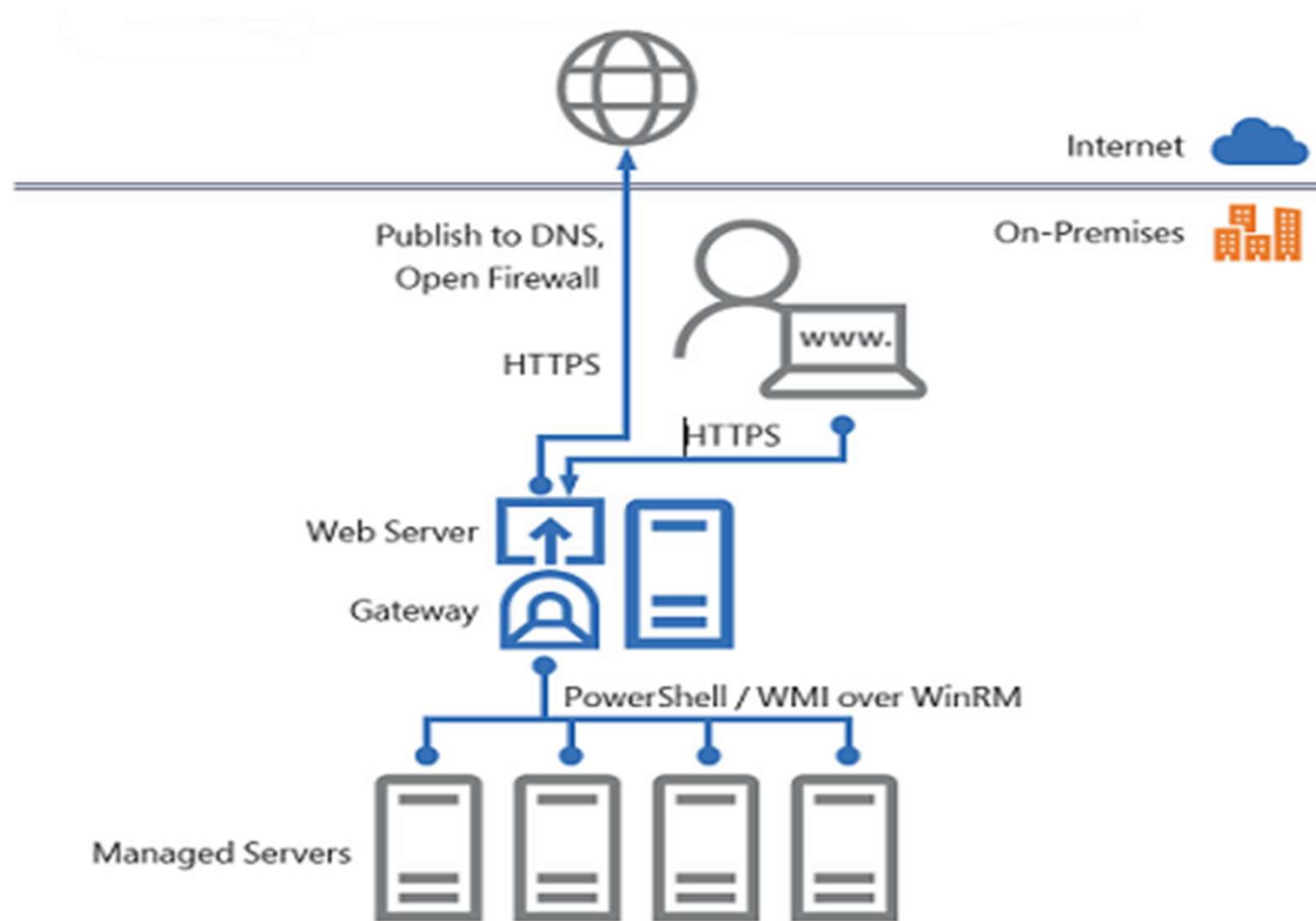
Windows Admin Center

- Management via Azure Portal
- Next Generation Servermanager
- Webbased on HTML 5
- Zentrale Übersicht über alle Server
- Einfache installation
- Funktionen vom Servermanagers + viele weitere
- Server einfach via Textdatei importierbar
- Serveranalyse agentless – WMI und PS



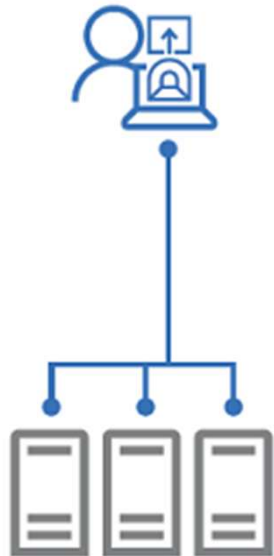


Windows Admin Center - Architecture

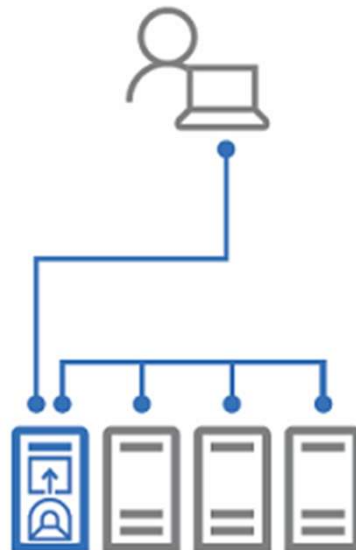




WAC – Installation



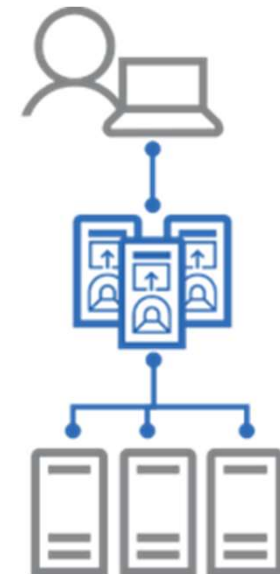
Installation local on Windows 10 Client. For testing and lab scenarios.



Installation direct on one of the managed servers. For Servermanagement and Clusternodes



Installation on Gateway Server to access the WAC from Browser and hosting WAC in a DMZ



Installation on high available Gatewayserver.



Installationsempfehlung



Zentrale Instanz

Gateway Server als zentrale WAC Instanz



Interne Ports

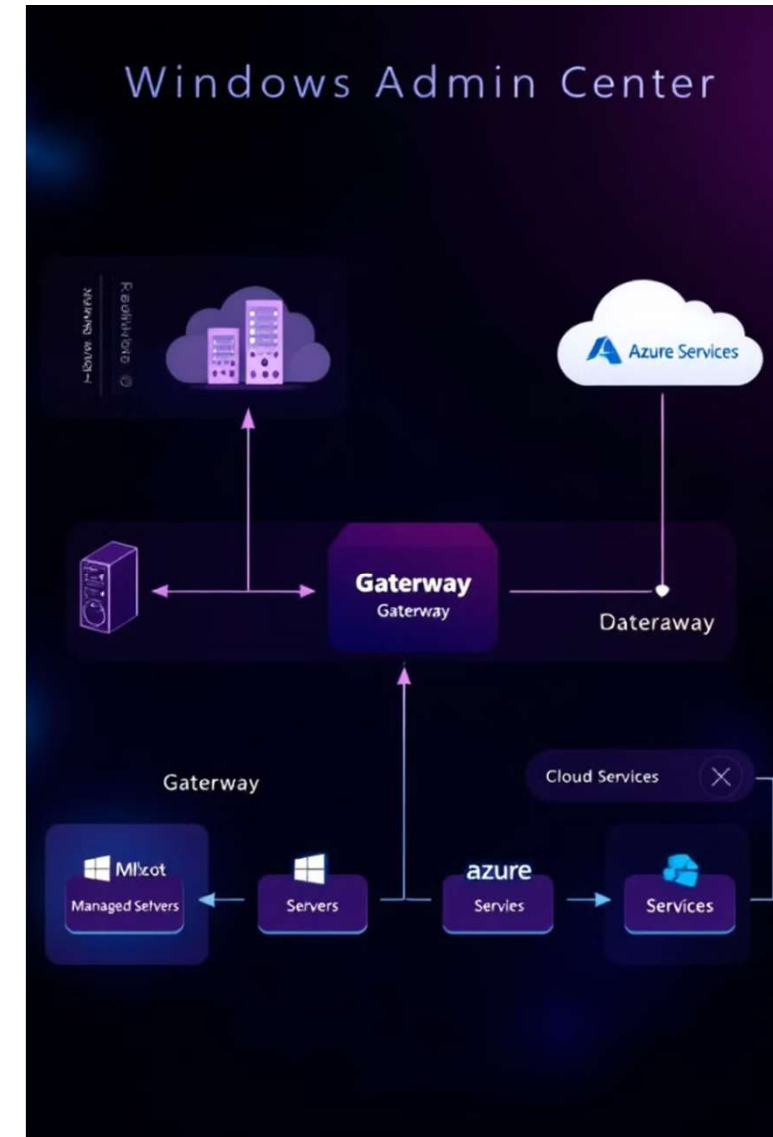
Verwendete Ports nur intern öffnen



Azure Integration

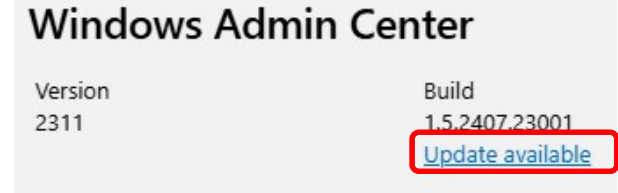
Integration in Azure möglich

Die Installation eines Gateway Servers als zentrale WAC Instanz wird empfohlen, um die Verwaltung zu vereinfachen.





WAC – v2410



- Auch bezeichnet als „Modernized Gateway“ or „v2“
- Codebasis NET 8 und Angular 15, HTTP2 support
- Updated Installer
- Multi-process, micro-service basiert – Tasks laufen in separaten Prozessen
- Powershell Modul Microsoft.WindowsAdminCenter.Configuration.psm1
- VM Tool Update
- WS2025 Security Baseline
- Windows LAPS support
- Software Defined Network (SDN) überarbeitet
- GPU-P support – GPU support für mehrere VMs



WAC – Installationsempfehlung

- Gateway Server als zentrale WAC Instanz
- Alle zu verwaltenden Server werden hier registriert
- Verwendete Ports nur intern geöffnet
- Kann auch für DMZ verwendet werden
- Installation lokal oder in Azure möglich
- Hohe Verfügbarkeit
- HA nur im aktiven-passiven Modus über die Failover-Cluster-Funktion von Windows Server
- Integration in Azure möglich
- Authentifizierung über Entra ID
- Verwaltung von Azure Site Recovery



Azure Arc

NIC
EMPOWER

Experts  **Live** Germany



Unified operations, management,
compliance, security and governance



Azure resources




Azure Arc-enabled infrastructure resources
(Servers, SQL servers, Kubernetes)



Azure Arc-enabled services resources
(Data services, App services, Machine Learning services)



 Azure Resource
Manager



Azure Arc

Azure Arc-enabled
infrastructure onboarding

Azure Arc-enabled
services deployment

Azure Arc-enabled
infrastructure onboarding

On-premises IT
infrastructure resources



On-premises Arc-enabled services
(Data services, App services, Machine Learning services)



Azure Stack HCI

vmware

Multicloud Arc-enabled services
(Data services, App services, Machine Learning services)



Amazon Web Services



Google Cloud Platform

Multicloud IT
infrastructure resources





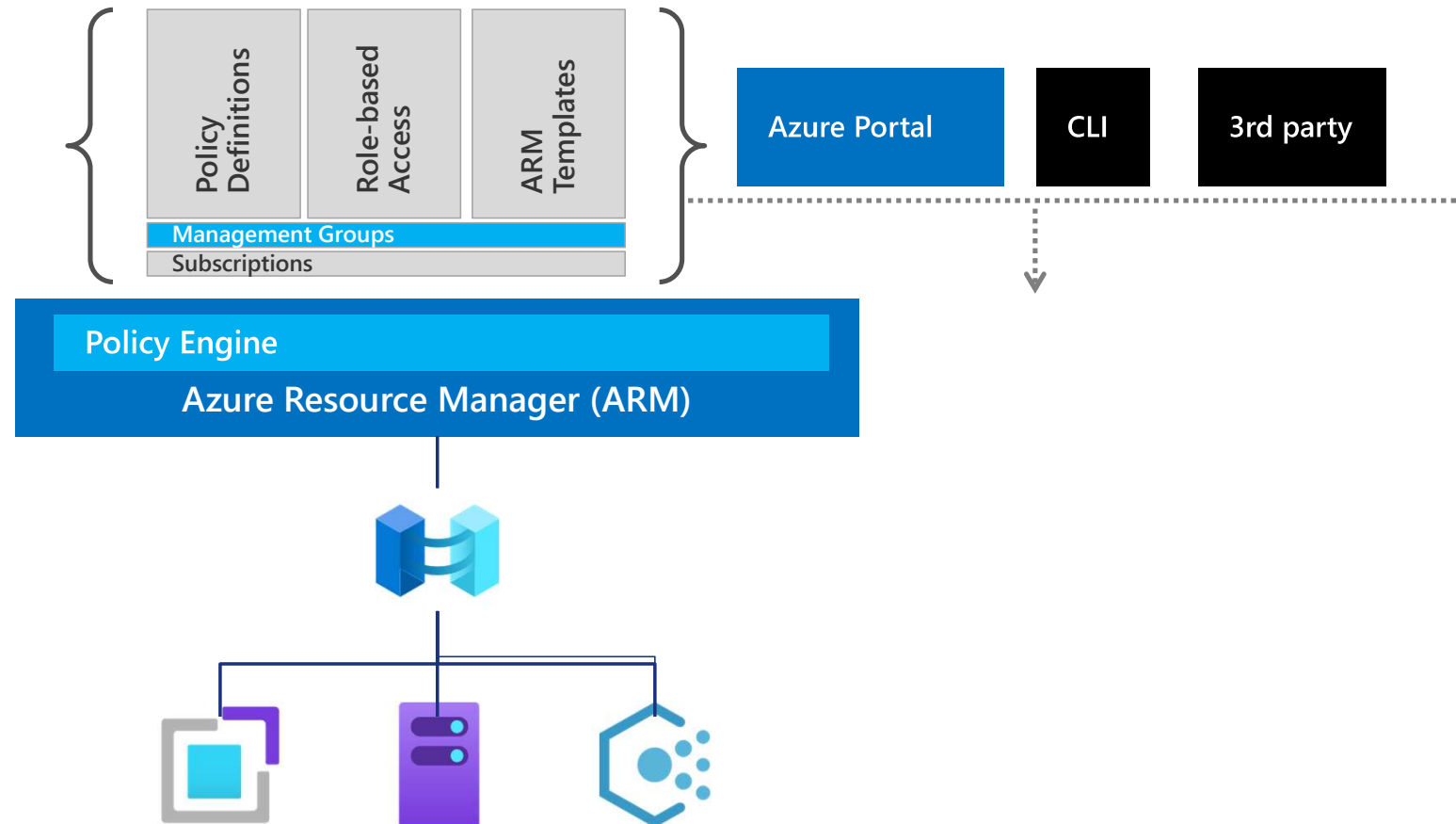
Azure Architecture

providing control over the cloud environment, without sacrificing developer agility

1. Environment Factory:
Deploy and update
cloud environments in a
repeatable manner using
composable artifacts

2. Policy-based Control: Real-time
enforcement, compliance assessment and
remediation at scale

3. Resource Visibility: Query, explore &
analyze cloud resources at scale





Unterstützte Umgebungen

Environments

- VMware (including Azure VMware)
- Azure Stack HCI
- GCP, AWS, etc.

Windows

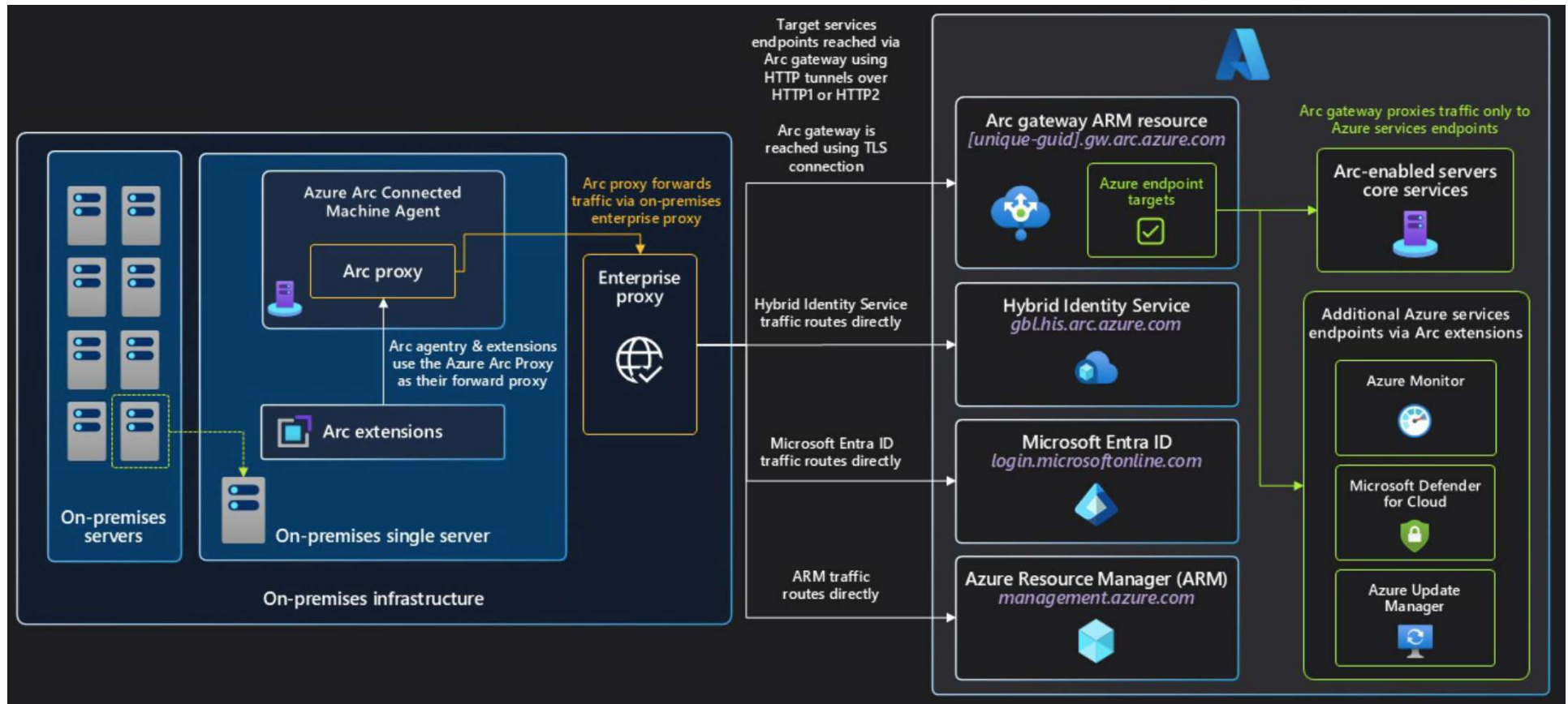
- Windows Server 2008 R2 SP1 and higher (including Core)
- Windows IoT Enterprise

Linux

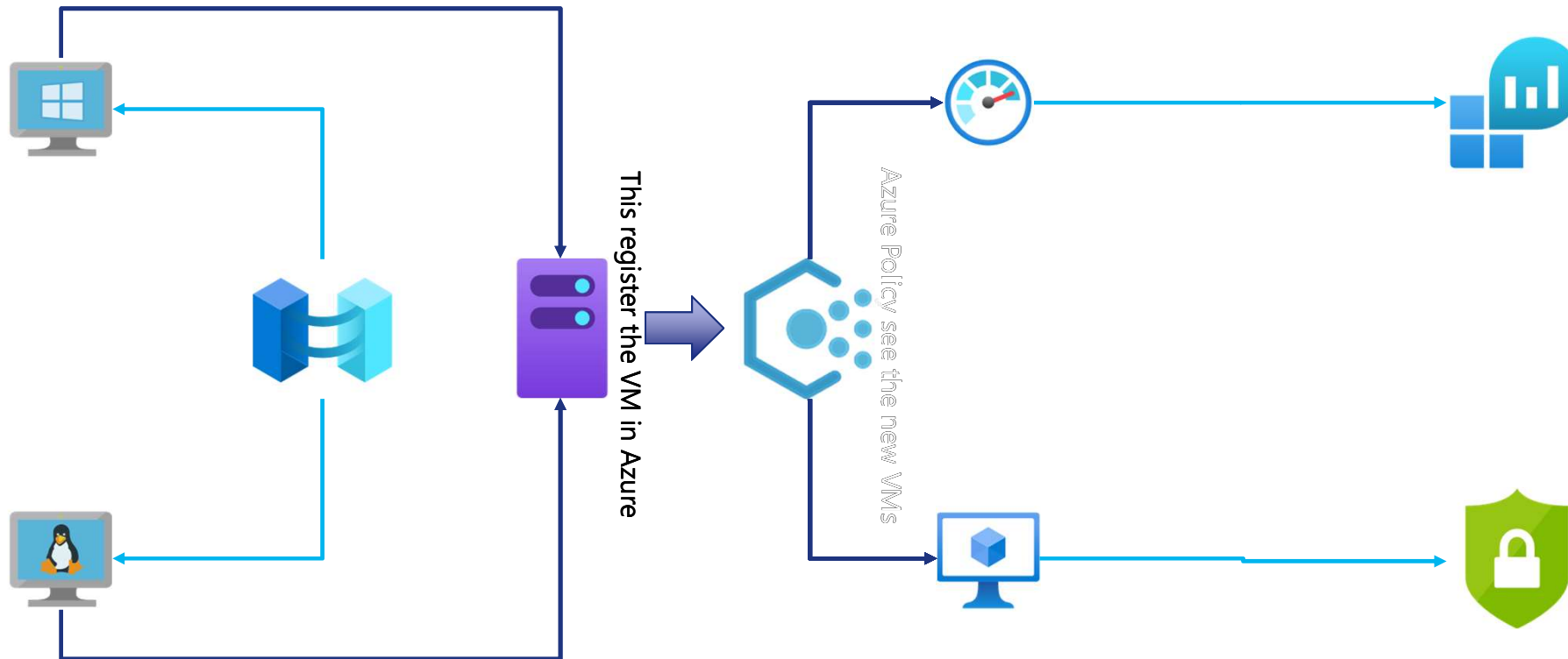
- Ubuntu 16.04, 18.04, 20.04 and 22.04
- Debian 10 and 11
- CentOS Linux 7 and 8
- Rocky Linux 8
- SLES 12 and 15
- RHEL 7 and 8
- Amazon Linux 2
- Oracle Linux 7 and 8



Azure Arc Gateway (Preview)



Deployment at Scale



- Deploy Microsoft Defender for Endpoint agent on Windows virtual machines
- Deploy Microsoft Defender for Endpoint agent on Windows Azure Arc machines
- Deploy Microsoft Defender for Endpoint agent on Linux hybrid machines
- Deploy Microsoft Defender for Endpoint agent on Linux virtual machines

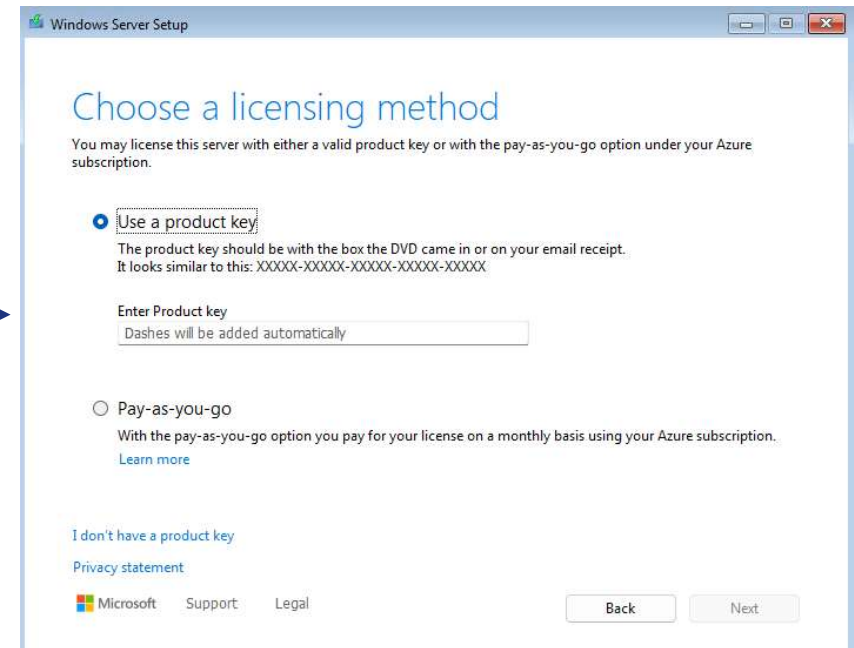


Pricing



Kosten

- Windows Server 2025
 - Keine Änderungen ggü. WS2022
 - Neu Pay-as-you-Go
- Windows Admin Center
 - Bisher und weiterhin frei verfügbar
- Azure Arc
 - Arc selbst ist kostenfrei
 - Services über Azure Arc sind kostenpflichtig (e.g. Update Manager)





Preisübersicht Update Manag

WSUS is deprecated



Service	Price
Azure	Free
Extended Security Updates (ESUs) via Arc	Free
Defender for Server P2 via Arc	Free
Azure Stack HCI clusters	Free
Azure Arc	5\$ (4,62€)
Other enabled Defender Plans via Arc	0,16\$ per Day (5\$ per Month)



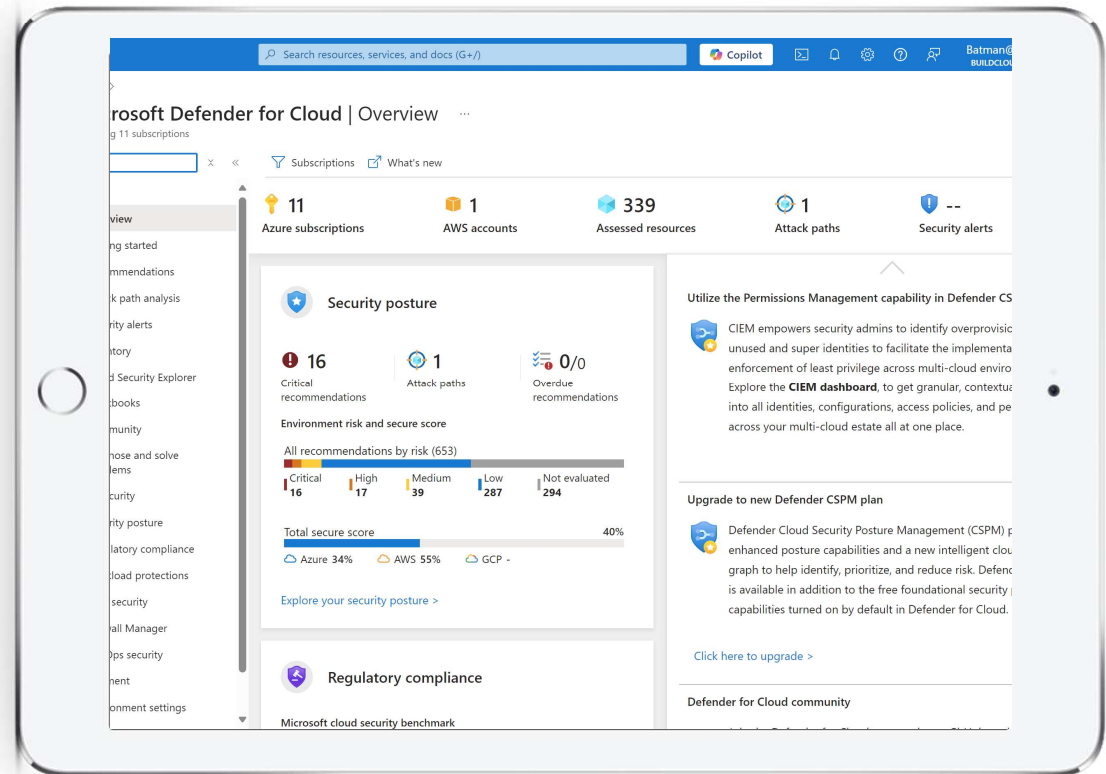
Windows Server Management bei Azure Arc

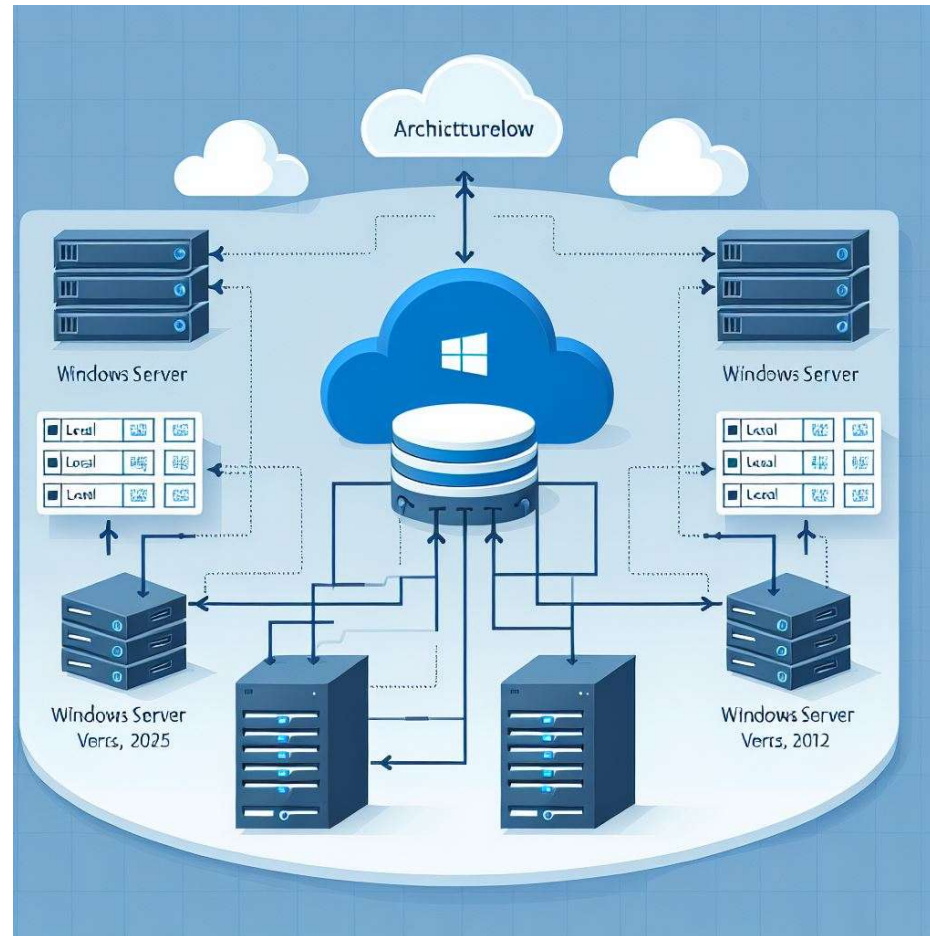
- Mit aktivierter Software Assurance oder PayG
 - Azure Update Manager
 - Azure Change Tracking and Inventory
 - Azure Machine Configuration
 - Windows Admin Center in Azure for Arc
 - Remote Support
 - Network HUD
 - Best Practices Assessment
 - Azure Site Recovery (Configuration Only)

[Announcing General Availability: Windows Server Management enabled by Azure Arc | Microsoft Community Hub](#)



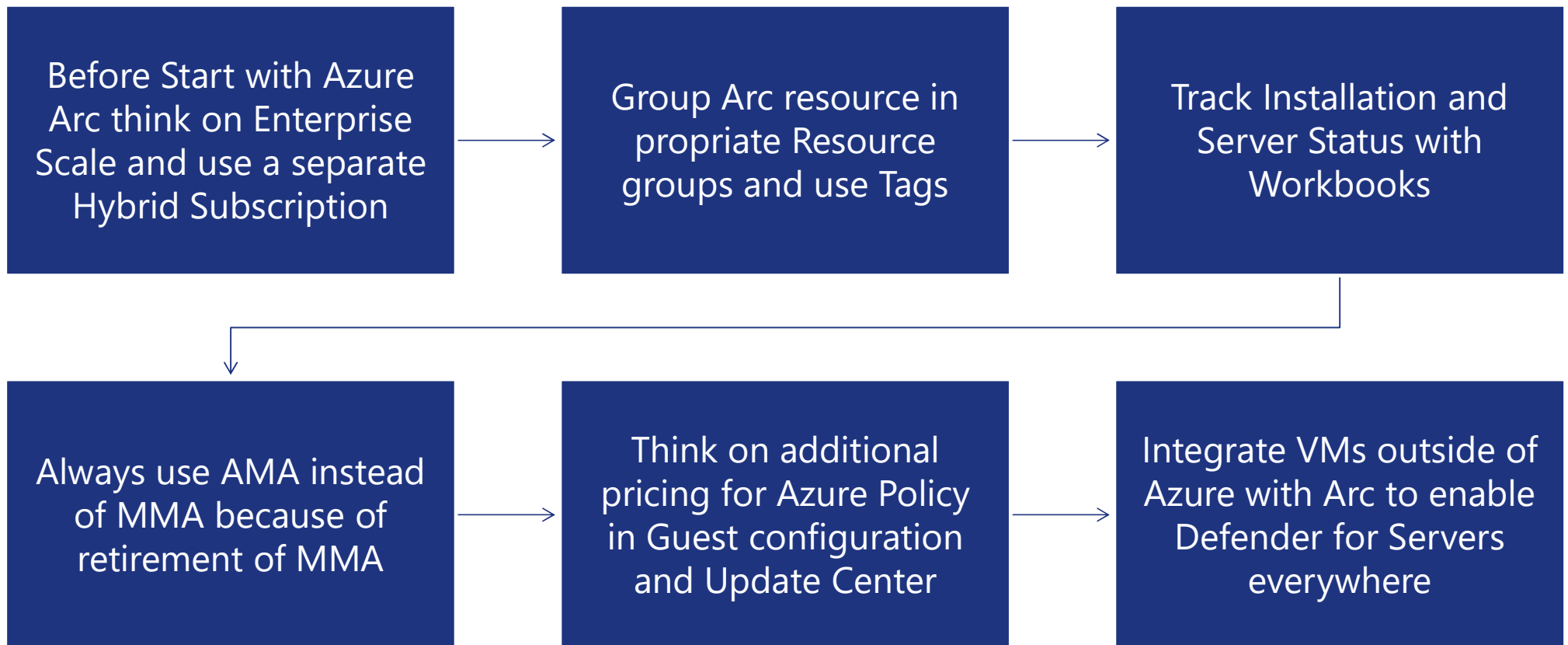
Demo Windows Admin Center







Summary and Best Practices





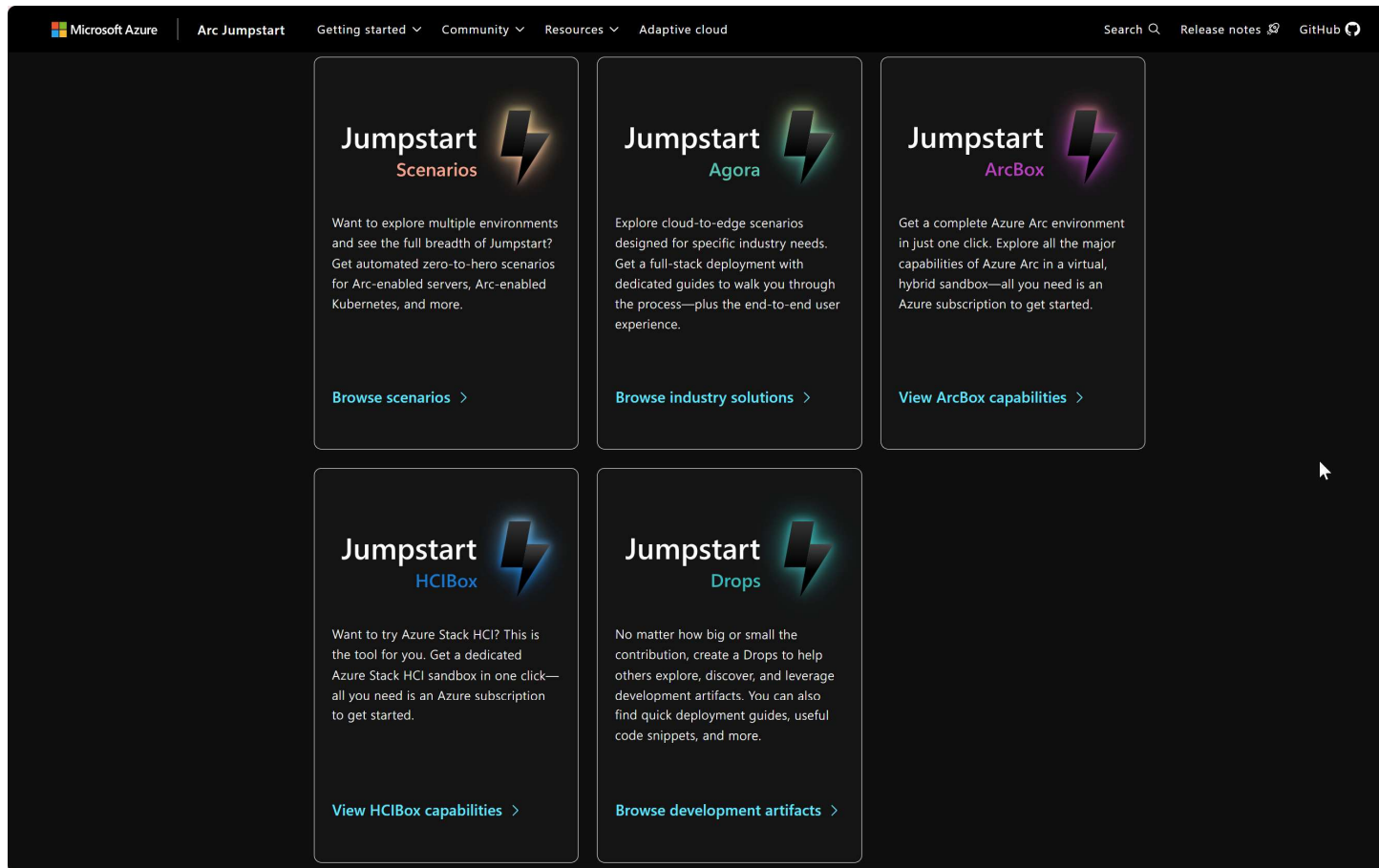
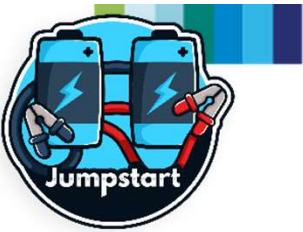
Warum WAC und nicht SCVMM

- WAC wird von allen WS-Versionen vollständig unterstützt
- wird aktiv weiterentwickelt
- ist kostenlos
- einheitliche Schnittstelle
- Einfache Integration zusätzlicher Azure Dienste
- bringt Erweiterungen wie App Store Apps mit



Recap und Best Practices

- Sicherstellen einer Netzwerkverbindung zwischen WAC-Gateway und zu verwalteten Servern
- Azure Arc kann via WAC aktiviert werden
- Verwenden Sie WAC als Standardtool für die Verwaltung
- Kein Serverlogin für die Server-Verwaltung erforderlich
- Azure Arc ist notwendig für alle Hybrid-Funktionen
 - Defender for Cloud
 - Update Manager
 - Azure Monitoring Agent



Overview | Azure Arc Jumpstart

Windows Server 2025 - What's up!



Links

- [Windows Admin Center Documentation](#)
- [Windows Admin Center Launch](#)
- [Windows Admin Center Known issues](#)
- [WAC – MSIgnite Theater Session for partner extensions](#)
- [WAC – MSIgnite WAC Session recordings](#)
- [Azure B- Series Introduction](#)
- [How to simplify network configuration requirements through Azure Arc gateway \(Limited preview\) - Azure Arc | Microsoft Learn](#)
- [Introduction to Azure Arc - Training | Microsoft Learn](#)
- [Managing the Azure Arc-enabled servers agent - Azure Arc | Microsoft Learn](#)
- [Overview of the Azure Connected Machine agent - Azure Arc | Microsoft Learn](#)
- [Adaptive Cloud Community Call September 2024 \(youtube.com\)](#)
- [Manage Azure Arc-enabled Servers using Windows Admin Center in Azure | Microsoft Learn](#)
- [Azure Arc site manager \(preview\) | Microsoft Learn](#)
- <https://aka.ms/wacdownload>
- [Download Windows Admin Center Server Insider Preview](#)



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Diamond



Platinum



Gold





Bitte gebt uns euer Feedback!

Feedback geben und Geschenk mitnehmen

Vielen Dank!



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