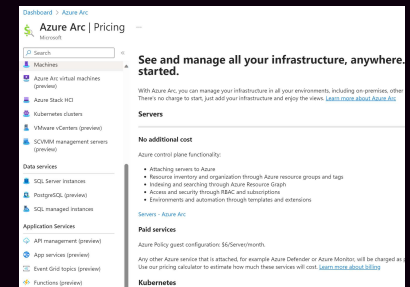
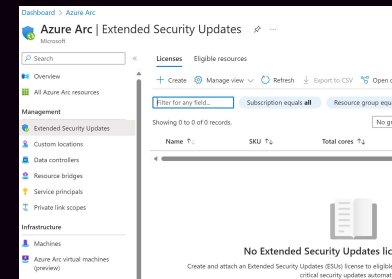
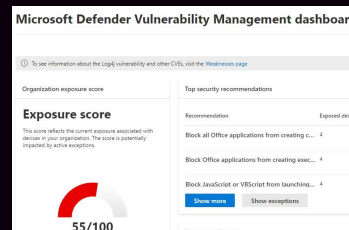
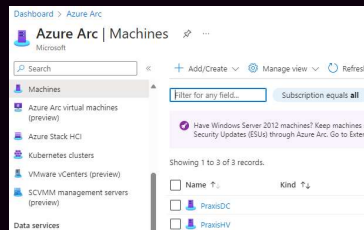
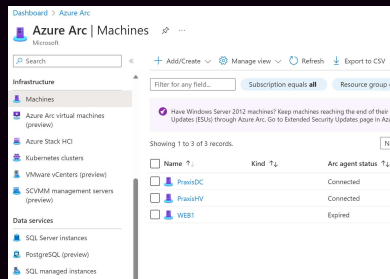


NIC
EMPOWER

November 13-15, Oslo Spektrum

Gregor Reimling

WS2025 with Azure Arc and WAC - The best combination for hybrid cloud



About Me "Gregor Reimling"



Focus

Azure Governance, Security
and IaaS

From

Cologne, Germany



My Blog

<https://www.reimling.eu>

NIC
EMPOWER



Certifications

Cloud Security Architect,
MVP for MS Azure and
Security

Hobbies

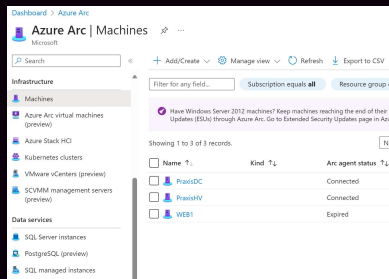
Family, Community,
Worldtraveler

Contact

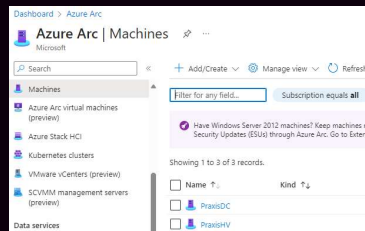


@GregorReimling
@CloudInspires

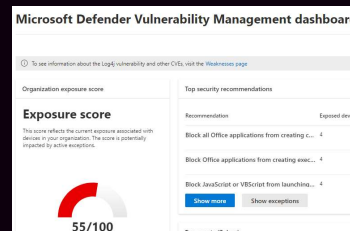
Agenda



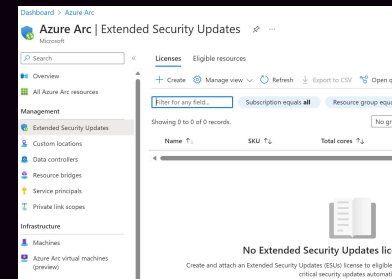
Overview about
Windows Server
2025



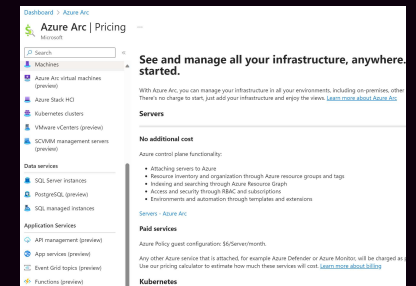
Active Directory



Windows
Admin Center



Azure Arc



Security & Pricing

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>

Virtualization

Always use
Gen2 VMs



Larger VMs

Up to 240GB RAM per VM

Up to 2048 vCPUs per VM



GPU-P support (split GPU)

GPUs can now be used across VMs

Support for Live Migration and Failover Cluster



Dynamic Processor Compatibility in cluster



Gen 2 VMs now Default

Failover Cluster Features



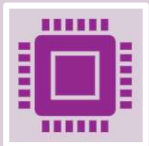
Cluster aware updating

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

Install Windows security patches without reboot



WS 2022 Datacenter: Azure Edition Server Core

Azure = GA

Azure Stack HCI = GA

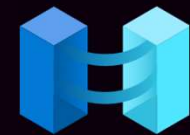
Hotpatch im Standard aktiviert



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

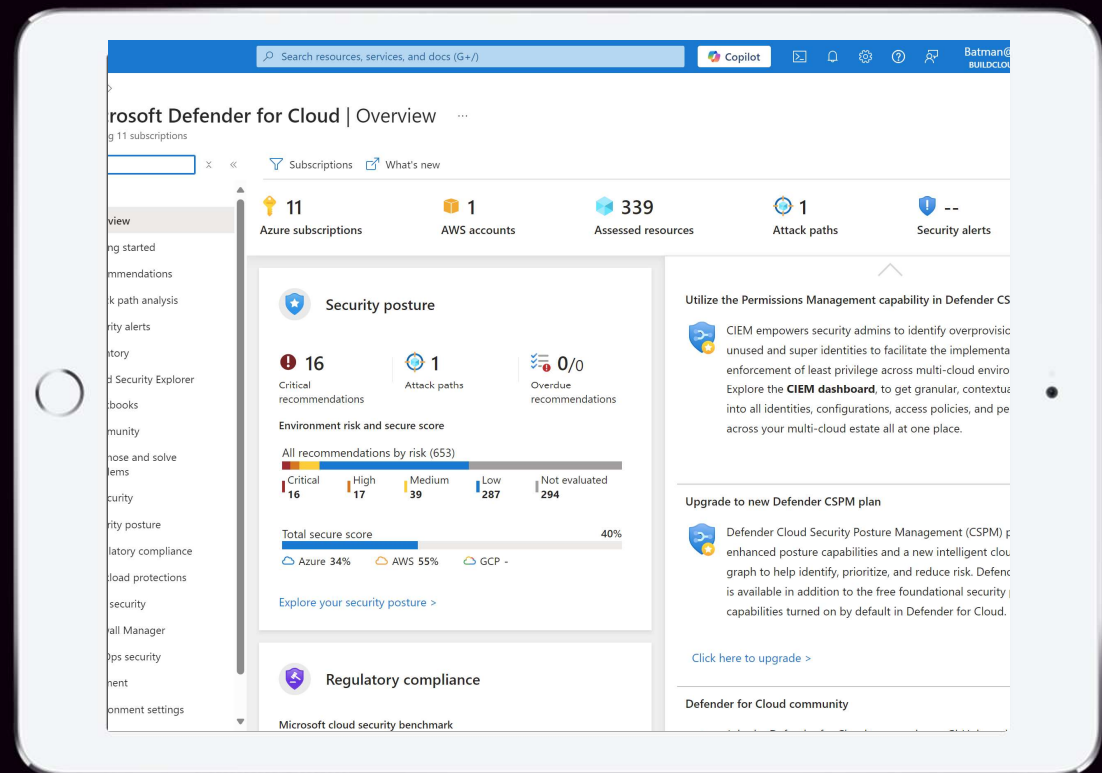
[Hotpatch für Windows Server: Azure Edition | Microsoft Learn](#)

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

Removed from WS2025

- IIS 6 Management Console (Web-Lgcy-Mgmt-Console)
- Wordpad
- SMTP Server
- Windows PowerShell 2.0 Engine
- No active development
 - Computer Browser
 - NTLM
 - TLS 1.0/1.1
 - WebDAV Redirector service
 - WMIC
 - VBScript

Demo Windows Server 2025

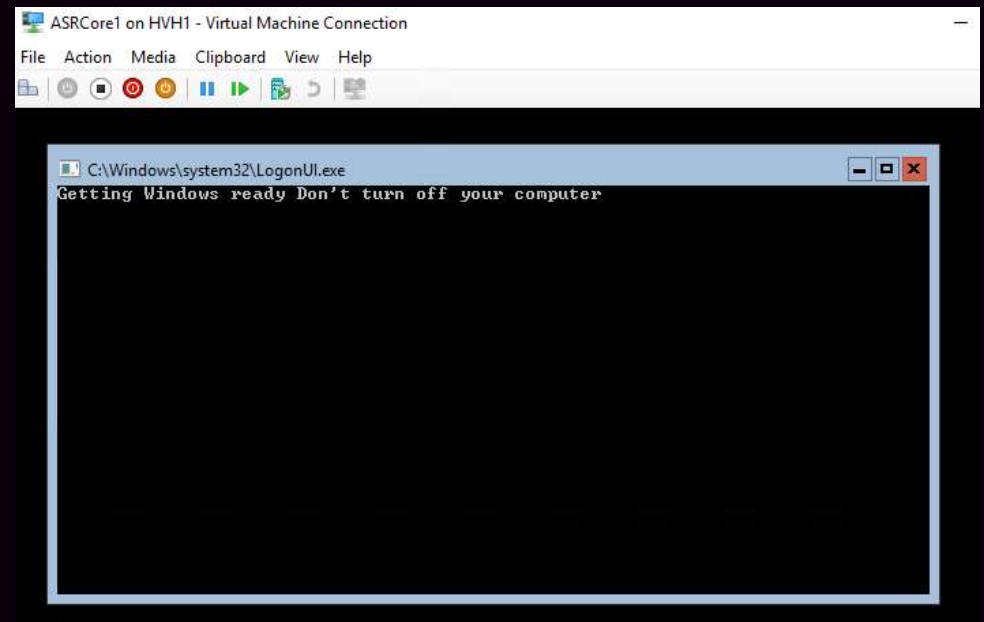




Windows Admin Center

Servercore Management so far

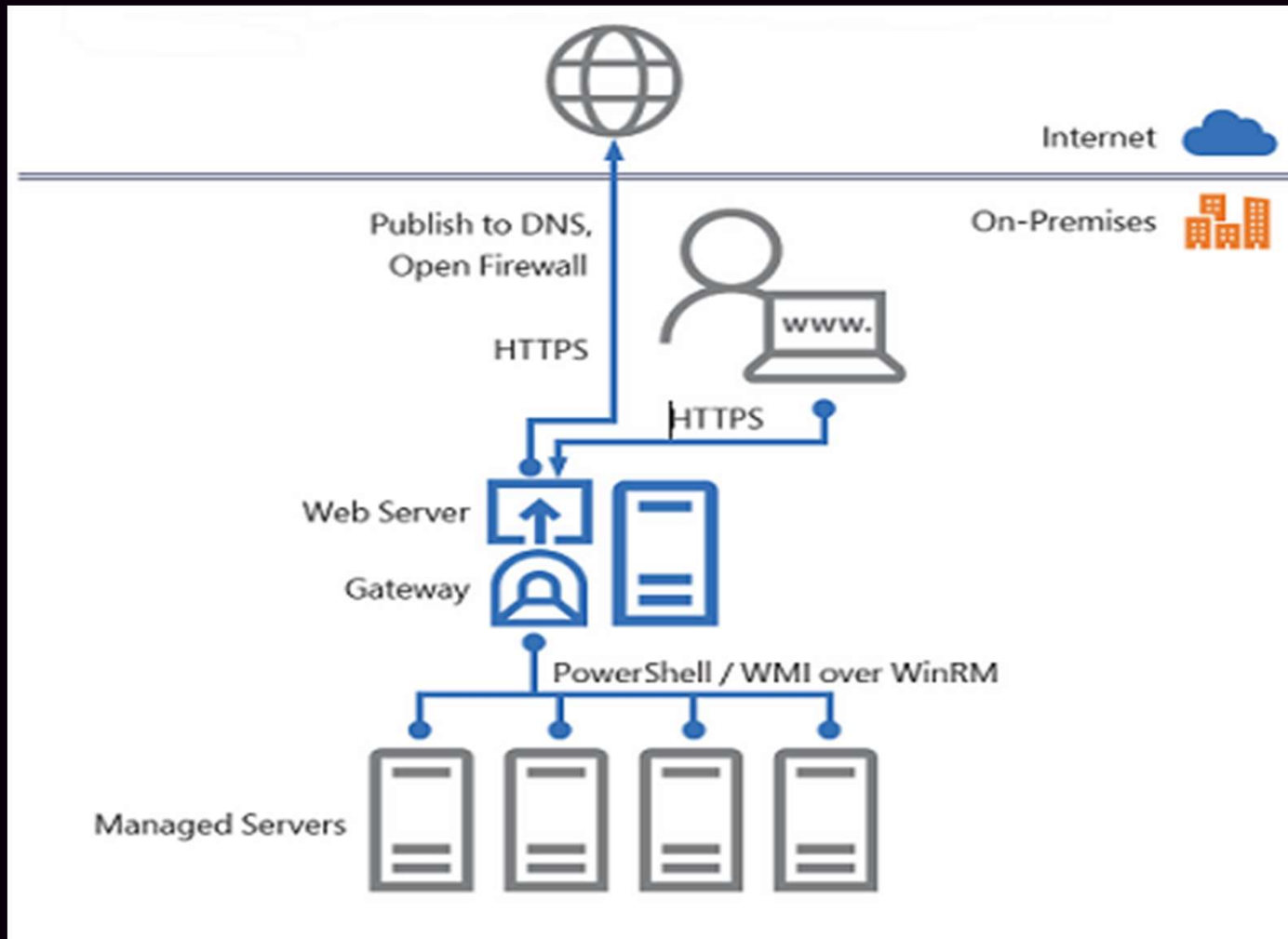
- Via Commandline
- Powershell (Remote)
- Servermanager
 - Corefig.ps1



Windows Admin Center

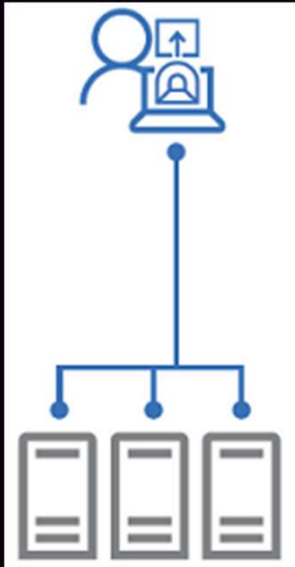
- Managing via Azure Portal
- Or use Windows Admin Center integration
- No managing options on the local Server
- Next Generation Servermanager
- Webbased on HTML 5
- Central surface for all server
- Easy installation - (MSI Paket) On-Premise or Cloud VM
- All Functions from the Servermanagers + many more included
- Import of existing Server easy via Textfile
- Serveranalysis agentless – WMI and PS

Windows Admin Center - Architecture

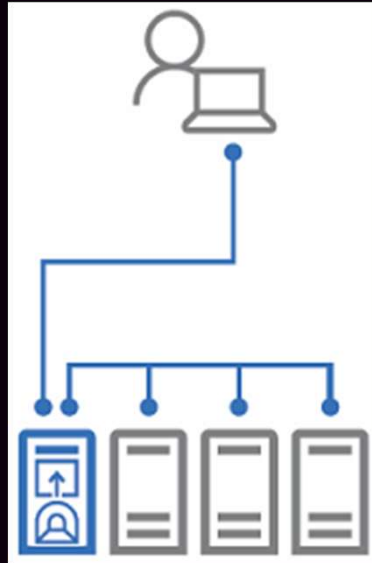


Installation

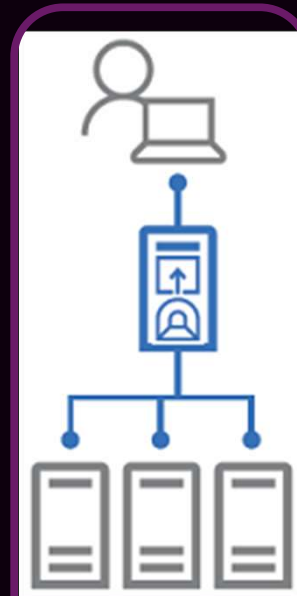
WAC – Installation



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

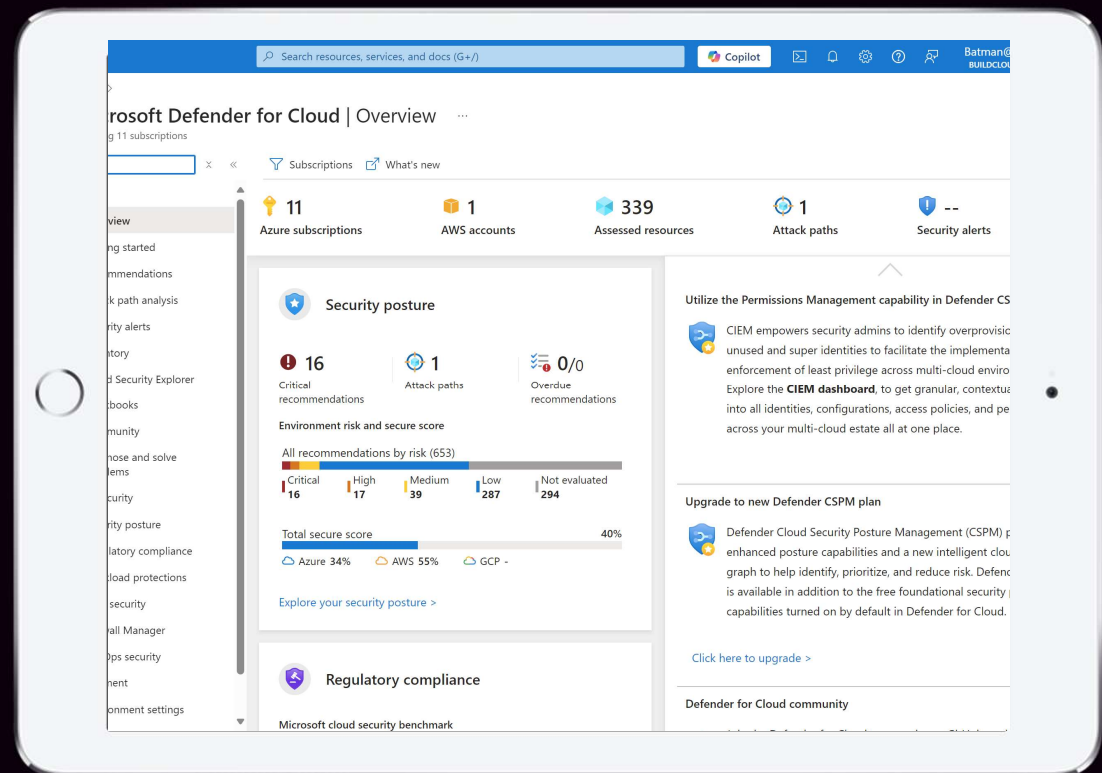


Installation on high available Gatewayserver.

WAC – Recommendation for installation

- Provisioning as Gateway Server
- Used as Entrypoint, register manageable Server here
 - Used Ports only open to internal
- Can also used for DMZ
- Installation local or in Azure possible
- High availability
 - HA only in Active- Passive Mode via Failover- Cluster Function from Windows Server
- Integration in Azure possible
 - To authenticate via Entra ID
 - To manage Azure Site Recovery
 - There coming more and more manageable services in Azure

Demo Windows Admin Center





Azure Arc



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

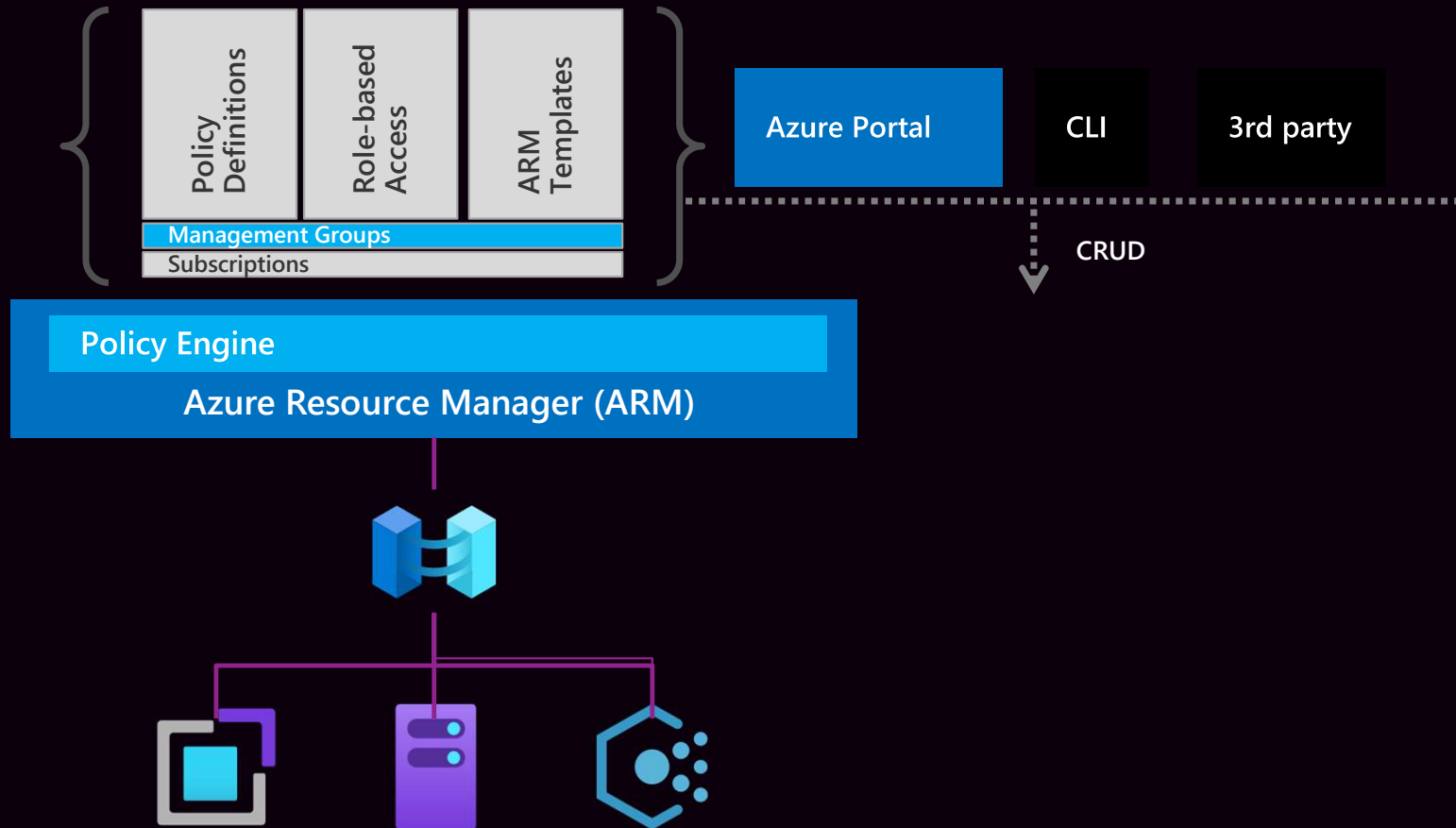
providing control over the cloud environment, without sacrificing developer agility

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



Supported Environments and OS

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

Prerequisites

NET Framework 4.6

Windows PowerShell 4 (included in WS2012R2 and higher)

Azure RBAC

- **Onboarding:** Azure Connected Machine Onboarding
- **Read, Modify, Delete:** Azure Connected Machine Resource Admin

Resource Providers

- **Microsoft.HybridCompute**
- **Microsoft.GuestConfiguration**
- **Microsoft.HybridConnectivity**

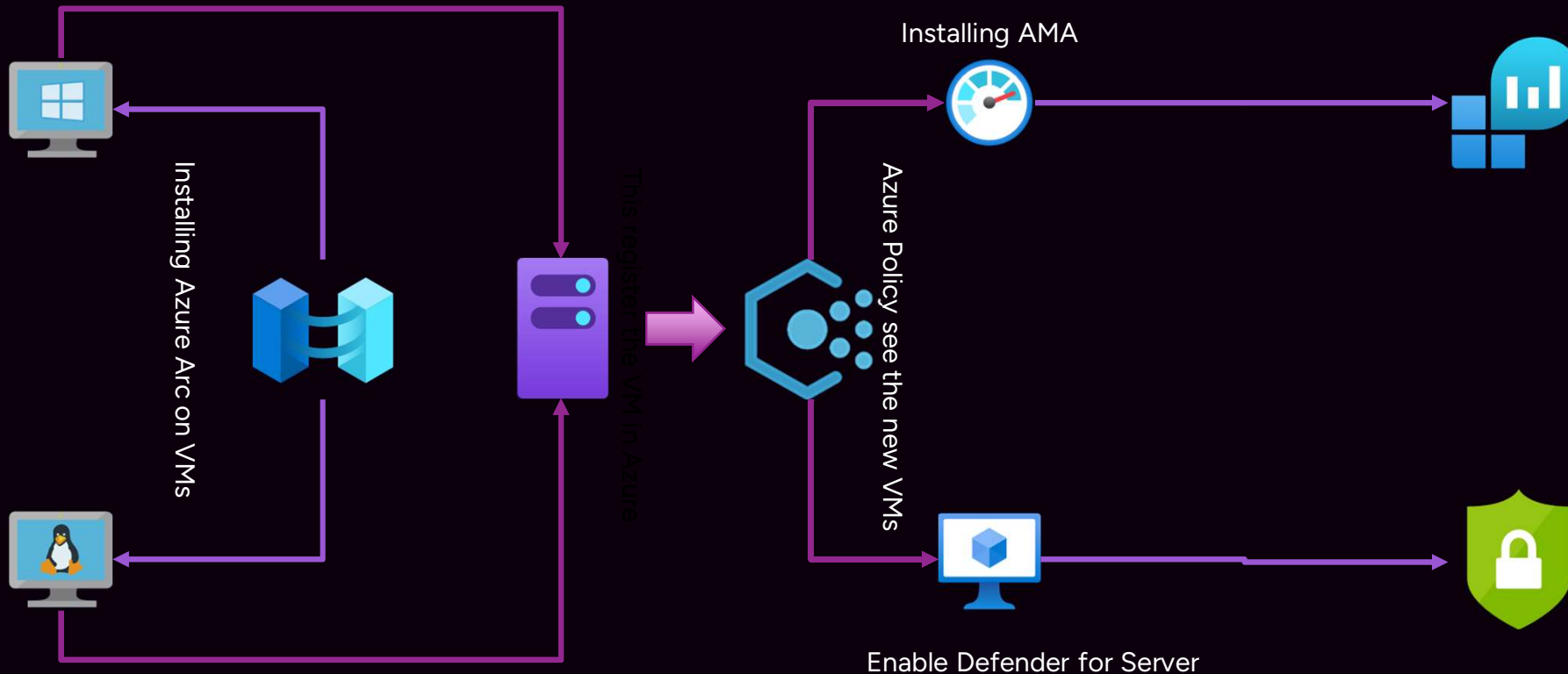
Outbound via TCP 443 (Proxy server is supported)

Private Link support

Connecting



Deployment at Scale



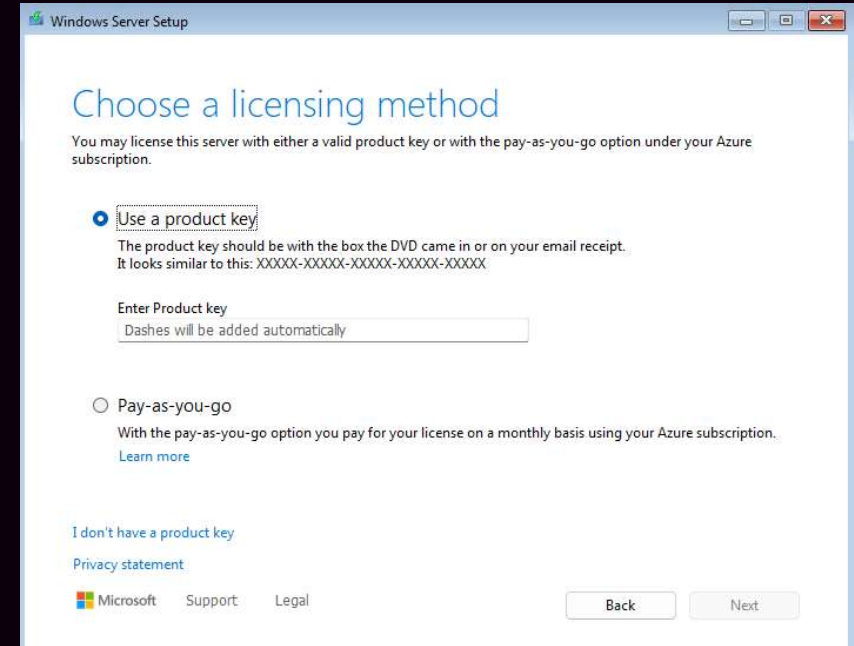
- Deploy Microsoft Defender for Endpoint agent on Windows virtual machines
- Deploy Microsoft Defender for Endpoint agent on Windows Azure Arc machines
- Deploy Microsoft Defender for Endpoint agent on Linux hybrid machines
- Deploy Microsoft Defender for Endpoint agent on Linux virtual machines



Pricing

Pricing

- Windows Server 2025
 - No change comparing to WS2022
 - Additional PayG possible
- Windows Admin Center
 - As of now free of charge
- Azure Arc
 - As of now free of charge
 - Additional services are charged (e.g. Update Manager)



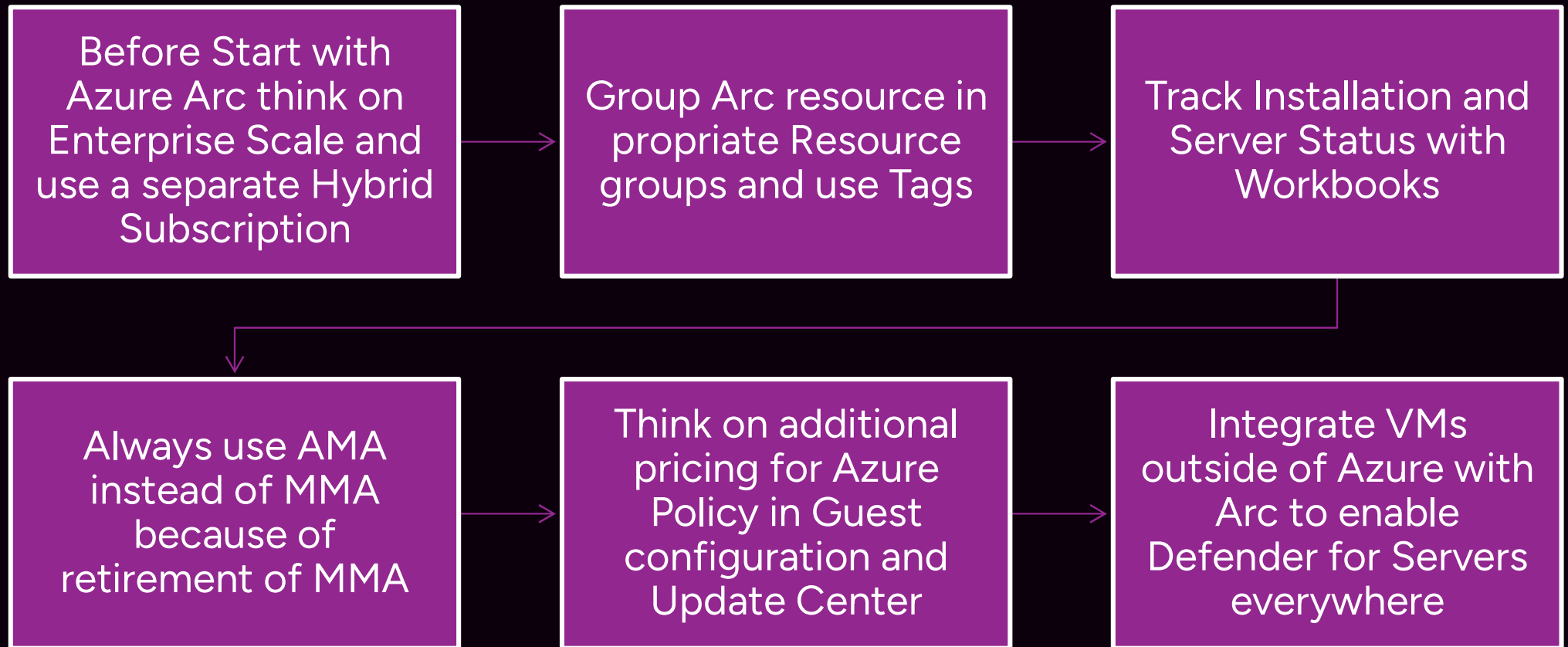
Price overview Update Manager

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)

Summary and Best Practices



Why WAC and not SCVMM

- New features in SCVMM 2025
 - Support WS2025
 - VMM 2025 works with TLS 1.3
 - Enhanced VMware to Hyper-V VM conversion performance
 - Support for the latest Linux Guest Operating Systems
- There will no longer be any active further development or new features in SCVMM – only support

Why WAC and not SCVMM

- WAC is fully supported on all WS versions
- is being actively developed
- is currently available free of charge
- has a unified interface
- Azure services can easily activated and configured
- Can be supplemented with extensions like app store apps

Summary and Best Practices

- Make sure you have network connectivity between WAC Gateway and managed Servers
- Enable Azure Arc on all machines out of Azure via WAC
- Use WAC as **standard/default** tool for managing your VMs
- With WAC there is no need for Serverlogin to manage Servers
- Azure Arc will be the default integration path for all Hybrid capabilities
 - Defender for Cloud
 - Update Manager
 - Azure Monitoring Agent



Microsoft Azure | Arc Jumpstart | Getting started | Community | Resources | Adaptive cloud | Search | Release notes | GitHub

Jumpstart Scenarios

Want to explore multiple environments and see the full breadth of Jumpstart? Get automated zero-to-hero scenarios for Arc-enabled servers, Arc-enabled Kubernetes, and more.

[Browse scenarios >](#)

Jumpstart Agora

Explore cloud-to-edge scenarios designed for specific industry needs. Get a full-stack deployment with dedicated guides to walk you through the process—plus the end-to-end user experience.

[Browse industry solutions >](#)

Jumpstart ArcBox

Get a complete Azure Arc environment in just one click. Explore all the major capabilities of Azure Arc in a virtual, hybrid sandbox—all you need is an Azure subscription to get started.

[View ArcBox capabilities >](#)

Jumpstart HCIBox

Want to try Azure Stack HCI? This is the tool for you. Get a dedicated Azure Stack HCI sandbox in one click—all you need is an Azure subscription to get started.

[View HCIBox capabilities >](#)

Jumpstart Drops

No matter how big or small the contribution, create a Drops to help others explore, discover, and leverage development artifacts. You can also find quick deployment guides, useful code snippets, and more.

[Browse development artifacts >](#)

Windows Server 2025 - What's up!

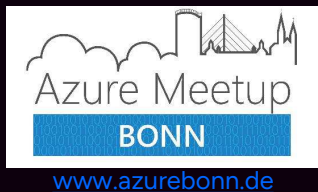
Overview | Azure Arc Jumpstart

What's next

- Deep dive into WS2025 -> [Windows Server 2025 - What's up!](#) By [Mikael Nystrom](#) in track 8 after this session
- Deeper look into Azure Arc -> [From zero to hero with Azure Arc-enabled Infrastructure in 60 minutes](#) by [Wim Matthyssen](#) in track 2 starts 11:10AM
- Deeper look into WAC -> [Windows Admin Center - All cool things in 60 minutes](#) by [Mikael Nystrom](#) in track 4 at 2PM

Links

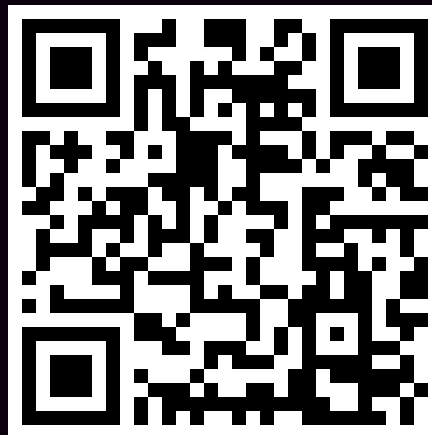
- [Windows Admin Center Documentation](#)
- [Windows Admin Center Launch](#)
- [Windows Admin Center Known issues](#)
- [WAC – MSIgnite Theater Session for partner extensions](#)
- [WAC – MSIgnite WAC Session recordings](#)
- [Azure B- Series Introduction](#)
- [How to simplify network configuration 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](#)



Blog

<https://www.Reimling.eu>

NIC
EMPOWER



Contact



- @GregorReimling



- Gregor Reimling