Next Generation Datacenter:

Erfolgreicher Einsatz der Multi-Hybrid Cloud

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W&W Informatik GmbH

Click to edit Master title style

The world’s computer

Click to edit Master title style

The world’s computer

1. Services for all workloads
2. Intelligent data and AI
3. DevOps tools and experiences
4. Security, identity, and governance
5. Continuous cloud-to-edge computing fabric

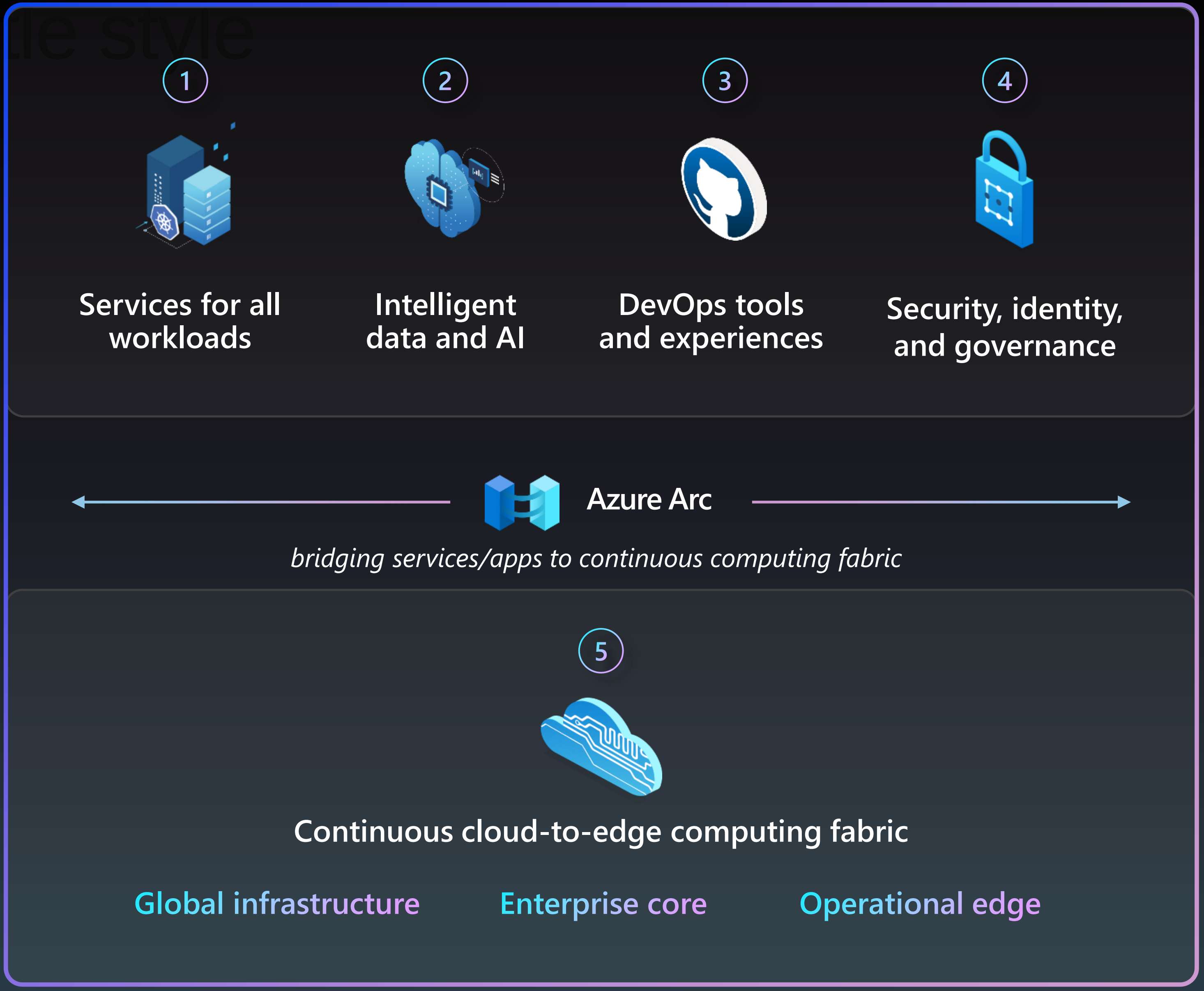
Azure security is…

Azure Arc enabled „Security“

- Microsoft Defender for Cloud – Server
- Microsoft Defender for Cloud – Database
- Microsoft Defender for Cloud – Container
- Microsoft Sentinel
- Azure KeyVault
- Azure Policy
- Azure Automanage
- Azure Update Management Center
- Extended Security Updates (for 2012/2012 R2)

Click to edit Master title style

The world's computer



1 Services for all workloads

2 Intelligent data and AI

3 DevOps tools and experiences

4 Security, identity, and governance

Azure Arc

bridging services/apps to continuous computing fabric

5 Continuous cloud-to-edge computing fabric

Global infrastructure

Enterprise core

Operational edge

Windows Server 2012 & 2012 R2 → EoS 10.10.2023 !

Microsoft SQL Server 2012 → EoS 12.07.2022 !

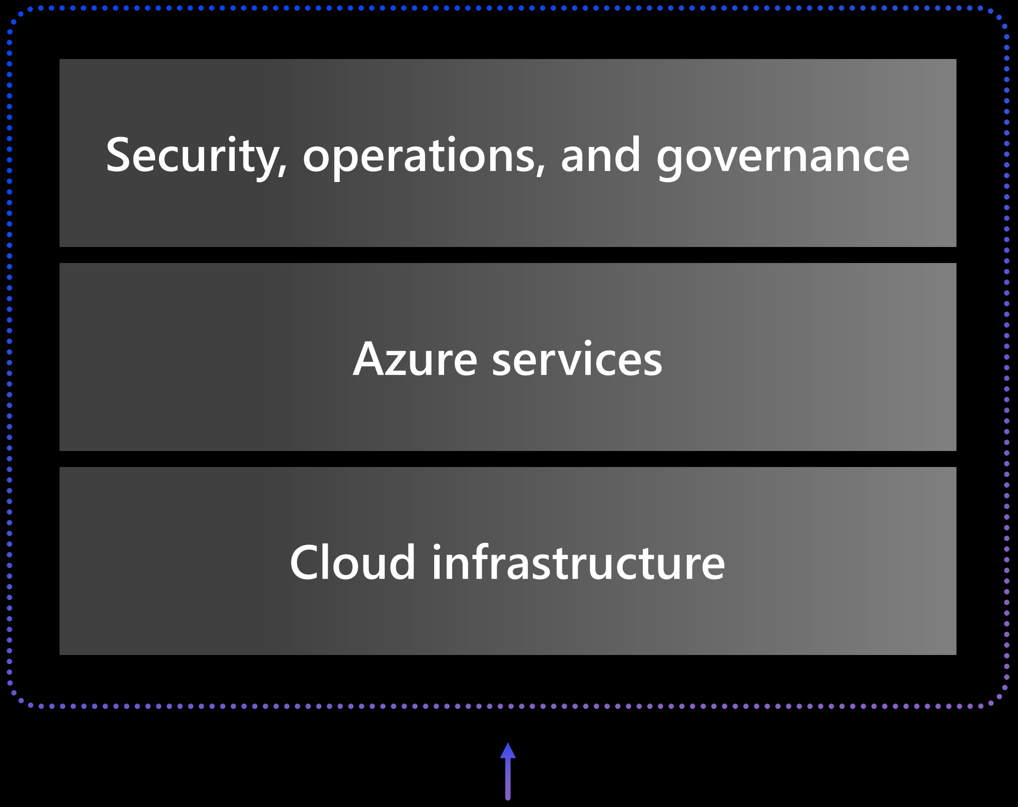
2014 → EoS 09.07.2024 !

- Option 1: Migrate to Azure/AVS, then inplace upgrade if possible
- Option 2: Upgrade to newer version e.g. WS2022
- *New:* Option 3: Use ESU by Arc

Three options to prepare for Windows Server 2012/R2 end of support - Microsoft Community Hub

ESUs, Extended Security Updates, Windows Server, SQL server, hybrid, Azure Arc (microsoft.com)

Microsoft Azure



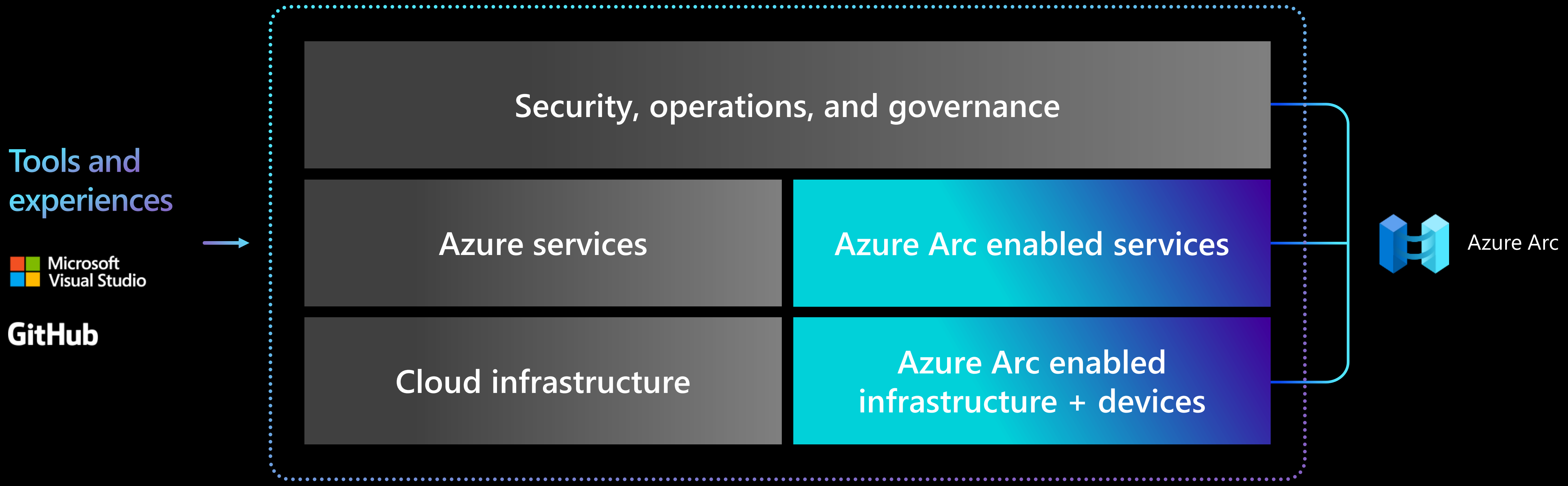
Security, operations, and governance

Azure services

Cloud infrastructure

Tools and experiences

Microsoft Azure



Tools and experiences

Microsoft Visual Studio

GitHub

Security, operations, and governance

Azure services

Azure Arc enabled services

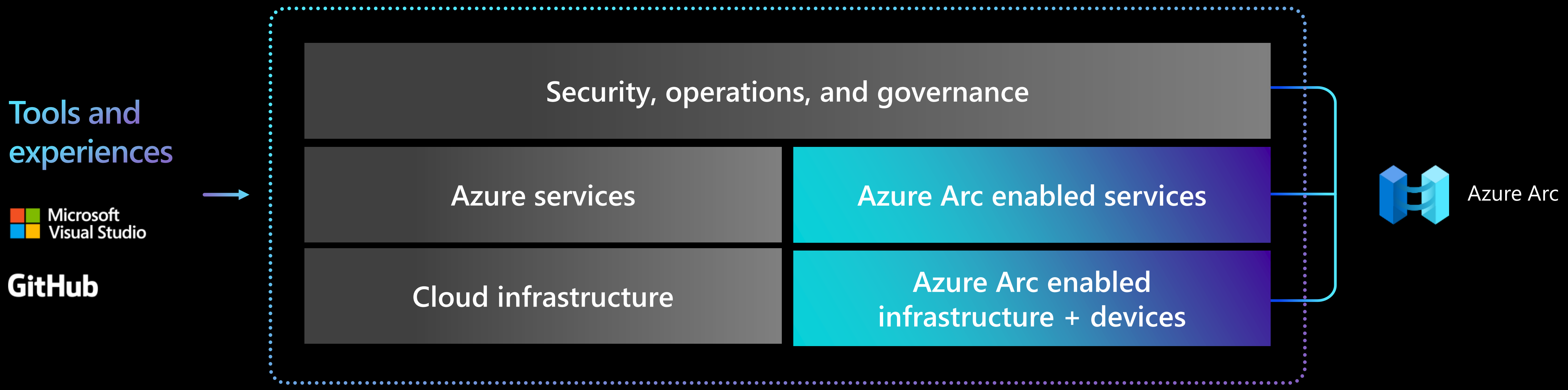
Cloud infrastructure

Azure Arc enabled infrastructure + devices

Azure Arc

Innovate anywhere

Microsoft Azure



Tools and experiences

Microsoft Visual Studio

GitHub

Security, operations, and governance

Azure services

Azure Arc enabled services

Cloud infrastructure

Azure Arc enabled infrastructure + devices

Azure Arc

Innovate anywhere

Cloud regions

50+ Azure regions
Multicloud

Regional edge

Operator DC
Co-Lo provider

IT edge

Customer DC
Branch office

IoT edge

Factory floor
Retail store
Field production

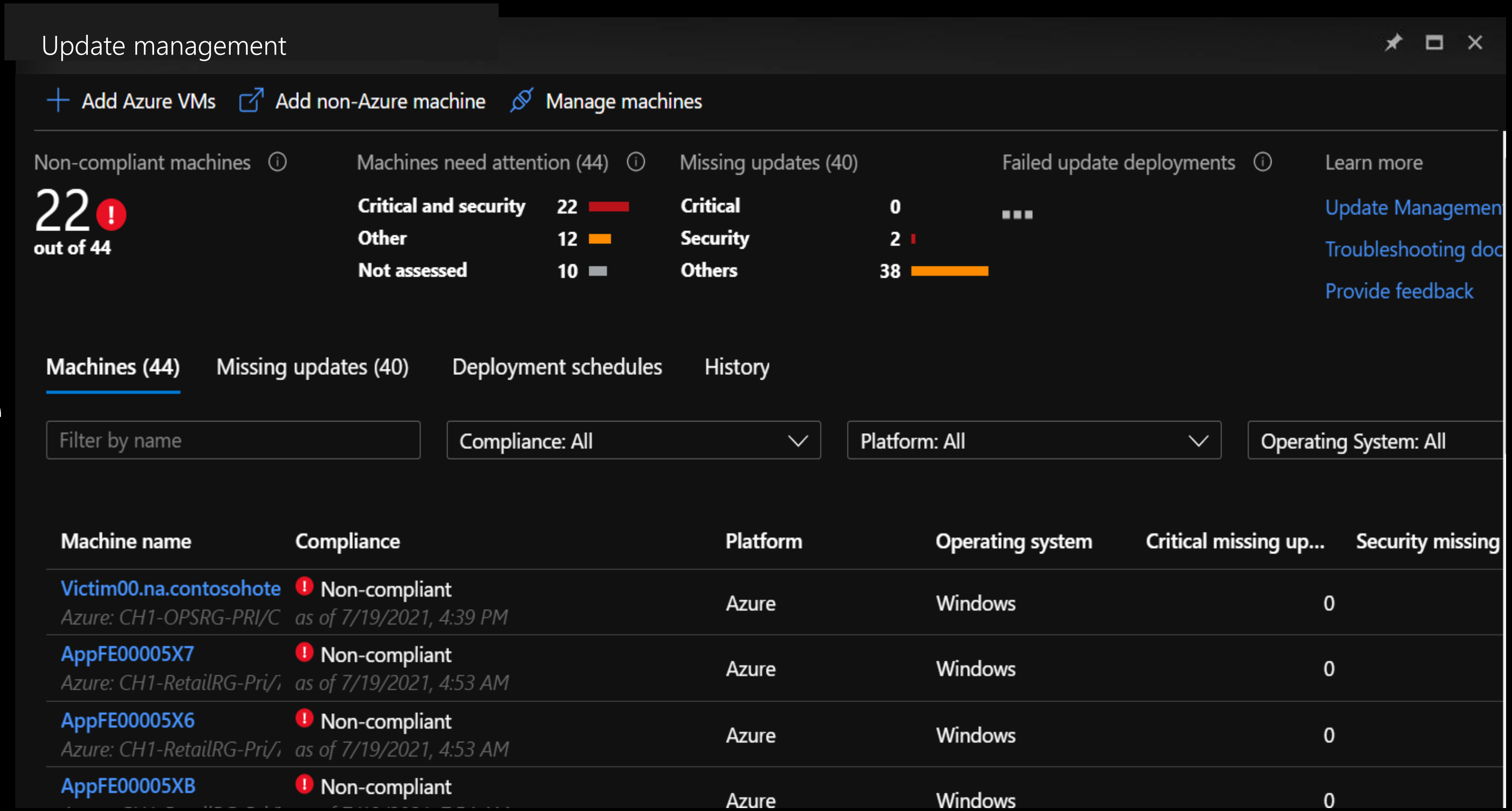
Update Management via Azure Automation

Assess update status of servers across your environment

Deploy updates to your machines from a single pane of glass

Verify update compliance across your environment

Still available, but deprecated



Update management

Non-compliant machines ⓘ

22 !

out of 44

Machines need attention (44) ⓘ

Critical and security	22
Other	12
Not assessed	10

Missing updates (40)

Critical	0
Security	2
Others	38

Failed update deployments ⓘ

...

Learn more

Filter by name

Compliance: All

Platform: All

Operating System: All

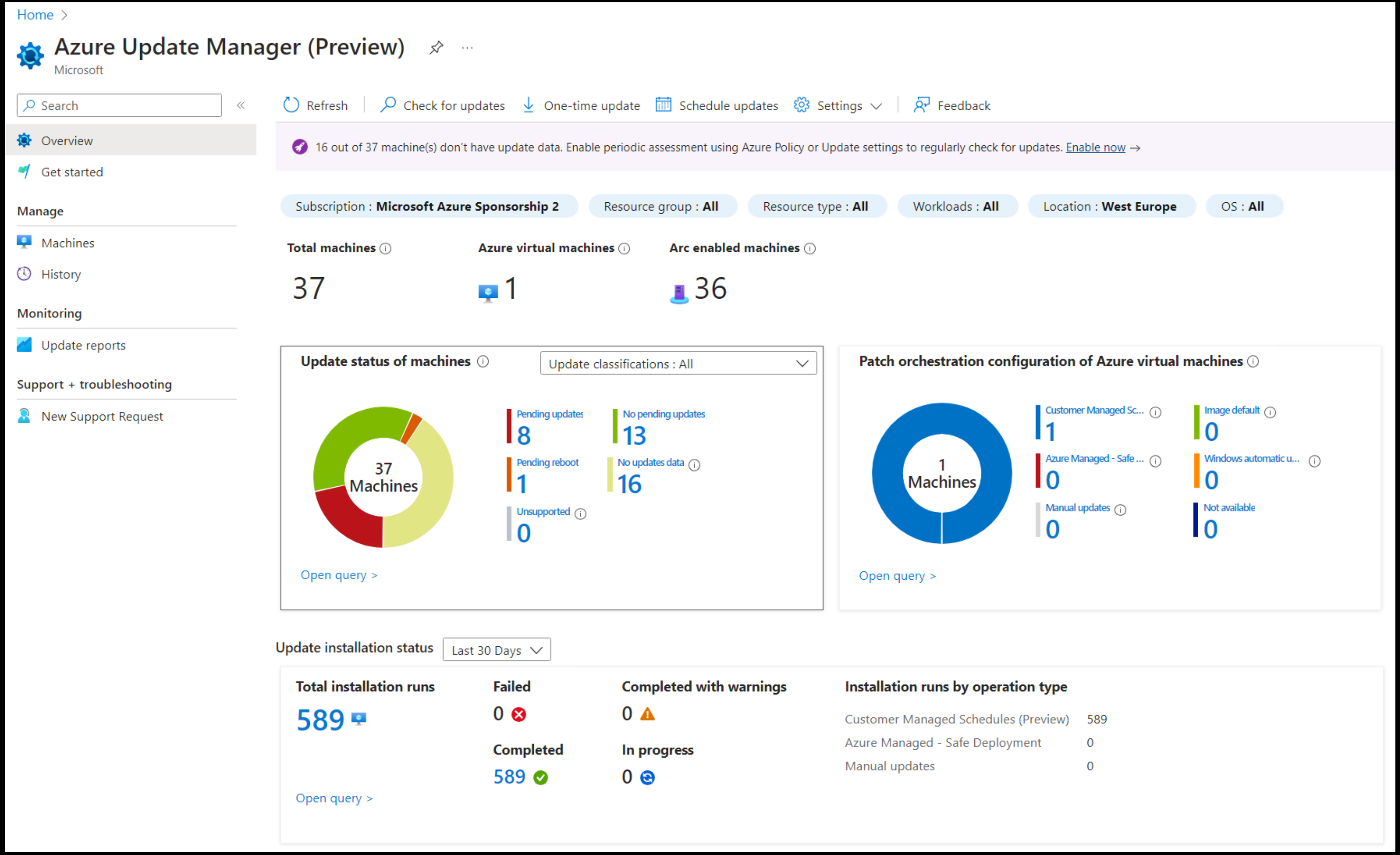
Machine name	Compliance	Platform	Operating system	Critical missing up...	Security missing
Victim00.na.contosohote Azure: CH1-OPSRG-PRI/C	! Non-compliant as of 7/19/2021, 4:39 PM	Azure	Windows	0	
AppFE00005X7 Azure: CH1-RetailRG-Pri/	! Non-compliant as of 7/19/2021, 4:53 AM	Azure	Windows	0	
AppFE00005X6 Azure: CH1-RetailRG-Pri/	! Non-compliant as of 7/19/2021, 4:53 AM	Azure	Windows	0	
AppFE00005XB	! Non-compliant	Azure	Windows	0	

Azure Update Manager

Native functionality on Azure Compute & Azure Arc for Servers platform, zero step onboarding, out-of-the box onboarding experience.

Provides finer grain access control as desired by customer

Independent of Agents



Home >

Azure Update Manager (Preview)

Microsoft

Search

Overview

Get started

Manage

Machines

History

Monitoring

Update reports

Support + troubleshooting

New Support Request

Refresh | Check for updates | One-time update | Schedule updates | Settings | Feedback

16 out of 37 machine(s) don't have update data. Enable periodic assessment using Azure Policy or Update settings to regularly check for updates. Enable now →

Subscription : **Microsoft Azure Sponsorship 2** | Resource group : **All** | Resource type : **All** | Workloads : **All** | Location : **West Europe** | OS : **All**

Total machines	Azure virtual machines	Arc enabled machines
37	1	36

Update status of machines

Update classifications : All

37 Machines

Pending updates 8

Pending reboot 1

Unsupported 0

No pending updates 13

No updates data 16

Open query >

Patch orchestration configuration of Azure virtual machines

1 Machines

Customer Managed Sc... 1

Azure Managed - Safe ... 0

Manual updates 0

Image default 0

Windows automatic u... 0

Not available 0

Open query >

Update installation status | Last 30 Days

Total installation runs 589

Failed 0

Completed with warnings 0

Completed 589

In progress 0

Open query >

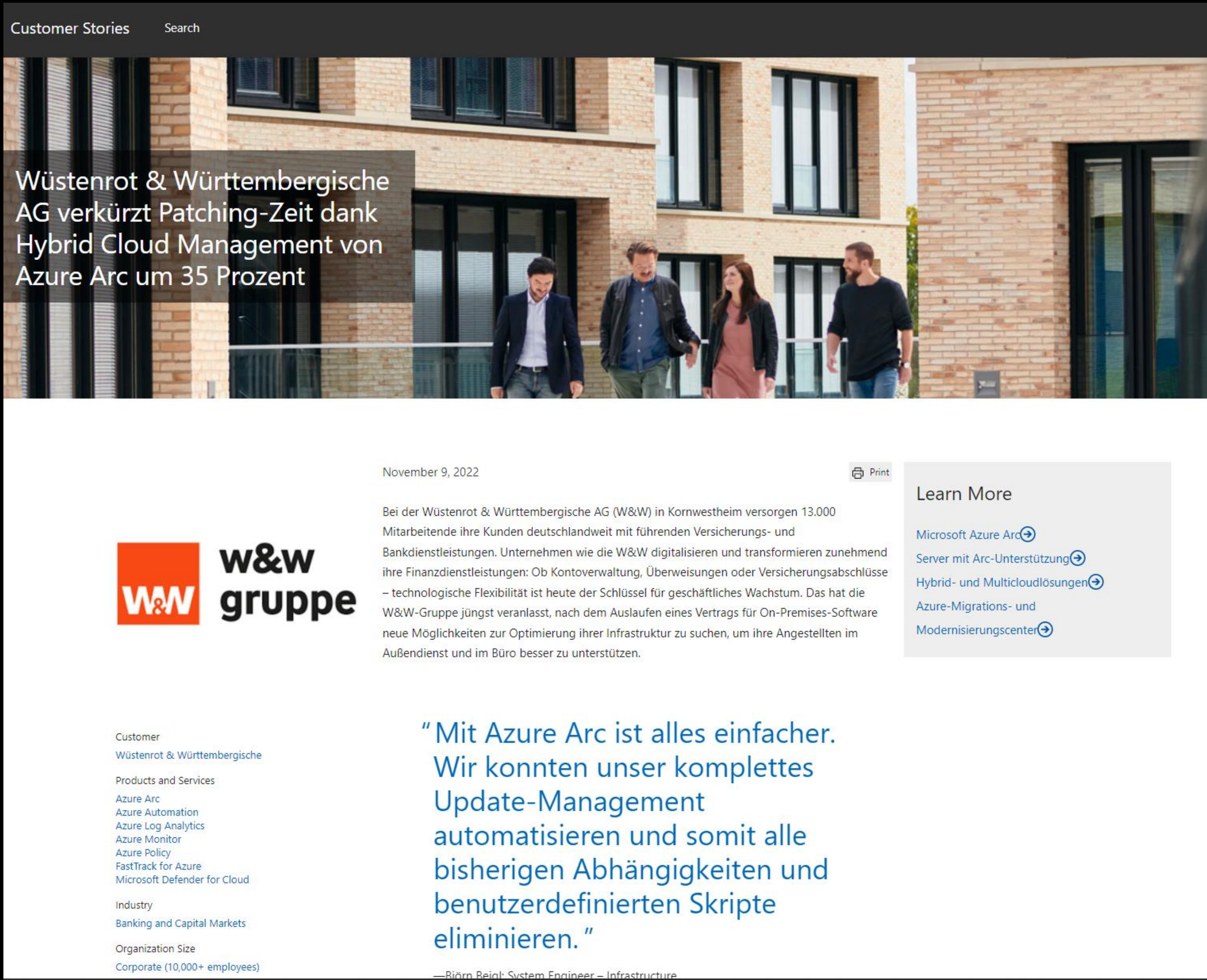
Installation runs by operation type

Customer Managed Schedules (Preview)	589
Azure Managed - Safe Deployment	0
Manual updates	0

Azure Update Manager (preview) overview | Microsoft Learn

GA should be soon

[Microsoft Customer Story- Wüstenrot & Württembergische AG verkürzt Patching-Zeit dank Hybrid Cloud Management von Azure Arc um 35 Prozent]



Wüstenrot & Württembergische AG verkürzt Patching-Zeit dank Hybrid Cloud Management von Azure Arc um 35 Prozent

November 9, 2022

Bei der Wüstenrot & Württembergische AG (W&W) in Kornwestheim versorgen 13.000 Mitarbeitende ihre Kunden deutschlandweit mit führenden Versicherungs- und Bankdienstleistungen. Unternehmen wie die W&W digitalisieren und transformieren zunehmend ihre Finanzdienstleistungen: Ob Kontoverwaltung, Überweisungen oder Versicherungsabschlüsse – technologische Flexibilität ist heute der Schlüssel für geschäftliches Wachstum. Das hat die W&W-Gruppe jüngst veranlasst, nach dem Auslaufen eines Vertrags für On-Premises-Software neue Möglichkeiten zur Optimierung ihrer Infrastruktur zu suchen, um ihre Angestellten im Außendienst und im Büro besser zu unterstützen.

Learn More

- Microsoft Azure Arc ➔
- Server mit Arc-Unterstützung ➔
- Hybrid- und Multicloudlösungen ➔
- Azure-Migrations- und Modernisierungscenter ➔

Customer
Wüstenrot & Württembergische

Products and Services
Azure Arc
Azure Automation
Azure Log Analytics
Azure Monitor
Azure Policy
FastTrack for Azure
Microsoft Defender for Cloud

Industry
Banking and Capital Markets

Organization Size
Corporate (10,000+ employees)

> "Mit Azure Arc ist alles einfacher. Wir konnten unser komplettes Update-Management automatisieren und somit alle bisherigen Abhängigkeiten und benutzerdefinierten Skripte eliminieren."
>
> —Björn Beigl; System Engineer – Infrastructure

w&w gruppe

The W&W Group

16 Companies are part of W&W
13.000 Employees work for W&W
800 Employees work in IT

200 VMware
ESXi Hosts

1800 Microsoft
Windows Servers

900 Red Hat Enterprise
Linux Servers

11 Red Hat
OpenShift Clusters

8500 Containers in
6000 Pods

Patching before Arc

- Low visibility
- Manual Error handling
- Many custom scripts
- Inflexible scheduling

Patching with Arc

- Low effort
- Granular scheduling and timings
- Pre- and Postscripts
- Tag-based scheduling

Compliance before Arc

- Only weekly checks
- Untransparent UI
- Much effort to customize or check manually

Compliance with Arc

- Nearly live state
- Built-In Policies
- Easy customizable

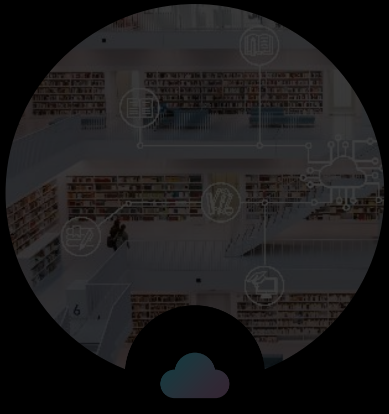
Upcoming topics

- MSSQL Best Practice Assessment
- MS Exchange Dashboards in Sentinel
- Windows Admin Center
- Migration to Azure Monitor Agent (AMA)
  - Change Tracking
  - Azure Monitoring
- Migration to Update Management Center
- Custom Azure Policy Guest Configuration
- Other Resource Types like Linux Servers, Kubernetes, Managed Instances….

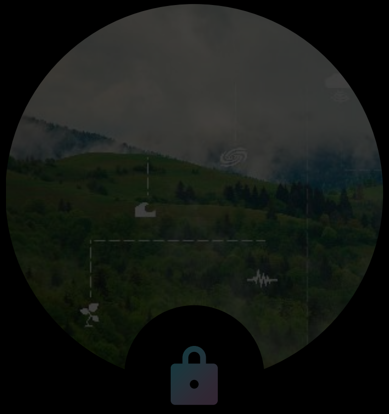
Innovate anywhere with Azure

Azure Arc

Develop cloud native, operate anywhere



Harness data insights from cloud to edge



Secure and govern across environments

Flexibly meet regulatory and connectivity needs

Develop cloud-native, operate anywhere

Build and modernize to cloud-native apps on any Kubernetes

Bring cloud data management to any infrastructure

Consistent GitOps and policy driven deployment and configuration across environments

Integrate Azure Security, governance and monitoring into your DevOps toolkit

Azure Arc-enabled Kubernetes

Azure Arc-enabled SQL Managed Instance

Azure Arc-enabled PostgreSQL

Azure Stack HCI

vmware

aws

Azure IoT

On-premises, multicloud, and edge

Innovate anywhere with Azure

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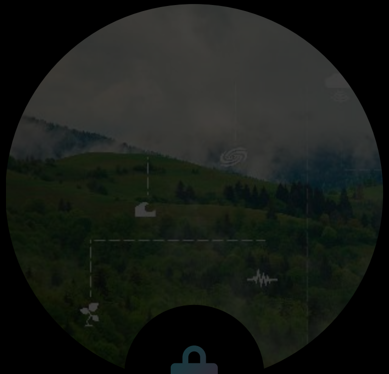

Secure and govern across environments

Flexibly meet regulatory and connectivity needs

Harness data insights from edge to cloud

Accelerate innovation via cloud data and AI

Improve operational efficiency

Reduce risk exposure

Azure Arc-enabled SQL Managed Instance

Azure Arc-enabled PostgreSQL

Azure Arc-enabled Machine Learning

Azure Stack HCI

vmware

aws

Azure IoT

On-premises, multicloud, and edge

Azure Arc-enabled (Azure) services

Bring Azure services on-premises and multi-cloud infrastructure

Azure Arc-enabled **Data Services**

Cloud experience for data workloads anywhere

GENERALLY AVAILABLE and PREVIEW

Azure Arc-enabled **Machine Learning**

Run your ML workloads, anywhere

GENERALLY AVAILABLE

Azure Arc-enabled **Container Apps**

Run your Container, anywhere

PREVIEW

Azure Arc-enabled **Application Services**

Run your apps, anywhere

PREVIEW

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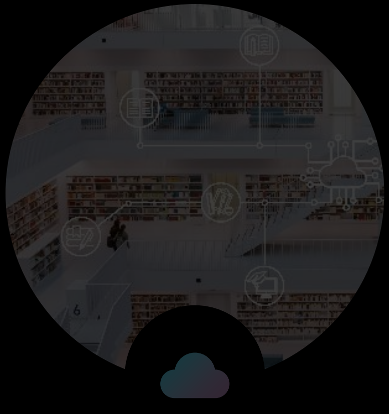
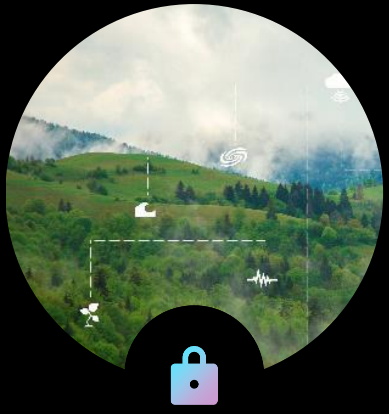
Azure Arc

Develop cloud native, operate anywhere



Harness data insights from cloud to edge



Secure and govern across environments

Flexibly meet regulatory and connectivity needs

Secure and govern across environments

Cloud-based threat detection

Dynamic visibility and compliance

Save costs on disparate 3rd party management tools

Microsoft Defender for Cloud

Microsoft Sentinel

Azure Monitor

Azure Policy

Azure Arc-enabled servers

Azure Arc-enabled SQL servers

Azure Arc-enabled VMware vSphere VMS

Azure Arc-enabled Kubernetes

Azure Stack HCI

vmware

aws

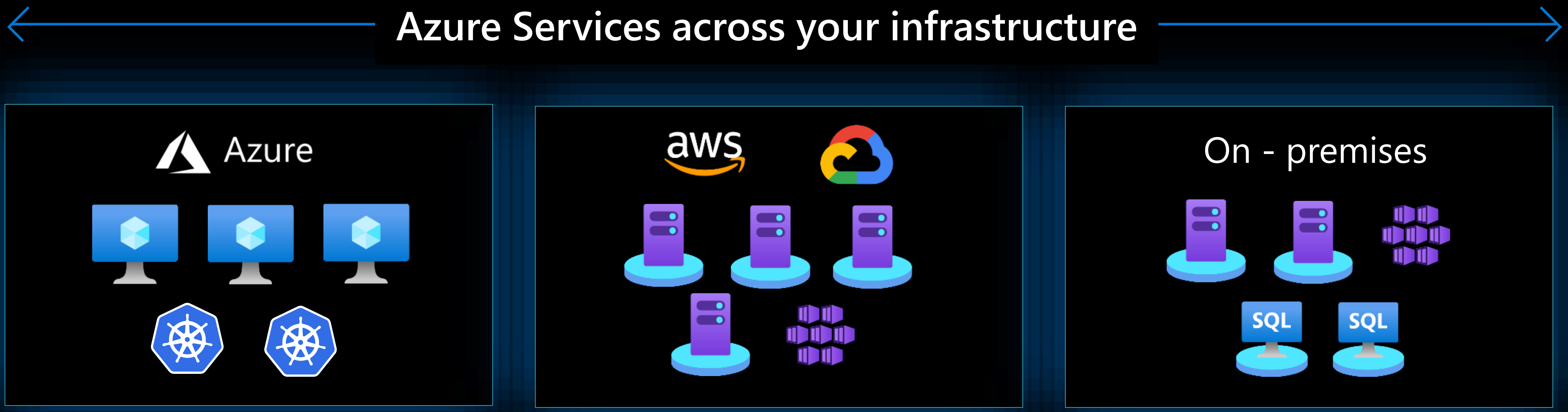
Azure IoT

On-premises, multicloud, and edge

Arc-enabled Infrastructure

Consistent governance, security, and visibility for your hybrid and multi-cloud compute.

- Microsoft Defender
- Azure Monitor
- Microsoft Sentinel
- Azure Policy
- Update Management
- Inventory Management
- Azure Automanage



Azure Services across your infrastructure

Extended Security Updates enabled by Azure Arc

Flexible billing and savings

Monthly billing model centralized in Azure to run end-of-support operating systems

Visibility and reliability

Ensure consistent Windows Server 2012/R2 and SQL Server 2012 performance with high availability and visibility over your entire data and server estate

Security and compliance

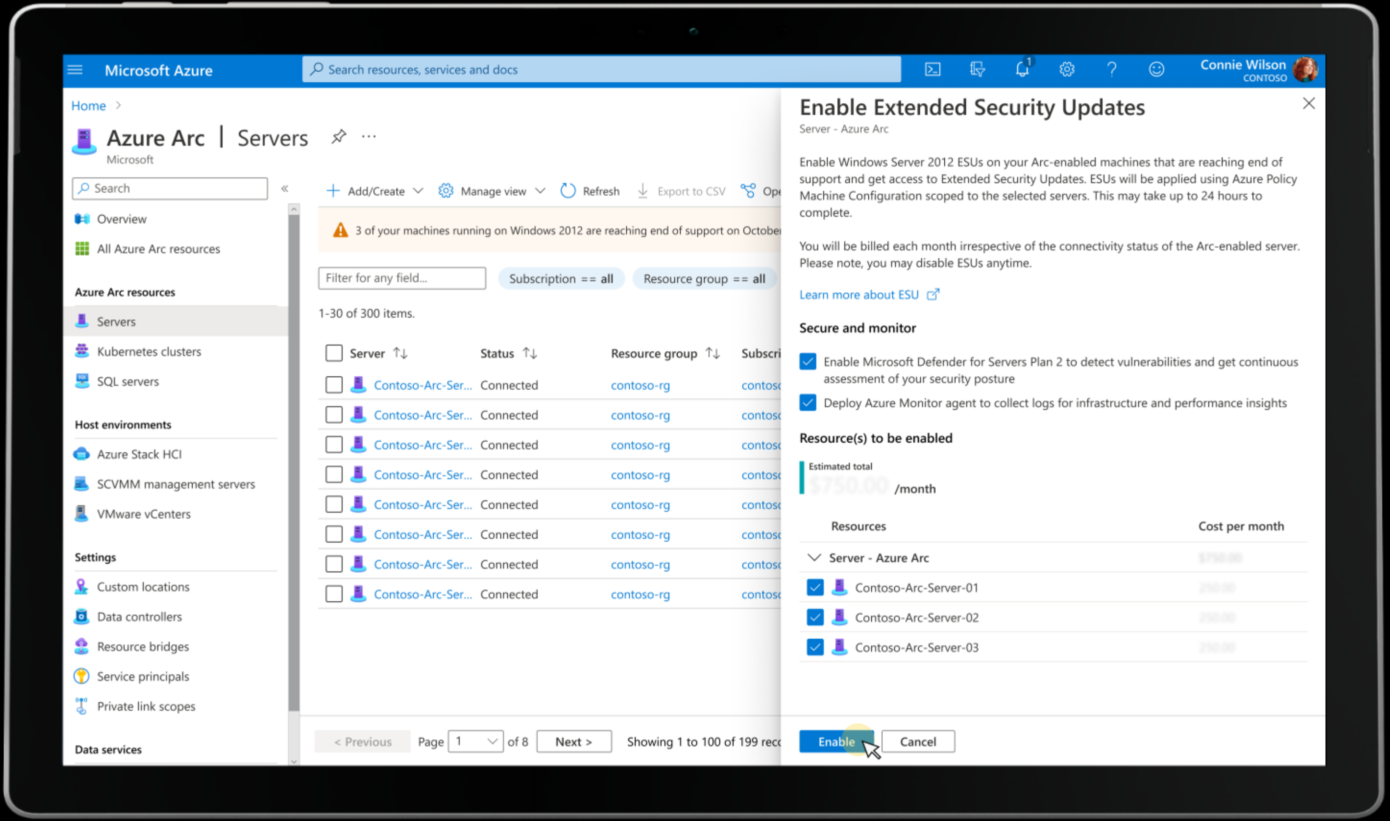
Seamlessly extend Azure security and governance to your environment and stay compliant with supported software

Microsoft Defender for Cloud

Microsoft Sentinel

Azure Policy

Azure Monitor



Azure Arc | Servers

Microsoft

3 of your machines running on Windows 2012 are reaching end of support on Octobe

1-30 of 300 items.

□ Server	Status	Resource group	Subscri
□ Contoso-Arc-Ser...	Connected	contoso-rg	contos
□ Contoso-Arc-Ser...	Connected	contoso-rg	contos
□ Contoso-Arc-Ser...	Connected	contoso-rg	contos
□ Contoso-Arc-Ser...	Connected	contoso-rg	contos
□ Contoso-Arc-Ser...	Connected	contoso-rg	contos
□ Contoso-Arc-Ser...	Connected	contoso-rg	contos
□ Contoso-Arc-Ser...	Connected	contoso-rg	contos
□ Contoso-Arc-Ser...	Connected	contoso-rg	contos

Showing 1 to 100 of 199 rec

Enable Extended Security Updates

Server - Azure Arc

Enable Windows Server 2012 ESUs on your Arc-enabled machines that are reaching end of support and get access to Extended Security Updates. ESUs will be applied using Azure Policy Machine Configuration scoped to the selected servers. This may take up to 24 hours to complete.

You will be billed each month irrespective of the connectivity status of the Arc-enabled server. Please note, you may disable ESUs anytime.

Learn more about ESU

Secure and monitor

☑ Enable Microsoft Defender for Servers Plan 2 to detect vulnerabilities and get continuous assessment of your security posture

☑ Deploy Azure Monitor agent to collect logs for infrastructure and performance insights

Resource(s) to be enabled

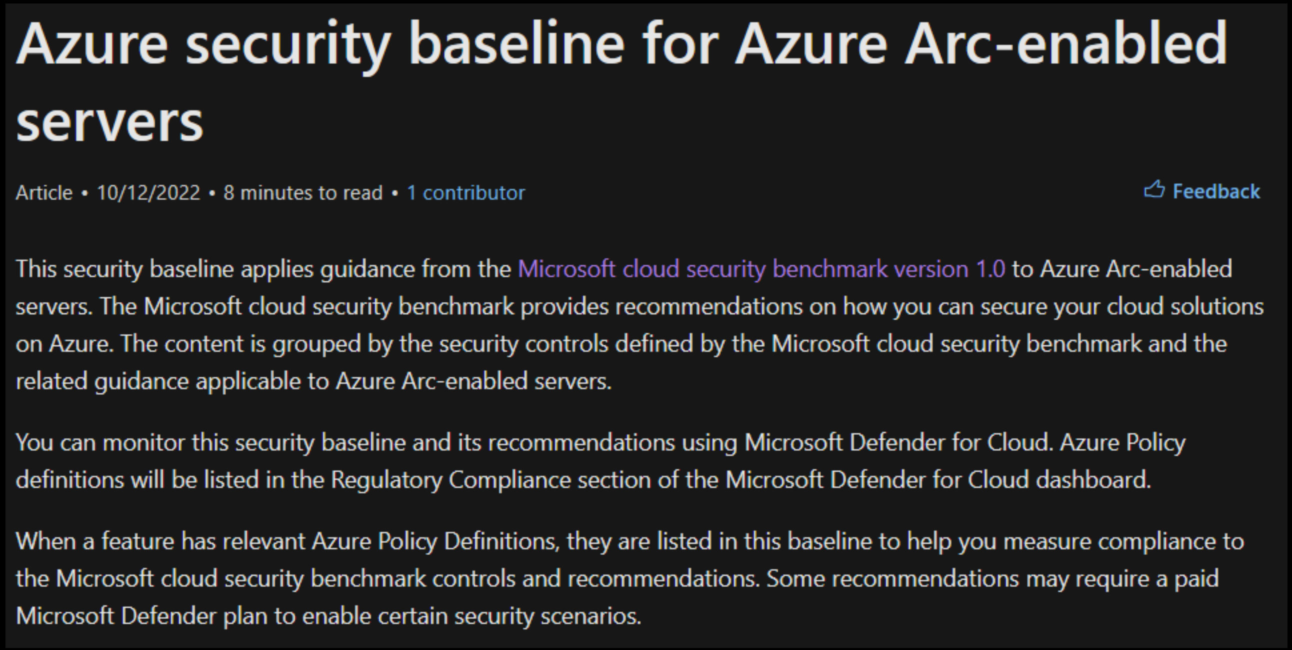
Estimated total
[illegible] /month

Resources	Cost per month
Server - Azure Arc	[illegible]
☑ Contoso-Arc-Server-01	[illegible]
☑ Contoso-Arc-Server-02	[illegible]
☑ Contoso-Arc-Server-03	[illegible]

Enable | Cancel

Enroll and purchase ESUs directly in the Azure Portal

Azure security baseline for Azure Arc-enabled servers | Microsoft Learn
via Azure Policy



Azure security baseline for Azure Arc-enabled servers

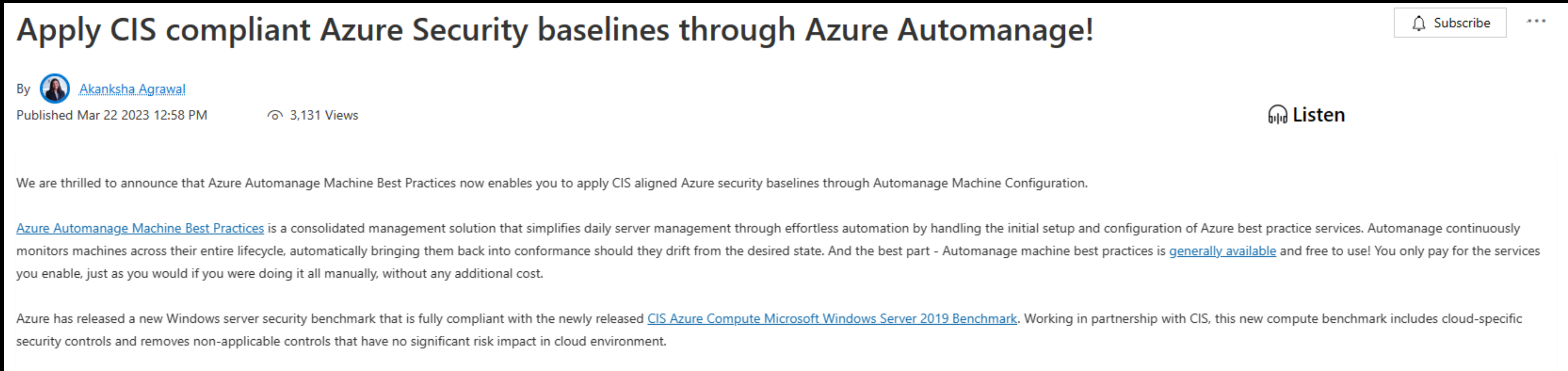
Article • 10/12/2022 • 8 minutes to read • 1 contributor

This security baseline applies guidance from the Microsoft cloud security benchmark version 1.0 to Azure Arc-enabled servers. The Microsoft cloud security benchmark provides recommendations on how you can secure your cloud solutions on Azure. The content is grouped by the security controls defined by the Microsoft cloud security benchmark and the related guidance applicable to Azure Arc-enabled servers.

You can monitor this security baseline and its recommendations using Microsoft Defender for Cloud. Azure Policy definitions will be listed in the Regulatory Compliance section of the Microsoft Defender for Cloud dashboard.

When a feature has relevant Azure Policy Definitions, they are listed in this baseline to help you measure compliance to the Microsoft cloud security benchmark controls and recommendations. Some recommendations may require a paid Microsoft Defender plan to enable certain security scenarios.

Apply CIS compliant Azure Security baselines through Azure Automanage! - Microsoft Community Hub



Apply CIS compliant Azure Security baselines through Azure Automanage!

By Akanksha Agrawal
Published Mar 22 2023 12:58 PM
3,131 Views

We are thrilled to announce that Azure Automanage Machine Best Practices now enables you to apply CIS aligned Azure security baselines through Automanage Machine Configuration.

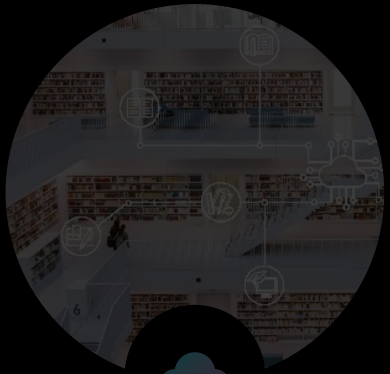
Azure Automanage Machine Best Practices is a consolidated management solution that simplifies daily server management through effortless automation by handling the initial setup and configuration of Azure best practice services. Automanage continuously monitors machines across their entire lifecycle, automatically bringing them back into conformance should they drift from the desired state. And the best part - Automanage machine best practices is generally available and free to use! You only pay for the services you enable, just as you would if you were doing it all manually, without any additional cost.

Azure has released a new Windows server security benchmark that is fully compliant with the newly released CIS Azure Compute Microsoft Windows Server 2019 Benchmark. Working in partnership with CIS, this new compute benchmark includes cloud-specific security controls and removes non-applicable controls that have no significant risk impact in cloud environment.

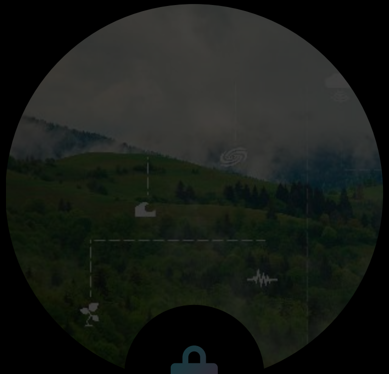
Innovate anywhere with Azure

Azure Arc

Develop cloud native, operate anywhere



Harness data insights from cloud to edge



Secure and govern across environments

Flexibly meet regulatory and connectivity needs

Flexibly meet regulatory and connectivity needs

Meet data residency and sovereignty requirements

Simplified infrastructure for low-latency applications

Operate fully or intermittently connected

Azure Arc

Azure Stack HCI

vmware

aws

Azure IoT

Azure Private MEC

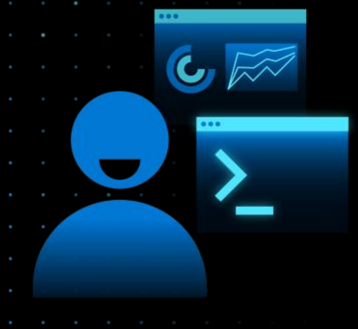
On-premises, multicloud, and edge

Azure Stack HCI

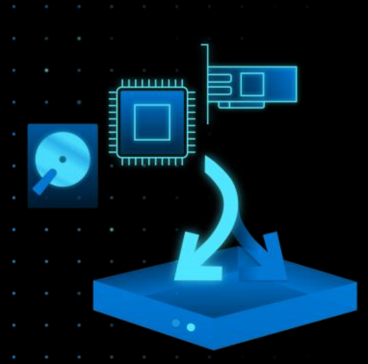
Modern subscription for flexible, familiar hyperconverged infrastructure

Azure hybrid by design

Enterprise scale and price performance



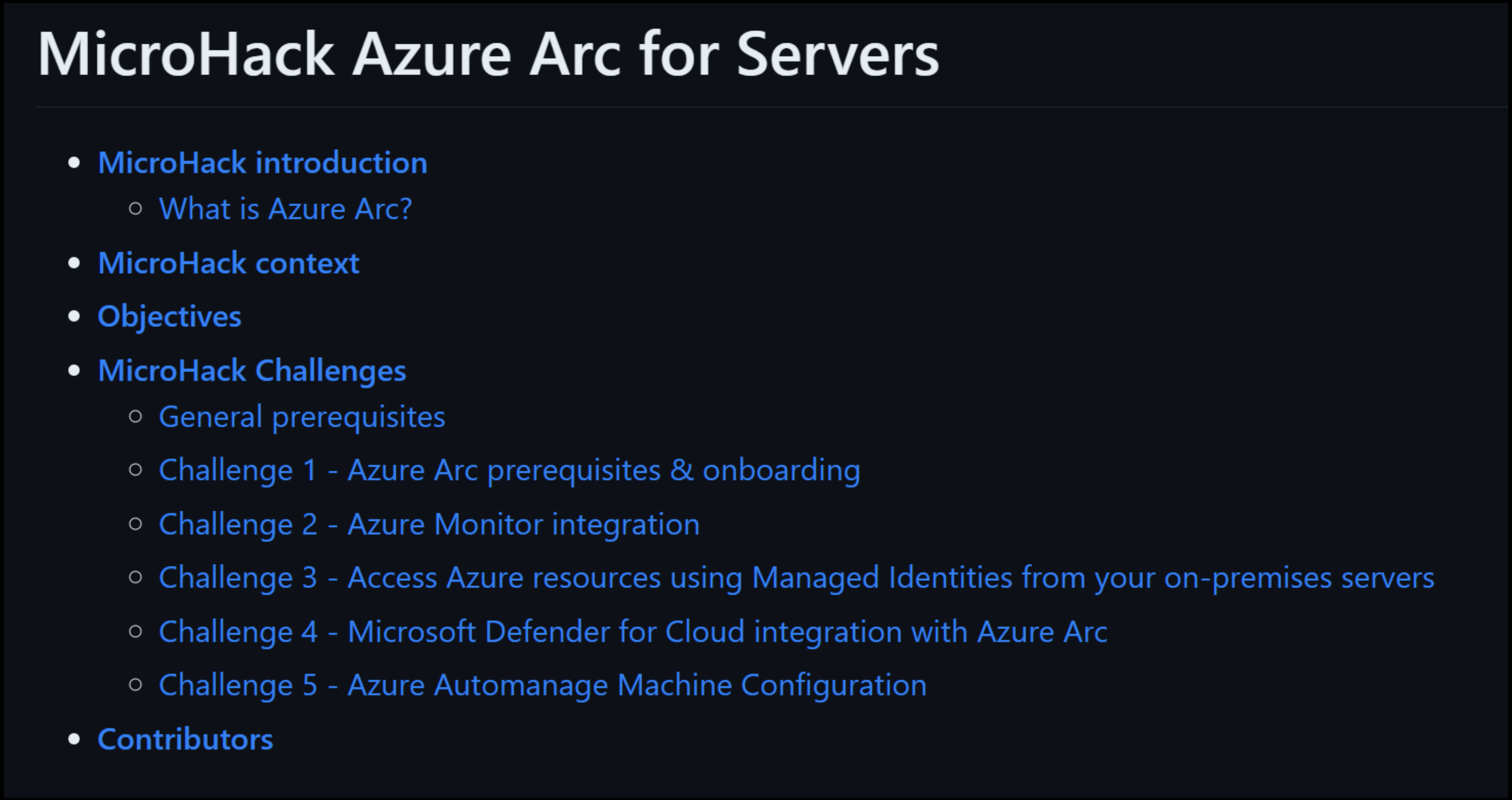
Familiar management and operations



Choice of deployment options

The Azure Arc Jumpstart project

- Provide a "zero to hero" scenarios for multiple environments and deployment type using as much automation as possible.
- Create a "supermarket" experience by being able to take "off the shelf" scenarios and implement it.
- Meeting Azure Arc customers and partners where they are.
- Agile, "startup-like" team.
- No detail is too small.
- Ready to go technical demos
- Jumpstart ArcBox is a sandbox environment that allows users to explore all the major capabilities of Azure Arc in a click of a button.
- Jumpstart Lighting is a show where people come to share their Azure Arc/Jumpstart/Hybrid experience.



MicroHack Azure Arc for Servers

- **MicroHack introduction**
  - What is Azure Arc?
- **MicroHack context**
- **Objectives**
- **MicroHack Challenges**
  - General prerequisites
  - Challenge 1 - Azure Arc prerequisites & onboarding
  - Challenge 2 - Azure Monitor integration
  - Challenge 3 - Access Azure resources using Managed Identities from your on-premises servers
  - Challenge 4 - Microsoft Defender for Cloud integration with Azure Arc
  - Challenge 5 - Azure Automanage Machine Configuration
- **Contributors**

MicroHack/03-Azure/01-03-Infrastructure/02_Hybrid_Azure_Arc_Servers at main · microsoft/MicroHack (github.com)

SESSION FEEDBACK

Session Title: Next generation datacenter - der richtige Einsatz von Multi-Hybrid Cloud

https://aka.ms/AzSum-S026

Microsoft Azure

THANK YOU