

Azure Stack HCI Version 22H2: Neuheiten



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Themen heute

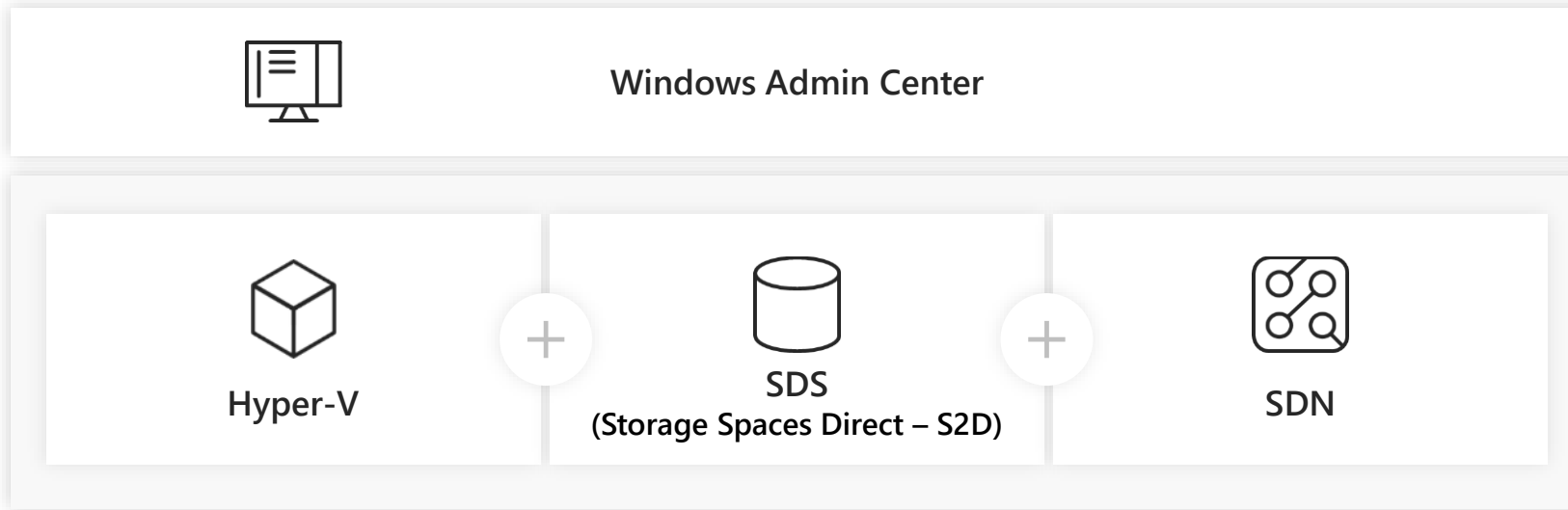
- **Azure Stack HCI 22H2 – Upgrade von vorhandenen Systemen**
- **Azure Stack HCI – neue Lizenzoptionen für OEM + Software Assurance**
- **Azure Arc-enabled VM Management**
- **Single-Server Scale-Out**
- **Zertifizierte Systeme der Thomas-Krenn.AG für Azure Stack HCI**
- **Fragerunde**

HCI-Grundlagen

Hyper-Converged Infrastructure (HCI) - Grundlagen



Die Technologie hinter Azure Stack HCI



Growing Azure Stack HCI into its own product line



Azure Stack HCI



Windows Server

✓ Exciting roadmap of new releases

Innovation focused on being the **best virtualization host**

Future of Hyper-V virtualization,
software-defined storage and networking

Run apps inside Windows or Linux virtual machines

Runs on **your hardware**

✓ Exciting roadmap of new releases

Innovation focused on being the **best guest** and **traditional server**

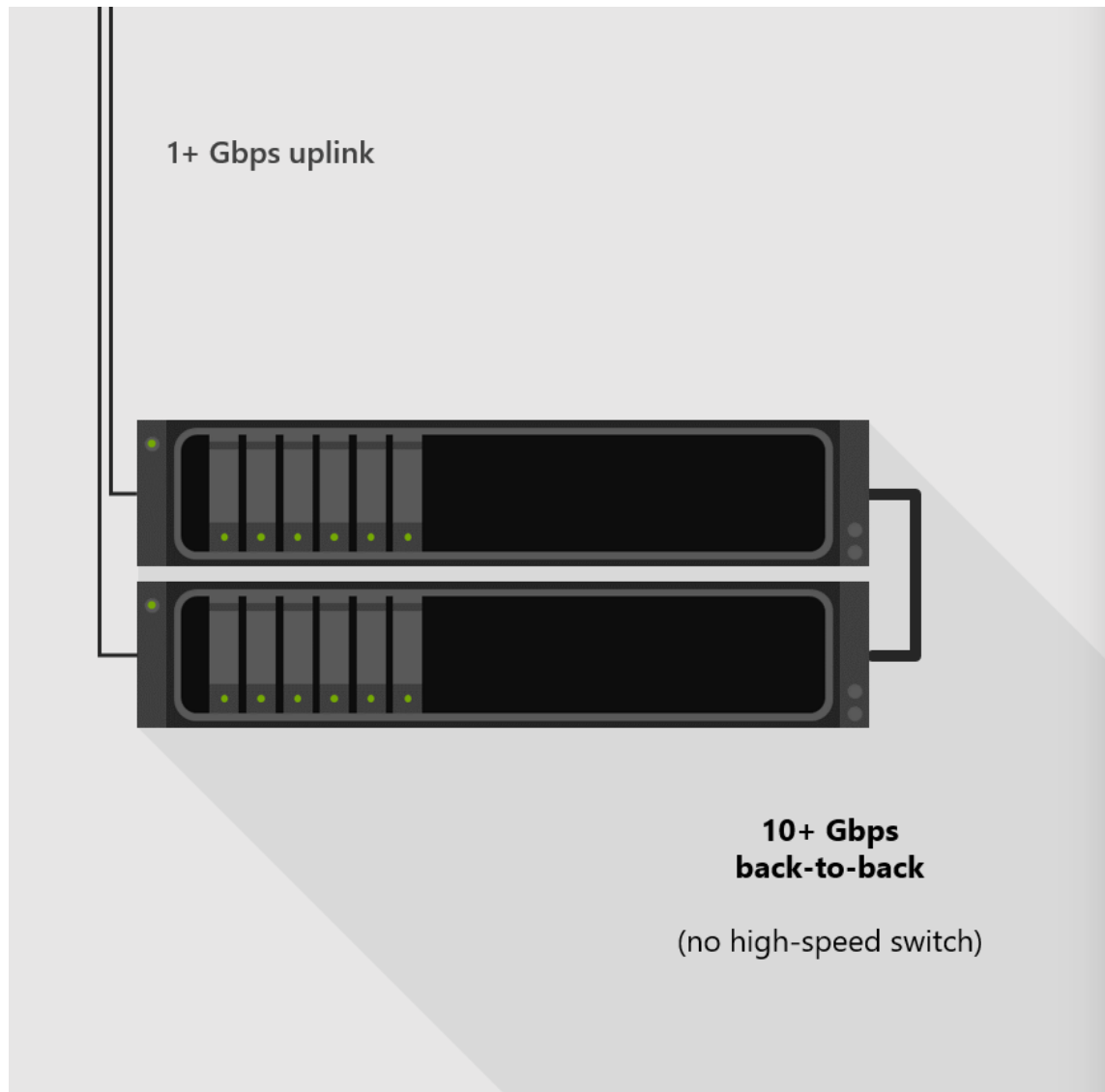
All other Windows Server roles,
like IIS, File Services, DNS, DHCP, AD/DS

Runtime for Windows apps like SQL Server

Runs **anywhere**



Azure Stack HCI



Start small...

Minimal footprint

Just 2 servers minimum
2x Flash or 2xFlash + 4xHDD per server

Made possible by

Lightweight quorum

Cloud, file share, or USB key
No costly Witness VM Appliance

Nested resiliency

Withstand multiple failures

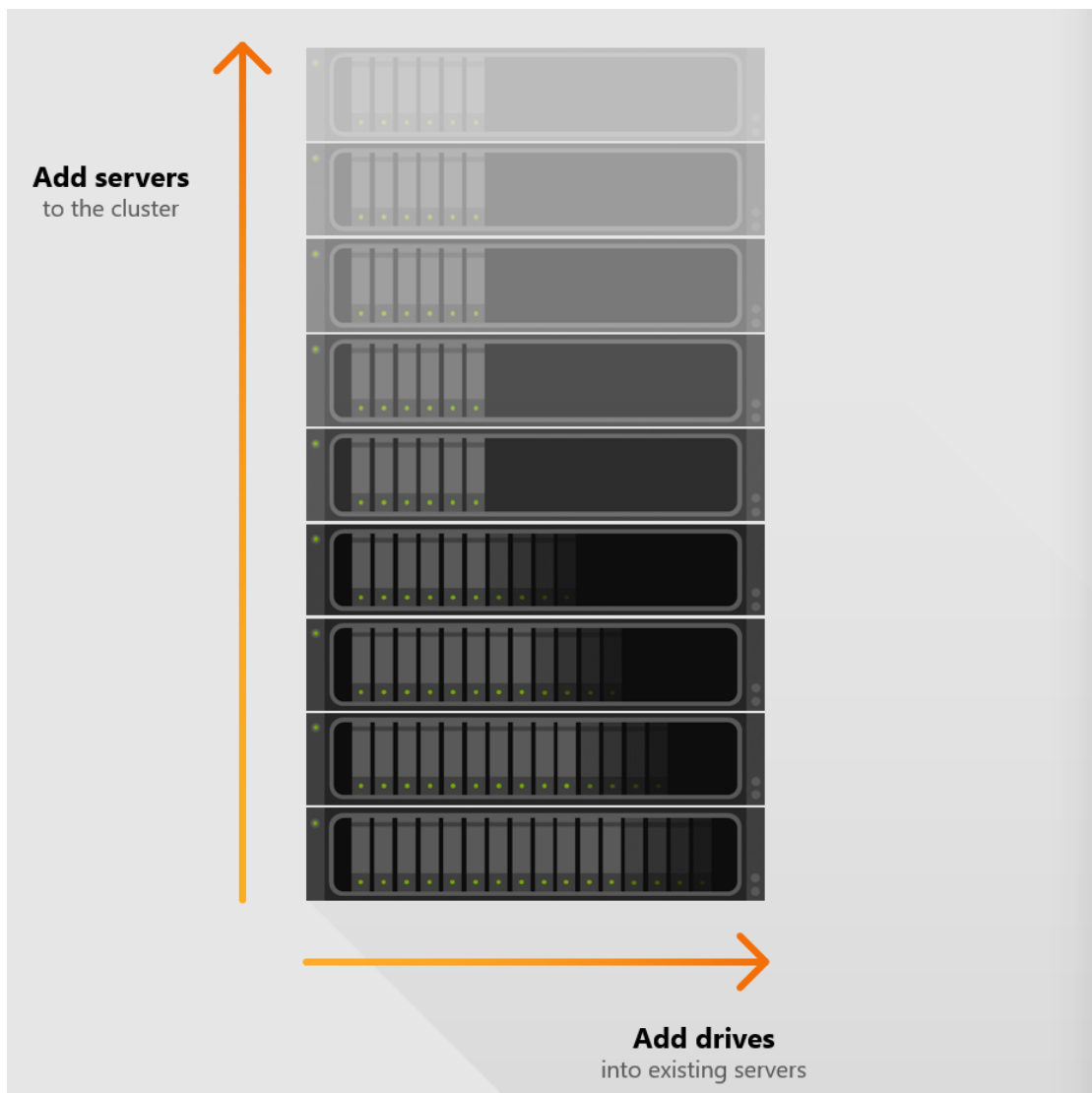
Azure Stack HCI – Single Server



- Min 2x Flash (SSD/NvMe)
- All Azure Stack HCI benefits

Attributes	Single-node	Multi-node
Full software-defined data center (SDDC) stack (hypervisor, storage, networking)	Yes	Yes
Storage Spaces Direct support	Yes	Yes
Software Defined Networking (SDN) support	Yes	Yes
Native Azure Arc integration	Yes	Yes
Managed through Windows Admin Center and Azure portal	Yes	Yes
Azure billing/registration	Yes	Yes
Charged per physical core	Yes	Yes
Support through Azure	Yes	Yes
Connectivity (intermittent or connected)	Yes	Yes
Azure benefits on Azure Stack HCI	Yes	Yes
Activate Windows Server Subscriptions	Yes	Yes
Azure Defender and Secured-core	Yes	Yes
Azure Kubernetes Service on Azure Stack HCI (AKS-HCI)	Yes	Yes
Azure Virtual Desktop	Yes	Yes
Azure Site Recovery	Yes	Yes
Azure Stack HCI: Stretch cluster support	No	Yes
Use Graphics Processing Units (GPUs) with clustered VMs	Yes	Yes

Azure Stack HCI



Scale with your needs

Scale up, scale out

Up to 16 servers per cluster

Limited by rack and switch ports

Up to 4,000 TB storage capacity per cluster

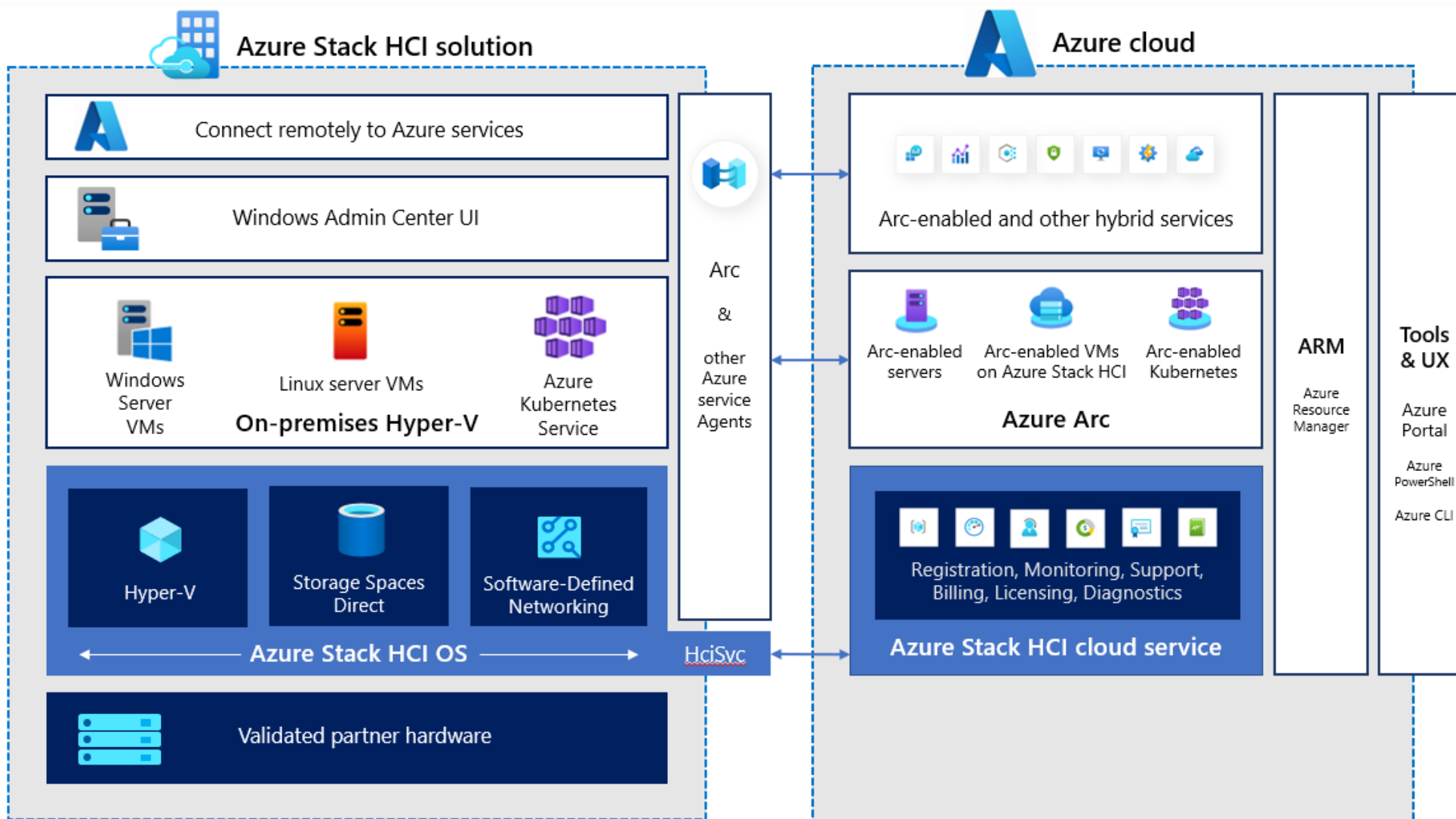
Store all of Wikipedia in every language 50 times

With no downtime

Automatic VM load balancing

Automatic storage rebalancing

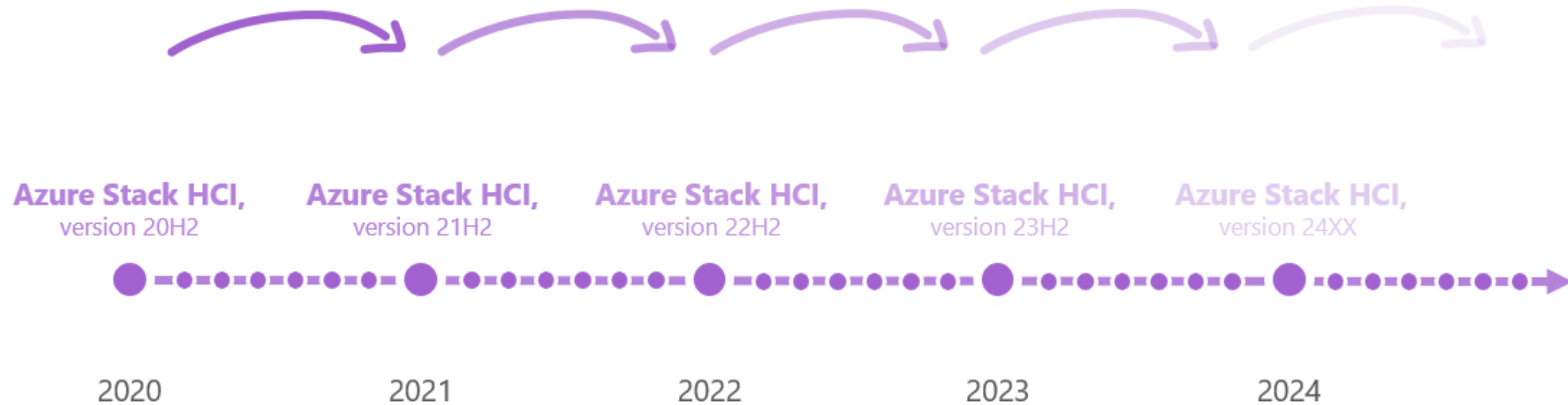
Azure Stack HCI



Azure Stack HCI 22H2 – Upgrade von vorhandenen Systemen

Always up-to-date subscription

Yearly major releases planned for 2020, 2021, 2022, and beyond



18-ashci01.18hcilab.de

Tools

- Dashboard
- Compute
 - Virtual machines
 - Servers
 - Azure Kubernetes Service
- Storage
 - Volumes
 - Drives
 - Storage Replica
- Networking
 - SDN Infrastructure
 - Virtual switches
- Tools
 - Azure Monitor
 - Updates**
 - Diagnostics
 - Performance Monitor
 - Security
 - Settings

Updates

Available updates [History](#)



It's time to update Azure Stack HCI.

Clusters must be updated within six months of the release of a feature update to remain supported.

Feature update for Azure Stack HCI

New features include the ability to use network security tags and groups to help secure traffic on individual VMs, and faster and more reliable VM live migrations in switchless clusters (which have direct network connections between nodes). Live migration settings now automatically select the best network, transport, and bandwidth limits. You can compress data replicated between sites in a stretched cluster. And, you can modify existing data volumes to increase their resiliency or to convert from fixed to thin provisioning. [Learn more](#)

Select update type

Feature update (Recommended)
 Quality updates only

Name	OS version	State
18-ashci08 Feature update to Azure Stack HCI, version 22H2	10.0.20348	Available
18-ashci09 Feature update to Azure Stack HCI, version 22H2	10.0.20348	Available

18-ashcid01.18hcilab.de

Tools

Search Tools 🔍

- 🏠 Dashboard
- 🖥️ Compute
 - 🖥️ Virtual machines
 - 🖥️ Servers
 - 🌐 Azure Kubernetes Service
- 💾 Storage
 - 💾 Volumes
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 - 📊 Azure Monitor
 - 🔄 Updates
 - 🔍 Diagnostics
 - 📈 Performance Monitor
 - 🛡️ Security
 - ⚙️ Settings

Install updates

- 1 Readiness Check 2 Install

Condition	Result
Cluster validation: Cluster Configuration	✅ Passed
Cluster validation: Hyper-V Configuration	✅ Passed
Cluster validation: Inventory	✅ Passed
Cluster validation: Network	❌ Failed Details
Cluster validation: Storage Spaces Direct	✅ Passed
Cluster validation: System Configuration	⚠️ Warning Details
All volumes are healthy with full resilience.	✅ Passed
Every server has enough free space on the boot volume.	✅ Passed
Memory is available to move VMs.	✅ Passed
CPU resources are available to move VMs.	✅ Passed
Every server uses the same OS release channel.	✅ Passed

❌ Updating could fail unless you fix these issues first.

[Check again](#)

[Back](#) [Next: Install](#)

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Tools

Search Tools 🔍

Dashboard

Compute

Virtual machines

Servers

Azure Kubernetes Service

Storage

Volumes

Drives

Storage Replica

Networking

SDN Infrastructure

Virtual switches

Tools

Azure Monitor

Updates

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Performance Monitor

Security

Settings

Install updates

✓ Readiness Check 2 Install

Review the updates listed below. When you're ready, select Install to start the update.

If an update requires restarting servers, we do so one at a time, moving cluster roles such as VMs between servers to prevent downtime.

Name

18-ashci09

Feature update to Azure Stack HCI, version 22H2

18-ashci08

Feature update to Azure Stack HCI, version 22H2

ⓘ This update contains new features and could take longer than other updates.

Update the cluster functional level to enable new features ⓘ

Back

Install

18-ashci01.18hcilab.de

Tools

Search Tools 🔍

Dashboard

Compute

Virtual machines

Servers

Azure Kubernetes Service

Storage

Volumes

Drives

Storage Replica

Networking

SDN Infrastructure

Virtual switches

Tools

Azure Monitor

Updates

Diagnostics

Performance Monitor

Security

Settings

Updates

Available updates | History

Starting the update run

Hang on—this could take up to 10 minutes or so. Please don't refresh this page.

Install | Check for updates | Cancel the install

Name	OS version	State
18-ashci08	10.0.20348	Waiting to start
18-ashci09	10.0.20348	Waiting to start

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Tools

Search Tools

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 - Settings

Updates

Available updates | History

Installing updates

Wait until updating is complete before using any other tools to update this cluster.

Install | Check for updates | **Cancel the install**

Name	OS version	State
18-ashci08	10.0.20348	Installing new OS
18-ashci09	10.0.20348	Waiting

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Tools

Search Tools 🔍

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- 🔧 Tools
 - 📊 Azure Monitor
 - 🔄 Updates
 - 🔍 Diagnostics
 - 📈 Performance Monitor 📧
 - 🛡️ Security

Updates

Available updates History

Installing updates
Wait until updating is complete before using any other tools to update this cluster.

Install Check for updates **Cancel the install**

Name	OS version	State
18-ashci08	10.0.20348	✔ Updates applied
18-ashci09	10.0.20348	🔄 Staging

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Tools

Search Tools 🔍

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Updates

Available updates | History

Installing updates

Wait until updating is complete before using any other tools to update this cluster.

Install | Check for updates | Cancel the install

Name	OS version	State
18-ashci08	10.0.20349	✔️ Updates applied
18-ashci09	10.0.20348	🔄 Installing new OS

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Tools

Search Tools 🔍

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Updates

Available updates | History



Couldn't get the status

[See details](#)

Retry
Check for updates
Cancel the install

Name	OS version	State
18-ashci08	10.0.20349	✔️ Updates applied
18-ashci09	10.0.20349	✔️ Updates applied

Azure Stack HCI release summary

The following table provides the release summary of each version of Azure Stack HCI and the date by when you must apply updates to keep your Azure Stack HCI service in a supported state.

All dates are listed in ISO 8601 format: *YYYY-MM-DD*

Version	Availability date	OS build	Apply update by
22H2	2022-10-12	20349	2023-04-12
21H2	2021-10-19	20348.288	2022-04-19
20H2	2020-12-10	17784.1408	Initial release

Azure Stack HCI, version 22H2 (OS build 20349)

The following are the available updates for Azure Stack HCI, version 22H2.

All dates are listed in ISO 8601 format: *YYYY-MM-DD*

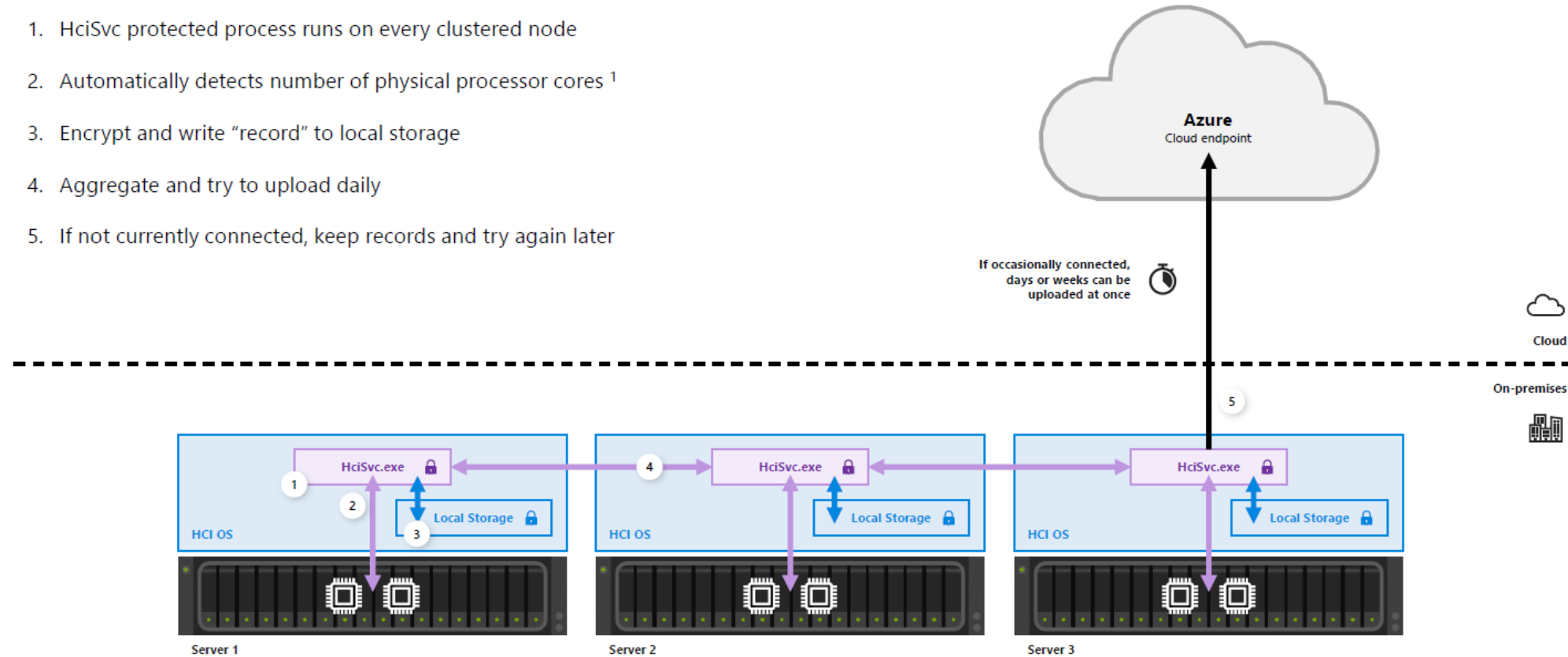
OS build	Availability date	KB article
20349.1311	2022-11-22	KB 5020032
20349.1251	2022-11-17	KB 5021656
20349.1249	2022-11-08	KB 5019081
20349.1194	2022-10-25	KB 5018485

Azure Stack HCI – neue Lizenzoptionen für OEM + Software Assurance

Azure Stack HCI

Cores are detected, uploaded automatically




1. HciSvc protected process runs on every clustered node
2. Automatically detects number of physical processor cores ¹
3. Encrypt and write "record" to local storage
4. Aggregate and try to upload daily
5. If not currently connected, keep records and try again later



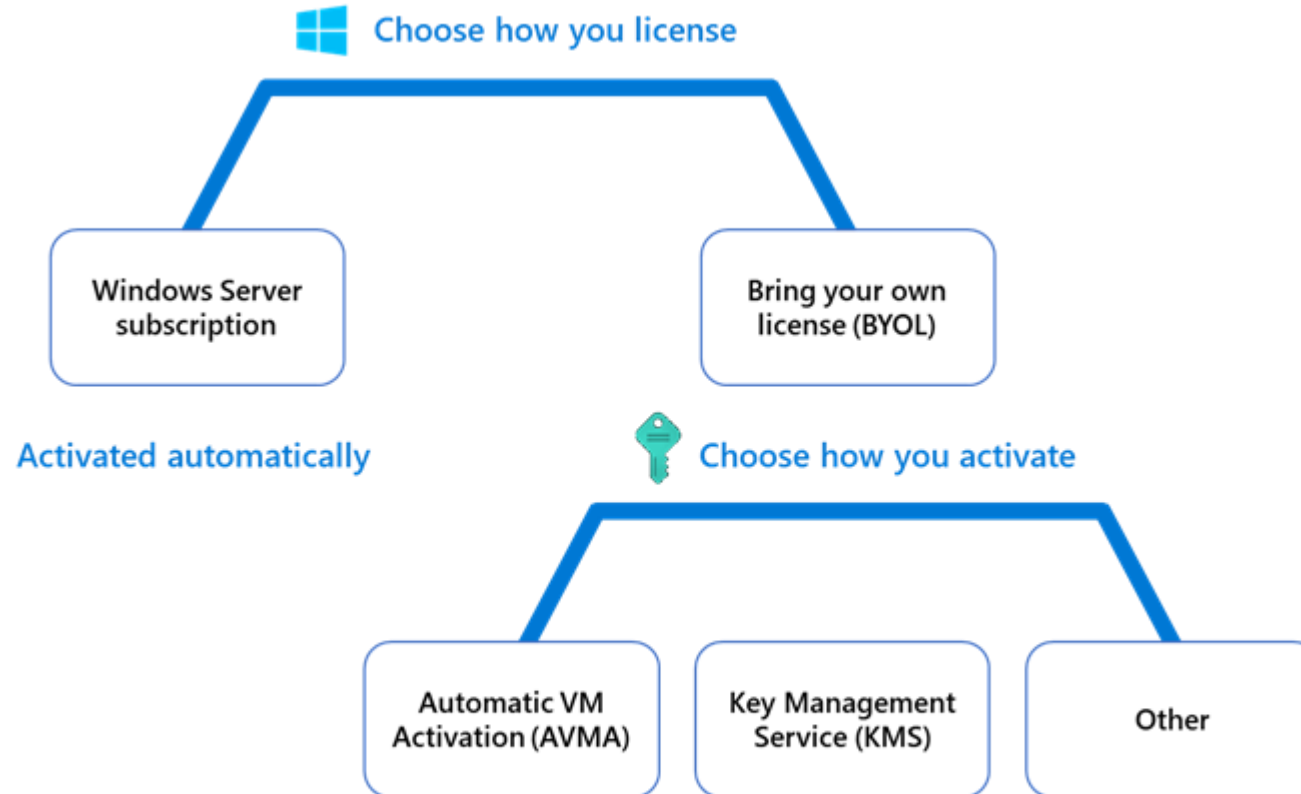
¹ Excludes down or failed nodes, excludes hyperthreading, and currently does not distinguish between Intel[®] and AMD processor cores

Azure Stack HCI OS

As little or as much Windows Server as you need, like other HCI platforms

			
What you want to run:	Linux applications Open source software	A few Windows Server roles or applications	Unlimited Windows Server roles or applications
What you buy:	Validated OEM HW	Validated OEM HW	Validated OEM HW
	+	+	+
Host: Subscription	Azure Stack HCI	Azure Stack HCI	Azure Stack HCI
	+	+	+
Guest: Perpetual	<i>Nothing else from Microsoft</i>	Windows Server 2022 Standard(s)	Windows Server 2022 Datacenter

Azure Stack HCI – Licensing VM Workloads



<https://docs.microsoft.com/en-us/azure-stack/hci/manage/vm-activate>

Azure Stack HCI – Licensing VM Workloads

Host Service Fee

Instance	Timing	Price
Azure Stack HCI	Monthly service fee	\$10/physical core/month

Azure Stack HCI offers a free trial for the first 60 days after registration. You will be charged the monthly service fee after your first 60 days using the service.

Add-on workloads (optional)

Instance	Timing	Price
Windows Server subscription (for guests)	Monthly service fee	\$23.3/physical core/month

Windows Server subscription offers a free trial within the first 60 days of registering your Azure Stack HCI. You will be charged the monthly service fee after your first 60 days of using Azure Stack HCI.

Windows Server subscription gives you unlimited Windows Server guest licensing rights through Azure.

Windows Server Datacenter with Software Assurance

Instance	Timing	Price
Azure Stack HCI	Monthly service fee	\$0 additional cost

Windows Server DC customers can extend their SA benefit to get Azure Stack HCI at no additional cost.

<https://azure.microsoft.com/en-us/pricing/details/azure-stack/hci/>

New benefit for Software Assurance customers

Microsoft Azure Search resources, services, and docs (G+)

Home > Azure Stack HCI > ASHCICL110

Azure Stack HCI

Manfred Helber IT Consulting (manfredhelber.de)

Manage view Refresh

Filter for any field...

Name
10-ashcicl02
10-ashcicl09
18-ASHCICL01
18-ASHCICL02
ASHCICL101
ASHCICL110
D102-ASHCICL30
D102-ASHCICL50
D102-ASHCICL60

ASHCICL110 | Configuration

Azure Stack HCI

Search Refresh

- Overview
- Activity log
- Access control (IAM)
- Tags
- Diagnose and solve problems

Settings

- Windows Admin Center (preview)
- Extensions
- Configuration
- Locks

Resources (preview)

- Virtual machines
- Virtual networks
- Disks
- VM images

Monitoring

- Insights (preview)
- Logs
- Workbooks

Automation

- Tasks (preview)

Support + troubleshooting

- New Support Request

Azure Hybrid Benefit

Windows Server Datacenter customers with active Software Assurance can exchange their licenses to get Azure Stack HCI and Windows Server subscription at no additional cost. [Learn more](#)

Benefit: ✔ Activated

Windows Server subscription add-on

Subscribe to Windows Server guest licenses through Azure. This grants you unlimited Windows Server licenses for VMs on this system, and is included at no additional cost because Azure Hybrid Benefit is activated on this system. [Learn more](#)

[Activate benefit](#)

Service health data

Microsoft collects the system metadata necessary to keep the Azure Stack HCI service current, secure, and operating properly. This setting is turned on by default. [Learn more](#)

Data level: Basic ⌵

[Change](#)

[Microsoft Privacy Statement](#)

Enable Azure benefits

To use workloads and services that are exclusively available on Azure, turn on Azure platform attestation at no additional fee. [Learn more](#)

Host attestation: ✘ Not Enabled

Page 1 of 1

New benefit for Software Assurance customers

The screenshot shows the Microsoft Azure portal interface. On the left is a navigation sidebar with options like 'Home', 'Dashboard', 'All services', and 'FAVORITES'. The main content area is titled 'Azure Stack HCI' and shows a list of resources. The 'Configuration' page for resource 'ASHCICL110' is active, displaying sections for 'Overview', 'Activity log', 'Access control (IAM)', 'Tags', 'Diagnose and solve problems', 'Settings', 'Windows Admin Center (preview)', 'Extensions', 'Locks', 'Resources (preview)', 'Monitoring', and 'Automation'. The 'Configuration' section includes 'Azure Hybrid Benefit' (Activated), 'Windows Server subscription add-on' (with an 'Activate benefit' button), and 'Service health data'. A modal window titled 'Activate with Azure Hybrid Benefit' is open, showing details for a Windows Server subscription, including the subscription ID, resource group, total physical cores, and monthly cost. The modal has 'Activate' and 'Cancel' buttons at the bottom.

Azure Arc-enabled VM Management

Live Demo

Single-Server Scale-Out

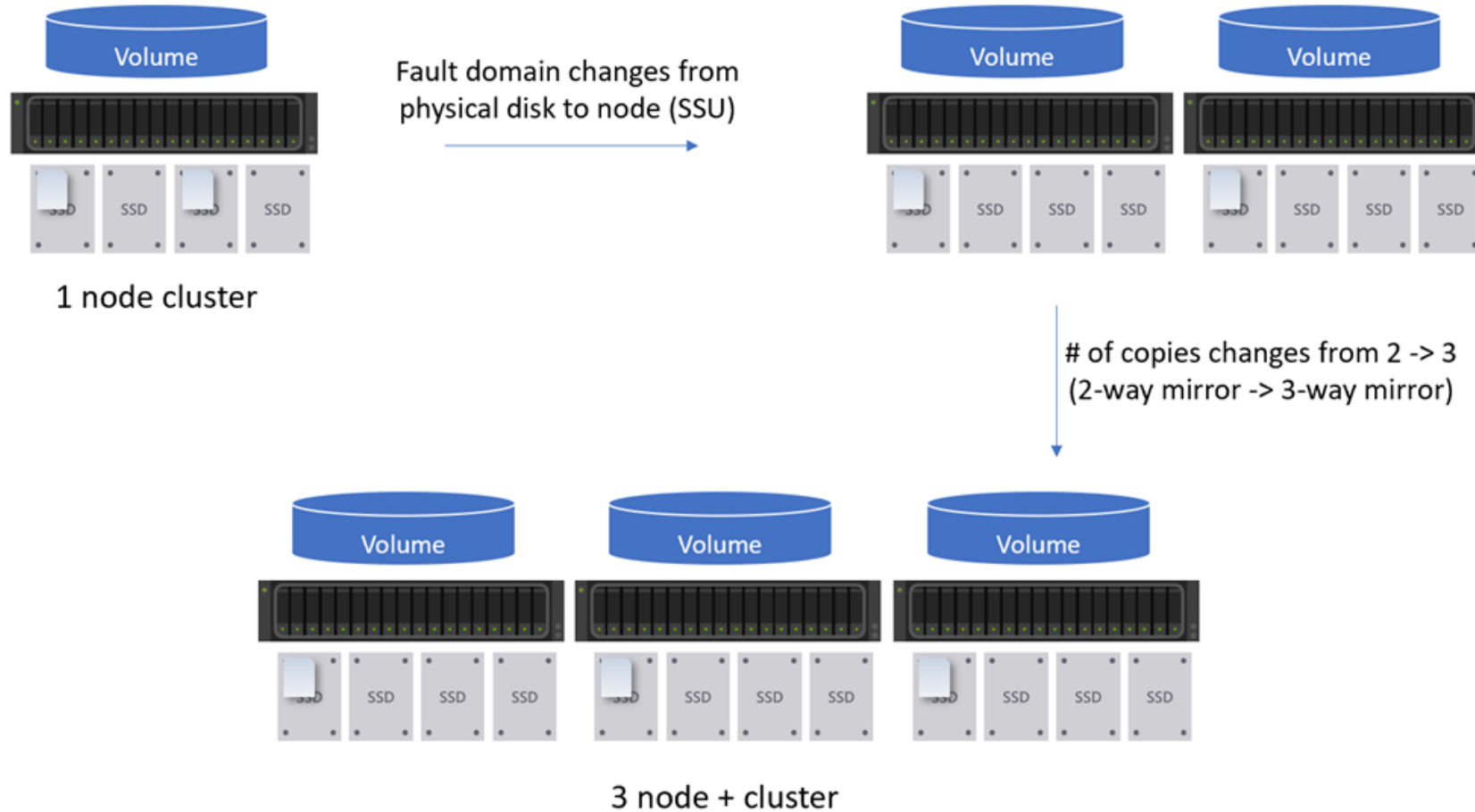
Azure Stack HCI – Single Server



- Min 2x Flash (SSD/NvMe)
- All Azure Stack HCI benefits

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Activate Windows Server Subscriptions	Yes	Yes
Azure Defender and Secured-core	Yes	Yes
Azure Kubernetes Service on Azure Stack HCI (AKS-HCI)	Yes	Yes
Azure Virtual Desktop	Yes	Yes
Azure Site Recovery	Yes	Yes
Azure Stack HCI: Stretch cluster support	No	Yes
Use Graphics Processing Units (GPUs) with clustered VMs	Yes	Yes

Single-Server Scale-Out



Zertifizierte Systeme der Thomas-Krenn.AG für Azure Stack HCI

Lösungen von Thomas Krenn für Azure Stack HCI

Azure Stack HCI Series RI2112 Ver. 3.0

[ⓘ Konfigurationsinfos](#)



Highlights

Für den Einsatz von Azure Stack HCI
zertifiziert

2x Intel Scalable 3rd Gen CPU
Bis zu 2x 40-Core CPU
Bis zu 4 TB RAM

Full-NVMe

Azure Stack HCI Series RI2212 Ver. 3.0

[ⓘ Konfigurationsinfos](#)



Highlights

Für den Einsatz von Azure Stack HCI
zertifiziert

2x Intel Scalable 3rd Gen CPU
Bis zu 2x 40-Core CPU
Bis zu 4 TB RAM

Hybrid (NVMe / SSD / HDD)

Azure Stack HCI Series RI2224 Ver. 3.0

[ⓘ Konfigurationsinfos](#)



Highlights

Für den Einsatz von Azure Stack HCI
zertifiziert

2x Intel Scalable 3rd Gen CPU
Bis zu 2x 40-Core CPU
Bis zu 4 TB RAM

Full-NVMe

Azure Stack HCI Series RA2112 Ver. 3.0

[ⓘ Konfigurationsinfos](#)



Highlights

Für den Einsatz von Azure Stack HCI
zertifiziert

2x AMD EPYC 7003 CPU
Bis zu 2x 64-Core CPU
Bis zu 4 TB RAM

Full-NVMe

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Lösungen von Thomas Krenn für Azure Stack HCI

Azure Stack HCI Series RA2212 Ver. 3.0

[ⓘ Konfigurationsinfos](#)



Highlights

Für den Einsatz von Azure Stack HCI
zertifiziert

2x AMD EPYC 7003 CPU
Bis zu 2x 64-Core CPU
Bis zu 4 TB RAM

Hybrid (NVMe / SSD / HDD)

Azure Stack HCI Series RA2224 Ver. 3.0

[ⓘ Konfigurationsinfos](#)



Highlights

Für den Einsatz von Azure Stack HCI
zertifiziert

2x AMD EPYC 7003 CPU
Bis zu 2x 64-Core CPU
Bis zu 4 TB RAM

Full-NVMe

Azure Stack HCI Series RA1112 Ver. 3.0

[ⓘ Konfigurationsinfos](#)



Highlights

Für den Einsatz von Azure Stack HCI
zertifiziert

1x AMD EPYC 7003 CPU
Bis zu 1x 64-Core CPU
Bis zu 2 TB RAM

Full-NVMe

Azure Stack HCI Series RA1212 Ver. 3.0

[ⓘ Konfigurationsinfos](#)



Highlights

Für den Einsatz von Azure Stack HCI
zertifiziert

1x AMD EPYC 7003 CPU
Bis zu 1x 64-Core CPU
Bis zu 2 TB RAM

Hybrid (NVMe / SSD / HDD)

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Lösungen von Thomas Krenn für Azure Stack HCI

Azure Stack HCI Series RA1224 Ver. 3.0

[📄 Konfigurationsinfos](#)



Highlights

Für den Einsatz von Azure Stack HCI
zertifiziert

1x AMD EPYC 7003 CPU
Bis zu 1x 64-Core CPU
Bis zu 2 TB RAM

Full-NVMe

Azure Stack HCI Series RA1448 Ver. 3.0

[📄 Konfigurationsinfos](#)



Highlights

Für den Einsatz von Azure Stack HCI
zertifiziert

1x AMD EPYC 7003 CPU
Bis zu 1x 64-Core CPU
Bis zu 2 TB RAM

Hybrid (NVMe / SSD / HDD)

Live Demo

<https://www.thomas-krenn.com/de/produkte/einsatzzweck/software-defined-storage/azure-stack-hci/azure-stack-hci-series-racksysteme.html>

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Driver & Firmware Updates - Windows Admin Center (WAC) Extension

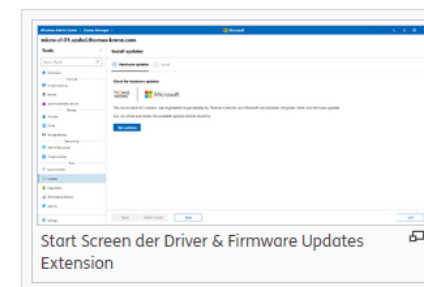
[Hauptseite](#) > [Server-Software](#) > [Windows](#) > [Windows Admin Center](#)

Die **Windows Admin Center Extension** bietet eine einfache und zentrale Möglichkeit, **Treiber und Firmware Versionen zu installieren und upzudaten**. Dank der nahtlosen Integration in den Prozess des Cluster Aware Updating (CAU) Dienstes, sowie in den Cluster Creation Wizard (CCU) können bereits beim Deployment von Azure Stack HCI, bzw. bei der laufenden Wartung des HCI Clusters die Versionen gleich gehalten werden.

Die in der Extension verfügbaren Treiber und Firmware Versionen werden explizit mit den kompatiblen Systemen getestet und nach einem erfolgreichen Test für die Extension freigegeben. Somit können Sie immer auf Nummer sicher gehen, dass Sie genau die richtigen Versionen verwenden.

Inhaltsverzeichnis [\[Verbergen\]](#)

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- 2 [Eigenschaften der Extension](#)
- 3 [Installation der Driver & Firmware Updates Extension](#)
- 4 [Handhabung beim Verbindungsaufbau](#)
- 5 [Workflow beim Cluster Aware Updating \(CAU\)](#)
 - 5.1 [Cluster Aware Updating \(CAU\) aufrufen](#)
 - 5.2 [Driver & Firmware Updates Extension aufrufen](#)
 - 5.3 [Hardware-Updates auswählen und verteilen](#)
 - 5.4 [CAU Prozess starten und Updates installieren](#)
- 6 [Workflow beim Cluster Creation Wizard \(CCU\)](#)



Kompatibilität zu Thomas-Krenn-Systemen

Die Driver & Firmware Updates Extension ist zum aktuellen Zeitpunkt für folgende Systeme der Thomas-Krenn.AG kompatibel.

FRU und DMI-Namen der kompatiblen Systeme:

- Thomas-Krenn.AG AzSHCI Micro-Cluster TA

Fragerunde

Vielen Dank!



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Manfred Helber

