

AZURE HYBRID EXPERIENCE DAY 2024

Einblick in den Maschinenraum von Azure Stack HCI

Agenda

Was ist neu in Azure Stack HCI 23H2

Wie hat sich HCI weiterentwickelt

Installation aus der Cloud

Solution update "One click"

Wo fängt man an

Azure Stack HCI 23H2

Azure Arc-enabled VM management is GA with easier set-up, LNet, Storage Paths, RBAC, all VM Extensions



Azure Kubernetes Service enabled by Azure Arc is built-in with 23H2: deployed, updated automatically



Azure Virtual Desktop for HCI is GA, with top requested features



Lifecycle Manager big bet for solution-level orchestration: all 23H2+ clusters deploy and update through Portal/ARM



Integrations with other services: Monitor GA, incl Metrics and Alerts, Update Manager GA, Defender preview, CoPilot preview...



Announcements Recap

[Azure Stack HCI version 23H2 is GA](#)

[Azure Virtual Desktop for Azure Stack HCI is GA](#)

[What's new for Azure edge infrastructure in 2023](#)

[How to run Azure Virtual Desktop on premises](#)



Azure Stack HCI version 23H2 is generally available Unsubscribe AKA

By  [Cosmos Darwin](#)
Published Feb 01 2024 09:00 AM 8,143 Views 

Written by Cosmos Darwin, Principal PM Manager on the Azure Edge & Platform team



Azure Stack HCI version 23H2 is generally available now

Today we're announcing the **general availability of Azure Stack HCI version 23H2**, the latest cloud-managed edge infrastructure from Microsoft Azure.

First [introduced a few months ago](#) in preview, Azure Stack HCI version 23H2 brings adaptive cloud principles to the full stack. You can deploy and operate everything from hardware to applications using Azure Resource Manager and core Azure management services, unifying siloed teams around a common platform. New container-based apps run alongside existing VMs with Azure Kubernetes Service, and every workload is automatically Azure Arc enabled, making it easy to leverage cloud-based configuration, observability, and advanced security across all your resources.

Ready for production

General availability means that Azure Stack HCI version 23H2 is ready for production use. Based on preview feedback and internal measurement, version 23H2 deploys and updates more reliably than any prior version. Starting today, new deployments can use version 23H2 and receive production-level technical support from Azure Support. Whether you're experiencing an issue or just have a question, our dedicated team of engineers are standing by and ready to help. Version 23H2 is now the default and is no longer labeled 'Preview' in Azure portal.





Premier Solutions

Turnkey Azure Stack HCI solution

Integrated Systems

Single purpose system with pre-installed software

Validated Nodes

Broadest choice of hardware components

Which solution category should I get?

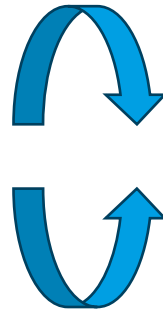
Feature	Premier Solutions	Integrated Systems	Validated Nodes
Certified hardware with a least 5 years of support	✓	✓	✓
Solution testing frequency ¹	Continuously, by Microsoft and partner	2-4 times per year	Once
Solution update automation	Full-stack updates in a single step	Full-stack updates after sideload of firmware/drivers	Manual, separate software and firmware/driver update
Integrated support queues between Microsoft and solution partner	✓	✓	N/A
Azure Stack HCI pre-installed ²	✓	✓	
Available for purchase as a multi-node solution	✓	✓	
Security features enabled by default ³	✓	✓	
Azure Stack HCI software support available from solution partner	✓	✓	
Proactive call-home support services available	✓		

Fundamentals

Transformation from OS into a Solution



Cloud “connected” Operating
System



Arc enabled Solution fully
integrated into Azure. Built as
Infrastructure as code from the
ground up.

Composition of Azure Stack HCI 23H2



Design Principals

- ❑ Simple user experience
- ❑ Ready to run workload when deployed
- ❑ Make the process predictable & repeatable
 - ❑ Enable Azure tooling ecosystem
- ❑ Validate configuration to drive success
 - ❑ Secure by default - mindset

Plan your deployment

- Connectivity (Firewall, URLs, Proxy)
- Hardware readiness (Firmware, Drivers, Bios Settings)
- Validate using Environment checker
- Prepare AD with an OU and no GPOs
- Request additional IPs with outbound connectivity enabled
- Azure permissions

10000 feet view



INSTALL OS &
DRIVERS



REGISTER WITH ARC



DEPLOY SOLUTION

Bootstrap

Cluster creation - Basic

- Cluster name
 - Key Vault
- Select & Validate servers
- Permission validation

Home > Azure Arc | Get started >

Deploy Azure Stack HCI

Preview

Basics Configuration Networking Management Security Advanced Tags Validation Review + create

Before you start, make sure to prepare your Active Directory domain and connect all servers in this system to Azure Arc. [Learn more](#)

Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription *

Resource group *

Instance details

You'll use the cluster name later to manage this Azure Stack HCI system as a whole instead of managing the underlying server or servers. Create an empty key vault to securely store secrets for this system, such as cryptographic keys, local admin credentials and BitLocker recovery keys. [Learn more](#)

Cluster name *

Region *

Key vault name *
[Create a new key vault](#)

Select the servers to use and validate

Selecting more than one server creates a multi-node cluster. [How do I add a server?](#)

	Name	Status	Operating system	Model
☒	ms309host	Ready	Azure Stack HCI	ASEPRO2

✓

Configuration

- New configuration
 - Template Spec
 - Personal library
- QuickStart template
 - Partner SKU templates

Home > Azure Arc | Get started >

Deploy Azure Stack HCI

Preview

Basics **Configuration** Networking Management Security Advanced Tags Validation Review + create

Specify the deployment settings

Create a new configuration for this system or select a template that loads settings for you.

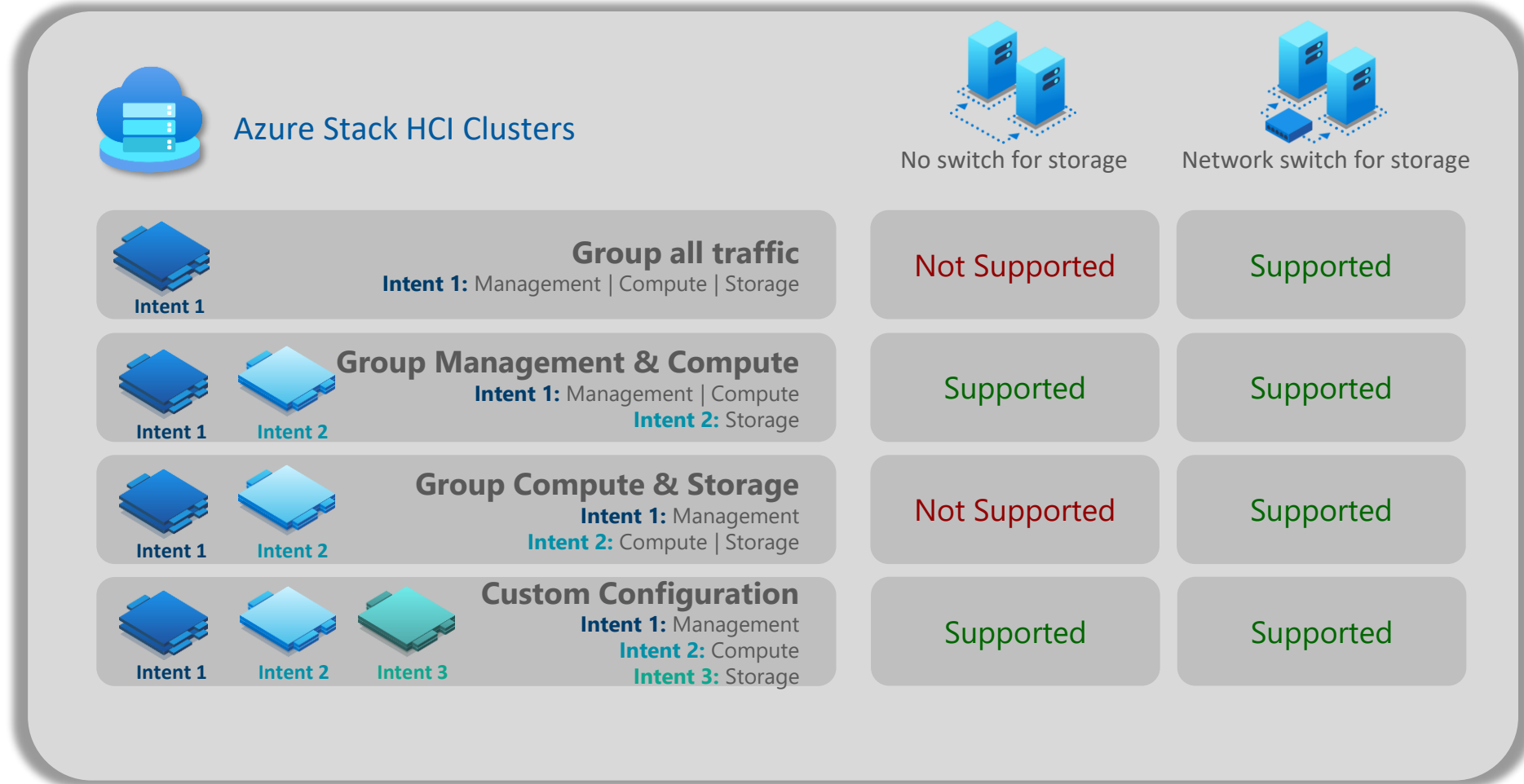
Source *

- ☒ New configuration
Specify all of the settings to deploy the Azure Stack HCI system.
- ☐ Template Spec
Load the settings to deploy your system from a template spec stored in your Azure subscription.
- ☐ Quickstart template
Load the settings to deploy your system from a template created by your hardware vendor or Microsoft.

[Review + create](#) [< Previous](#) **Next: Networking**

Networking

- Host networking
 - Intent configuration



Networking

- IP Pool configuration
- 6 IP addresses required for Arc services

Home > Azure Arc | Get started >

Deploy Azure Stack HCI

Preview

Provide intent details

Specify which network adapters should carry each group of traffic types. This is called as an intent.

Compute_Management

Traffic types * ⓘ Compute, Management

Intent name * ⓘ Compute_Management

Network adapter 1 * ⓘ Ethernet 2

[+ Select another adapter for this traffic](#) [Customize network settings](#)

Storage

Traffic types * ⓘ Storage

Intent name * ⓘ Storage

Network adapter 1 * ⓘ Ethernet 3

Storage Network 1 VLAN ID * ⓘ 5

[+ Select another adapter for this traffic](#) [Customize network settings](#)

Allocate IP addresses to the system and services

We need a block of IP addresses on your management network to use for Azure Stack HCI and for services such as Azure Arc.

Required IP addresses * ⓘ 6

Starting IP * ⓘ 10.126.66.145

Ending IP * ⓘ 10.126.66.151

Subnet mask * ⓘ 255.255.252.0

Default gateway * ⓘ 10.126.64.1

DNS server * ⓘ 10.57.50.90

[+ Add DNS server](#)

[Review + create](#) [< Previous](#) [Next: Management](#)

Cluster configuration - Management

- Custom location
- Cluster witness (2 node)
 - Active Directory

Home > Azure Arc | Get started >

Deploy Azure Stack HCI

Preview

Basics Configuration Networking **Management** Security Advanced Tags Validation Review + create

Specify a custom location name

This helps users identify this system when creating resources (such as VMs) on it.

Custom location name

Specify cluster witness settings

The cluster witness is a small file (less than a kilobyte) that helps determine which server is most up to date if there's contention.

Witness type ☐ Cloud witness

Azure storage account name * [Create new](#)

Specify Active Directory details

Let us know how your Active Directory Services domain was prepared for deployment.

Domain *

Computer name prefix *

OU *

Deployment account

Username *

Password *

Confirm password *

Local administrator

Username *

Password *

Confirm password *

[Review + create](#) [< Previous](#) [Next: Security](#)

Cluster configuration - Security

- Recommended
- Custom settings

Home > Azure Arc | Get started >

Deploy Azure Stack HCI

Preview

Basics Configuration Networking Management **Security** Advanced Tags Validation Review + create

Set the security level of your system's infrastructure

Stick with the recommended security settings for the highest security, or customize the settings. You can also change this later, including uninstalling azure services.

Security level * ⓘ

☒ Recommended security settings

☐ Customized security settings

Security level

Excellent(7/7)

Settings

Recommended Settings 7 of 7

Setting	Description
Maintain security defaults	Maintains the security defaults on each server, helping to protect against changes
Windows Defender Credential Guard	Uses virtualisation-based security to isolate secrets from credential-theft attacks
Windows Defender Application Control	Controls which drivers and apps are allowed to run directly on each server
BitLocker for the OS volume	Encrypts the OS volume on each server
BitLocker for data volumes	Encrypts cluster shared volumes (CSVs) created on this system during deployment
Signing for external SMB traffic	Signs SMB traffic between this system and others to help prevent relay attacks
SMB encryption for in-cluster traffic	Encrypts traffic between servers in the cluster (on your storage network)

Review + create < Previous **Next: Advanced**

Cluster configuration Advanced

- Volume configuration
 - Express
 - Infra volume (250GB)
 - Volume per node
 - Two- or Three-way mirror depending on Node count
 - Infra Only
 - Infra volume (250GB)
 - Custom configuration
 - Existing data drives (Single node repair)

The screenshot shows the 'Deploy Azure Stack HCI' wizard in the 'Advanced' tab. The breadcrumb trail is 'Home > Azure Arc | Get started >'. The title is 'Deploy Azure Stack HCI' with a 'Preview' link. The navigation tabs are 'Basics', 'Configuration', 'Networking', 'Management', 'Security', 'Advanced' (highlighted with a red box), 'Tags', 'Validation', and 'Review + create'. The section 'Create workload and infrastructure volumes' contains the instruction: 'Choose whether to create volumes for workloads in addition to the required infrastructure volumes used by Azure stack HCI. You can also create more volumes later.' Below this, the 'Volumes' section has three radio button options: 'Create workload volumes and required infrastructure volumes (Recommended)' (selected), 'Create required infrastructure volumes only', and 'Use existing data drives'. At the bottom, there are three buttons: 'Review + create' (blue), '< Previous' (disabled), and 'Next: Tags' (highlighted with a red box).

Cluster configuration Validation

- Create the Azure Resources
- Set permissions
- Validate configuration on the device based on inputs provided

Home > Azure Arc | Get started >

Deploy Azure Stack HCI

Preview

Create service principal	resource	✔ Succeeded
Key Vault Audit Logging	Resource	✔ Succeeded
Key vault permissions	Permission	✔ Succeeded
Key vault secrets	Secrets	✔ Succeeded

Validation progress

We're creating an Azure resource for this system and validating your system's readiness to deploy. This takes around 15 minutes for systems with one or two servers, longer for bigger systems.

[Start validation](#)

Task	Description	Status
Deployment settings resource	Resource	🔄 In progress
Azure Stack HCI Connectivity	Check external connectivity requirements	🔄 In progress(View details)
Azure Stack HCI External Active Directory	Check external active directory preparation	❓ Unknown
Azure Stack SBE Health	Check SBE health requirements	❓ Unknown
Azure Stack HCI Hardware	Check hardware requirements	❓ Unknown
Azure Stack HCI Network	Check network requirements	❓ Unknown
Azure Stack HCI Observability	Check Log Collection and Remote Support requirements	❓ Unknown
Azure Stack HCI Software	Check Operating System requirements	❓ Unknown
Azure Stack HCI MOC Stack	Check Moc Stack requirements	❓ Unknown
Azure Stack HCI Arc Integration	Check ARC Integration requirements	❓ Unknown

[Review + create](#) [< Previous](#) [Next: Review + create](#)

Demo



complex

Many components to update

Understanding dependencies between components

Which component goes first?

Component versioning to achieve "stable"

Latest not equal stable!

Validated Nodes

Integrated System

Premium Tier

Microsoft Lab integration
CI/CD runs every night for
every Premium SKU

Non-deterministic & Deterministic Update experience



Solution Builder Extension (SBE)

Feature	Standard	Premier SBE
WDAC Policy	required	required
Disk Drive management	required	required
Disk Drive Firmware	optional	required
System Firmware & drivers	required	required
Download connector	optional	required
Drift detection	optional	required
Health checks	optional	required

HCI

- At scale update experience
- One place to update HCI, VM, Servers
- Single click update experience

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

Home > Azure Update Manager

Azure Update Manager | Azure Stack HCI (Preview)

Search Refresh One-time update Feedback

Only systems that have the Azure Stack HCI, version 23H2 OS can be managed here. [Learn more.](#)

Filter by name... Subscription == 10 selected Resource group == 60 selected Location == 5 selected Status == 6 selected Update readiness == 6 selected Current OS version == 32 selected Tags : All

Select all	Name	Status	Update readiness	Current OS version	Last successful update
☐	bugbash02	Up to date	Healthy	10.2308.9.2	8/18/2023, 1:00 AM
☐	cluster-08f10459978940b1af21ee74194feb1	Updates are available	Healthy	10.2306.0.39	12/31/1, 4:07 PM
☐	cluster-09cbae13c2584dc3bb2c5be569a124ac	Up to date	Healthy	10.2309.0.2	6/16/2023, 1:47 PM
☐	cluster-15ba17e071774198bb7ced2f038f14ae	Up to date	Healthy	10.2308.0.18	
☐	cluster-18fa3cb2c9ed4659ad5ef8614d6e9949	Up to date	Healthy	10.2306.0.47	12/31/1, 4:07 PM
☐	cluster-21ab9f147bd34e59b047488b63600bea	Updates are available	Healthy	10.2311.0.1	6/16/2023, 8:51 AM
☐	cluster-283a3e2f6643476c81d6e8e870111e2b	Up to date	Healthy	10.2306.0.41	12/31/1, 4:07 PM
☐	cluster-2cb816fd46914502ba8cf3bdd6e58ec1	Failed to update	Healthy	10.2306.0.32	12/31/1, 4:07 PM
☐	cluster-2d569e2383294a68a434373c17e3a9d9	Up to date	Healthy	10.2306.0.43	12/31/1, 4:07 PM
☐	cluster-39b12bba7a084da58255cdac97775901	Up to date	Healthy	10.2307.0.1	6/6/2023, 4:51 AM
☐	cluster-4227dfacee6948e6b7a2ab15ae23f0fb	Up to date	Healthy	10.2306.0.44	7/25/2023, 2:54 AM
☐	cluster-4334ad8a0c7e438ebd0607685743e248	Up to date	Healthy	10.2309.0.0	
☐	cluster-45aa2bde163c40e382b1c4330511adc6	Up to date	Healthy	10.2306.0.40	6/12/2023, 11:35 AM
☐	cluster-46c1587186f349f3b5a510150328c3f5	Failed to update	Healthy	10.2306.0.33	12/31/1, 4:07 PM
☐	cluster-4987cd2c48d8471aad3e1ffa0b388ce	Up to date	Healthy	10.2308.0.2	
☐	cluster-4ccd4bce873546c2b951726f48a551c5	Up to date	Healthy	10.2306.0.50	6/13/2023, 11:21 AM
☐	cluster-5019ad8dccc024684bf44e17692953259	Up to date	Healthy	10.2307.0.1	6/6/2023, 4:52 AM
☐	cluster-527d4a743e764b789a15dd3748fad89f	Up to date	Healthy	10.2313.0.1	6/16/2023, 11:24 AM
☐	cluster-55cbcfef197e43beb18af5ec25150	Up to date	Healthy	10.2308.0.3	7/28/2023, 2:50 AM
☐	cluster-5e94de8672be493f8b6001f81b8c53fa	Failed to update	Healthy	10.2306.0.34	12/31/1, 4:07 PM
☐	cluster-606f3308c7d4641a390717ad83a1b6d6	Up to date	Healthy	10.2306.0.43	12/31/1, 4:07 PM

HCI

- Daily update checks
- Health checks to ensure successful install

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

Home > Azure Update Manager | Azure Stack HCI (Preview) >

Install updates

Update Center

1 Check readiness 2 Select updates 3 Review + install

The systems passed all readiness checks. Select Next to continue.

Errors 2 out of 90 checks Informational 5 out of 90 checks Success 83 out of 90 checks

Check	Result	Affected systems
Errors (1)		
Fault Precheck	Critical error	2 out of 2
Informational (1)		
A firewall rule that allows remote shutdo...	Informational	5 out of 5
Success (15)		
Storage Volume Summary	Success	7 out of 7
One-node solution reboot requirement c...	Success	5 out of 5
Non-migratable VM test	Success	5 out of 5
Azure Stack HCI Cluster Active Faults	Success	5 out of 5
Get SBE HealthStatusOnNode	Success	5 out of 5
Storage Subsystem Summary	Success	7 out of 7
Storage Job Status Check	Success	7 out of 7
Storage Pool Summary	Success	7 out of 7
Storage Cluster Shared Volume Check	Success	7 out of 7
Storage Services Physical Disks Summary	Success	7 out of 7
Storage Virtual Disk Summary	Success	7 out of 7
Storage Services Summary	Success	7 out of 7

Previous Next

HCI

- Full system update
 - OS, LCM, Arc services
 - Driver/Firmware via SBE
- SBE discovery & download

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

Home > Azure Update Manager | Azure Stack HCI (Preview) >

Install updates

Update Center

Check readiness **Select updates** Review + install

If you select multiple updates that apply to the same system, only the latest update is installed.

Select the updates to install

Showing 4 eligible updates on 3 Azure Stack HCI systems

☐	Available update name	Systems to update	Version	Estimated size	Restart required	Details
☒	ASZ Bundle Update - ...	1	99.9999.0.2	0 Bytes	No	View details
☐	SBE_MsftCIOnlyVirtual...	2		0 Bytes	No	View details
☒	Azure Stack HCI 2306 ...	1	10.2306.0.50	628 MB	No	View details
☒	Azure Stack HCI 2306 ...	1	10.2306.0.40	628 MB	No	View details

Previous Next

Azure Update Manager for HCI

- Progress reporting
- History for tracking & diagnostic

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

Home > Azure Update Manager | History (Preview)

Update progress

Azure Stack HCI

Download updates Check readiness **Install**

The system passed readiness checks and updates are now installed.

Update task	Result	Start time	End time	Description
> Servicing Stack Pre-Requisite 1	Success	8/11/2023, 5:21 AM	8/11/2023, 5:22 A...	Run Servicing Stack Pre-Requisi...
> Start Servicing Stack Update 1	Success	8/11/2023, 5:22 AM	8/11/2023, 5:56 A...	Perform Servicing Stack Update...
> Bootstrap Self-Update	Success	8/11/2023, 5:22 AM	8/11/2023, 5:22 A...	Do Bootstrap Self-Update
> Start Applicable Update	Success	8/11/2023, 5:22 AM	8/11/2023, 5:56 A...	Start Applicable Update
> Servicing Stack Pre-Requisite	Success	8/11/2023, 5:22 AM	8/11/2023, 5:22 A...	Run Servicing Stack Pre-Requisi...
> Reset local admin credentials in ECE during PNU	Success	8/11/2023, 5:22 AM	8/11/2023, 5:22 A...	Reset local admin credentials in...
> Update Local Share Path in Parameters	Success	8/11/2023, 5:22 AM	8/11/2023, 5:22 A...	Update Local Share Path in Par...
> Update WDAC Policy on Hosts	Success	8/11/2023, 5:22 AM	8/11/2023, 5:24 A...	Update WDAC Policy on Hosts
> Parallel per-node operation top step	Success	8/11/2023, 5:24 AM	8/11/2023, 5:25 A...	Parallel per-node operation to...
> Servicing Stack Update	Success	8/11/2023, 5:25 AM	8/11/2023, 5:29 A...	Perform Servicing Stack Update
> Update gMSA and Security Groups	Success	8/11/2023, 5:25 AM	8/11/2023, 5:25 A...	
> Update LCM Agents	Success	8/11/2023, 5:25 AM	8/11/2023, 5:29 A...	
> Unnamed step	Success	8/11/2023, 5:25 AM	8/11/2023, 5:29 A...	
> Push Agent Content to Nodes	Success	8/11/2023, 5:25 AM	8/11/2023, 5:26 A...	Copy agent nugets to nodes
> AgentLifecycleManager Update	Success	8/11/2023, 5:26 AM	8/11/2023, 5:27 A...	Updates AgentLifecycleManag...
> Configure ECEAgent	Success	8/11/2023, 5:27 AM	8/11/2023, 5:27 A...	Performs Configuration of ECE...
> Failover ECE Service to new Node	Success	8/11/2023, 5:27 AM	8/11/2023, 5:29 A...	Move the ECE Service to a new ...
> Configure UpdateURL in Update service	Success	8/11/2023, 5:29 AM	8/11/2023, 5:29 A...	Configuration to Update Service

Previous

AUM is free of charge

Where to start

- Is my hardware in the catalog?
 - <https://azurestackhciolutions.azure.microsoft.com/#/catalog>
- Can I validate my configuration upfront?
 - Environment checker - <https://learn.microsoft.com/en-us/azure-stack/hci/manage/use-environment-checker?tabs=connectivity>
- How can I try it without hardware?
 - Arc Jumpstart - https://arcjumpstart.com/azure_jumpstart_hcibox/getting_started
 - Deploy Virtual - <https://learn.microsoft.com/en-us/azure-stack/hci/deploy/deployment-virtual>

Ende!

Vielen Dank für Ihre Teilnahme!

Medialine EuroTrade AG

sales@medialine.ag
www.medialine.com

Breitlerstraße 43
55566 Bad Sobernheim
Tel: +49 6751 85378-0
Fax: +49 6751 85378-11

www.group.medialine.com



MEDIALINE
GROUP