

Die Azure Arc Show



Alexander Ortha



Manfred Helber

26. Juni 2023 # 16 Uhr

Azure Arc & SCVMM



Willkommen



News Ecke

Microsoft Azure



Azure Arc-enabled Infrastructure Technical Series

EVENT

Azure Arc-enabled Infrastructure Technical Event

Jun 15 6:00 PM - 7:30 PM • Virtual

Join us for a series of technical sessions focused on Azure Arc-enabled infrastructure including Azure Stack HCI and everything that is Arc-enabled. You will also learn about core functionality improvements further increas...

[Show more](#)

[Azure Arc-enabled Infrastructure
Technical Event Series - Events |
Microsoft Learn](#)

The grid displays 16 session cards, each representing a different technical topic related to Azure Arc-enabled infrastructure. The cards are arranged in four rows and four columns. Each card includes a thumbnail of a speaker, the session title, duration, and a small 'Azure' tag.

SESSION	SESSION	SESSION	SESSION
Stack HCI using Azure Migrate 24:20	Desktop for Azure Stack HCI 14:53	AKS Edge Essentials 10:29	On Azure Stack HCI 12:55
Migrate Hyper-V VMs to Azure Stack HCI with Azure Migrate	Deploying AVD for Azure Stack HCI	Scale Kubernetes to the Edge with Arc and AKS Edge Essentials	Managing Arc extensions on Azure Stack HCI
Azure	Azure	Azure	Azure
SESSION	SESSION	SESSION	SESSION
Monitor Azure Stack HCI with Azure Monitor HCI Insights 06:39	Getting notified with log alerts 08:43	At-scale security management for Azure Stack HCI hosts 07:43	Unpacking the new Azure Site Recovery integration with Azure Stack HCI 15:06
Azure	Azure	Azure	Azure
SESSION	SESSION	SESSION	SESSION
Azure Stack HCI Insights walkthrough	Getting notified with Log alerts	At-scale security management for Azure Stack HCI hosts	Unpacking the new Azure Site Recovery integration with Azure Stack HCI
Azure	Azure	Azure	Azure
SESSION	SESSION	SESSION	SESSION
Under the hood with Windows Admin Center in Azure 11:29	Under the hood: Azure Stack HCI remote support 07:37	Validate Connectivity to Azure Services 09:17	Azure CLI Automation: Manage Azure Stack HCI Clusters and Arc VMs! 12:28
Azure	Azure	Azure	Azure
SESSION	SESSION	SESSION	SESSION
Under the hood with Windows Admin Center in Azure Portal	Under the hood with Azure Stack HCI remote support	Validate Connectivity to Azure Services	Azure CLI Automation: Manage Azure Stack HCI Clusters and Arc VMs!
Azure	Azure	Azure	Azure

Windows Admin Center version 2306 is now generally available!

By  Trung Tran (HE/HIM)

Published Jun 20 2023 12:38 PM

1,178 Views

 Subscribe

...

 Listen

Today, we are releasing our latest version of Windows Admin Center – version 2306! Thank you to our customers, partners, and fans for helping us to continue to improve and make Windows Admin Center better. In this release, we have made improvements across our entire product! From updates to our platform, improving your core tool management experiences, introducing new features, and bridging some of the gap for the legacy tool parity. We hope you will read on and share our excitement for the new features we are introducing this summer. If you're as excited as we are, you can [download right](#) away!

Windows Admin Center Updates

 Updates are available

Current: Version (1.4.2212.08003)

New: Version (1.5.2306.14001)

[What's new in this release? !\[\]\(bd3b31712ad9bab5a241210fa6925cdd_img.jpg\)](#)

Windows Admin Center now only supports auto-updating via Microsoft Update. Turn on Microsoft Update or download our .msi and run it on your gateway machine. [Download now](#)

Windows Admin Center updates coming through Microsoft Update are generally available 2-3 weeks after release.

Windows Admin Center | All connections 



A new update is available. Go to settings.



Successfully installed version 2306

New in this release



Azure Arc tool for Azure Stack HCI New ⓘ

Use this new tool in Cluster Manager to register Azure Stack HCI with Azure, set up Azure Arc, and view status.

Manage systems that use Windows Defender Application Control (WDAC) policies New ⓘ

Connect and manage PCs, servers, and clusters that have Windows Defender Application Control (WDAC) policies enforced.



Accessibility: Support for 400% zoom Improvement ⓘ

Windows Admin Center now adjusts its interface so that everything is visible when you are zoomed all the way in.

6 more items...

[Read what's new](#)

Version 1.31 - June 2023

Download for [Windows](#) or [Linux](#)

Known issue

The first release of agent version 1.31 had a known issue affecting customers using proxy servers. The issue is indicated by the [AZCM0026: Network Error](#) and a message about "no IP addresses found" when connecting a server to Azure Arc using a proxy server. A newer version of agent 1.31 was released on June 14, 2023 that addresses this issue.

To check if you're running the latest version of the Azure connected machine agent, navigate to the server in the Azure portal or run `azcmagent show` from a terminal on the server itself and look for the "Agent version." The table below shows the version numbers for the first and patched releases of agent 1.31.

Package type	Version number with proxy issue	Version number of patched agent
Windows	1.31.02347.1069	1.31.02356.1083
RPM-based Linux	1.31.02347.957	1.31.02356.970
DEB-based Linux	1.31.02347.939	1.31.02356.952

[What's new with Azure Connected Machine agent](#) - Azure Arc | Microsoft Learn

New features

- Added support for Amazon Linux 2023
- `azcmagent show` no longer requires administrator privileges
- You can now filter the output of `azcmagent show` by specifying the properties you wish to output

Fixed

- Added an error message when a pending reboot on the machine affects extension operations
- The scheduled task that checks for agent updates no longer outputs a file
- Improved formatting for clock skew calculations
- Improved reliability when upgrading extensions by explicitly asking extensions to stop before trying to upgrade.
- Increased the [resource limits](#) for the Update Management Center extension for Linux, Microsoft Defender Endpoint for Linux, and Azure Security Agent for Linux to prevent timeouts during installation
- `azcmagent disconnect` now closes any active SSH or Windows Admin Center connections
- Improved output of the `azcmagent check` command
- Better handling of spaces in the `--location` parameter of `azcmagent connect`

Microsoft Azure

Home > AD03H09-C2 >

AD03H09-C2

Azure Stack HCI

Search Workbooks Customize Auto refresh: Off

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

Time range: Last hour

Servers Virtual machines Storage

View health and usage info for the servers in the cluster.

Settings

Windows Admin Center (preview)

Extensions Configuration Locks

Resources (preview)

Virtual machines

Virtual networks Disks VM images

Disaster recovery (preview)

Monitoring Insights Logs Workbooks

Automation Tasks (preview)

Support + troubleshooting New Support Request

Time range for chart: Last 4 hours Servers: All

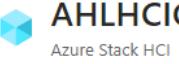
CPU and memory usage

CPU usage

Memory usage

Server	Last updated	Status	CPU usage	Memory usage	Logical processors	CPUs	Uptime	Site
AD03H09-VM02	3/3/2023, 12:21:06 PM	Critical	20.51%	53.15%	4	2	16.501 days	Site1
AD03H09-VM03	3/3/2023, 12:21:06 PM	Healthy	4.96%	43.29%	4	2	1.954 days	Site1
AD03H09-VM04	3/3/2023, 12:21:06 PM	Healthy	4.2%	42.08%	4	2	16.5 days	Site2
AD03H09-VM05	3/3/2023, 12:21:06 PM	Healthy	3.82%	29.92%	4	2	16.501 days	Site2

[Announcing the General Availability of Azure Monitor HCI Insights - Microsoft Community Hub](#)
[Enhanced management of Azure Stack HCI from Azure. - Azure Stack HCI | Microsoft Learn](#)

 <>[Workbooks](#) [Customize](#) [Auto refresh: Off](#)

Time range: Last 4 hours

- Home
- 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](#)

Operations

[Disaster recovery \(preview\)](#)

Monitoring

[Insights](#)[Logs](#)[Workbooks](#)

Automation

[Tasks \(preview\)](#)

Support + troubleshooting

[New Support Request](#)[Health](#) [Servers](#) [Virtual machines](#) [Storage](#)

View health and usage info for the servers in the cluster.

Search

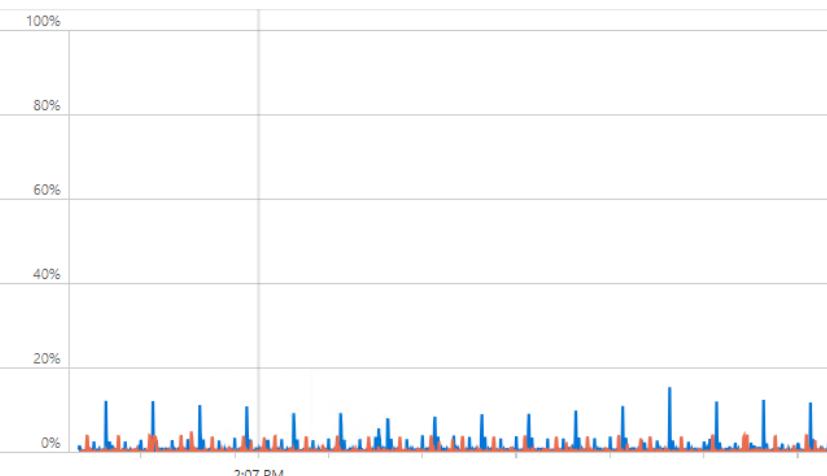
Servers	Last updated	Status	CPU usage	Memory usage	Logical processors	CPUs	Uptime	Site
AHLASHCIHOST01	6/21/2023, 4:59:54 PM	Healthy	1 %	8.0 %	56	28	2.262 days	Site 10
AHLASHCIHOST02	6/21/2023, 4:59:54 PM	Healthy	1 %	7.0 %	56	28	2.244 days	Site 10

Time range for chart: Last 4 hours

Servers: All

CPU and memory usage

CPU usage



Memory usage



AHLAsHCI-rg ...

Resource group

Search ...

+ Create Manage view Delete resource group Refresh Export to CSV Open query Assign tags ...

Overview

Activity log

Access control (IAM)

Tags

Resource visualizer

Events

Subscription (move) Microsoft Azure Sponsorship 2

Subscription ID b3bf1377-93c2-49be-a5cc-d09f00a519a4

Deployments 5 Succeeded

Location West Europe

Tags (edit) Click here to add tags

Resources Recommendations

Filter for any field... Type equals all X Location equals all X Add filter

Showing 1 to 7 of 7 records. Show hidden types No grouping List view

Name ↑	Type ↑↓	Location ↑↓
AHLASHCIHOST01	Server - Azure Arc	West Europe
AHLASHCIHOST02	Server - Azure Arc	West Europe
AHLHCICLUS01	Azure Stack HCI	West Europe
AHLHCICLUS01-ep	Data collection endpoint	West Europe
AHLHCICLUS01-law	Log Analytics workspace	West Europe
AzureStackHCI-AHLHCICLUS01-dcr	Data collection rule	West Europe
cloudwitness4ahlhci	Storage account	West Europe

Recommendation: Different VNET for AKS Hybrid & Arc RB

1. Networking AKS Hybrid

```
# for HCL HCI03
$vnet = New-AksHciNetworkSetting -Name "akshci03-default-network" -vSwitchName "ComputeSwitch" -gateway "192.168.53.254" -dnsservers "192.168.53.246" ` 
    -ipaddressprefix "192.168.52.0/23"
    -k8snodeippoolstart "192.168.52.170" -k8snodeippoolend "192.168.52.199" ` # Management Cluster + Workload Cluster for the VM OS itself
    -vipPoolStart "192.168.52.205" -vipPoolEnd "192.168.52.225" # For the apps itself to reach to outside world
```

Set up Arc VM management

The following steps will deploy an Arc Resource Bridge on the Azure Stack HCI cluster and create a custom location.

1. Run the following cmdlets based on your networking configurations in an elevated PowerShell window:

For static IP address For dynamic IP address

- a. Create the configuration file for Arc Resource Bridge. These configuration files are required to perform essential az arcappliance CLI commands. The kvatoken.tok file is required for logs collection. Make sure you store these files in a secure and safe location for future use.

```
PowerShell
New-ArcHciConfigFiles -subscriptionID $subscription -location $location -resourceGroup $resource_group -vswitchName $vswitch_name -controlPlaneIP $control_plane_ip -vmIp1 $vm_ip_1 -vmIp2 $vm_ip_2 -dnsServers $dns_servers -ipAddressPrefix $ip_address_prefix -gateway $gateway -cloudServiceIP $cloud_service_ip -csvPath $csv_path -vnetName $vnet_name -resourceName $resource_name
```

① Important

- For setting up Arc VM management with a network proxy, create the above configuration files in PowerShell using these steps. After applying the proxy settings, come back here and continue the setup with the following steps.
- When setting up the Arc Resource Bridge with AKS hybrid, ensure that the Resource Bridge shares the same `$vswitchName` and `$IPAddressPrefix`. However, you must assign distinct IP addresses for the vippoolstart/end (or `$controlPlaneIP`) and the k8snodeippoolstart/end (or `$VMIP_1` and `$VMIP_2`).
- Assign a unique virtual network name (`$vnetName`) for the Arc Resource Bridge, which must be different from the one used for AKS hybrid. To accomplish this, include `"-vnetName $vnetName"` when you run the `New-ArcHciConfigFiles` command.

2. Networking Arc RB

```
# Prep for Arc HCI Appliance
$resource_group="ArcHCIRB-rg"
$subscription=
$Location="westeurope"
$customloc_name="AsHCI03-HybridCloudLab"

$vswitchName="ComputeSwitch"
$ControlPlaneIP="192.168.52.166"
$VMIP_1="192.168.52.167" #(required only for static IP configurations)
$VMIP_2="192.168.52.168" #(required only for static IP configurations)
$DNSServers="192.168.53.246" #For example: @("192.168.250.250","192.168.250.251")
$IPAddressPrefix="192.168.52.0/23" #(required only for static IP configurations)
$Gateway="192.168.53.254" #(required only for static IP configurations)
$CloudServiceIP="192.168.52.202" #(required only for static IP configurations)
$csv_path = "C:\ClusterStorage\Volume03-ArcBridge"
$vnetName = "hci03rb-vnet"
$resource_name= ((Get-AzureStackHci).AzureResourceName) + "-arcbridge"
mkdir $csv_path\ResourceBridge
# Enable VM Extension to the appliance
$hciClusterId= (Get-AzureStackHci).AzureResourceUri

New-ArcHciConfigFiles -subscriptionID $subscription -location $location -res
```

main ▾ 1 branch 0 tags

Go to file Add file ▾ Code ▾

alexor-ms Add script "Create Arc RB.ps1" d08e54b 1 minute ago 3 commits

Scripts Add script "Create Arc RB.ps1" 1 minute ago

SlideShare Add slides 5 minutes ago

LICENSE Initial commit 13 minutes ago

README.md Initial commit 13 minutes ago

README.md

AzureArcShow

Materials, Presentations, Scripts from the Azure Arc Show with Manfred Helber

About Materials, Presentations, Scripts from the Azure Arc Show with Manfred Helber

Readme GPL-3.0 license

0 stars 1 watching 0 forks

Releases No releases published Create a new release

Packages No packages published Publish your first package

[alexor-ms/AzureArcShow: Materials, Presentations, Scripts from the Azure Arc Show with Manfred Helber \(github.com\)](https://github.com/alexor-ms/AzureArcShow)



Lernkurve rund um Azure Arc

Azure Arc-enabled infrastructure

Manage private infrastructure from Azure



Azure Arc-enabled Azure Stack HCI

Full VM lifecycle management on Azure Stack HCI
Use Azure RBAC for self-service
Inventory, organize, and tag consistently
Use Azure management services for consistent governance

PREVIEW



Azure Arc-enabled VMware vSphere

Full VM lifecycle management on VMWare
Use Azure RBAC for self-service
Inventory, organize, and tag consistently
Use Azure management services for consistent governance

PREVIEW



Azure Arc-enabled System Center VMM

Full VM lifecycle management on SCVMM
Use Azure RBAC for self-service
Inventory, organize, and tag consistently
Use Azure management services for consistent governance

PREVIEW

Hybrid VM Management with Azure Arc-enabled System Center VMM

 [Subscribe](#) 

By  [Pavan Kaushik](#)

Published Jun 08 2022 08:00 AM

5,414 Views

 [Listen](#)

As customers continue to leverage Microsoft Azure to build, deploy, and manage business critical applications at scale, hybrid cloud is quickly becoming their mainstay. Customers have been telling us that a consistent experience of managing and securing their diverse IT environments will be key as they scale their cloud-native applications and infrastructure.

To enable the flexibility and agility customers are seeking, we introduced [Azure Arc](#) – a set of technologies that extends the Azure platform so you can build applications and services with the flexibility to run across datacenters, edge, and multicloud environments. Azure Arc enables customers to secure and govern their physical or virtual infrastructure and Kubernetes clusters anywhere using familiar Azure Management practices. Customers can also build cloud-native applications with Azure application services and Azure data services on their existing infrastructure in their datacenters, at the edge or in multicloud environments.

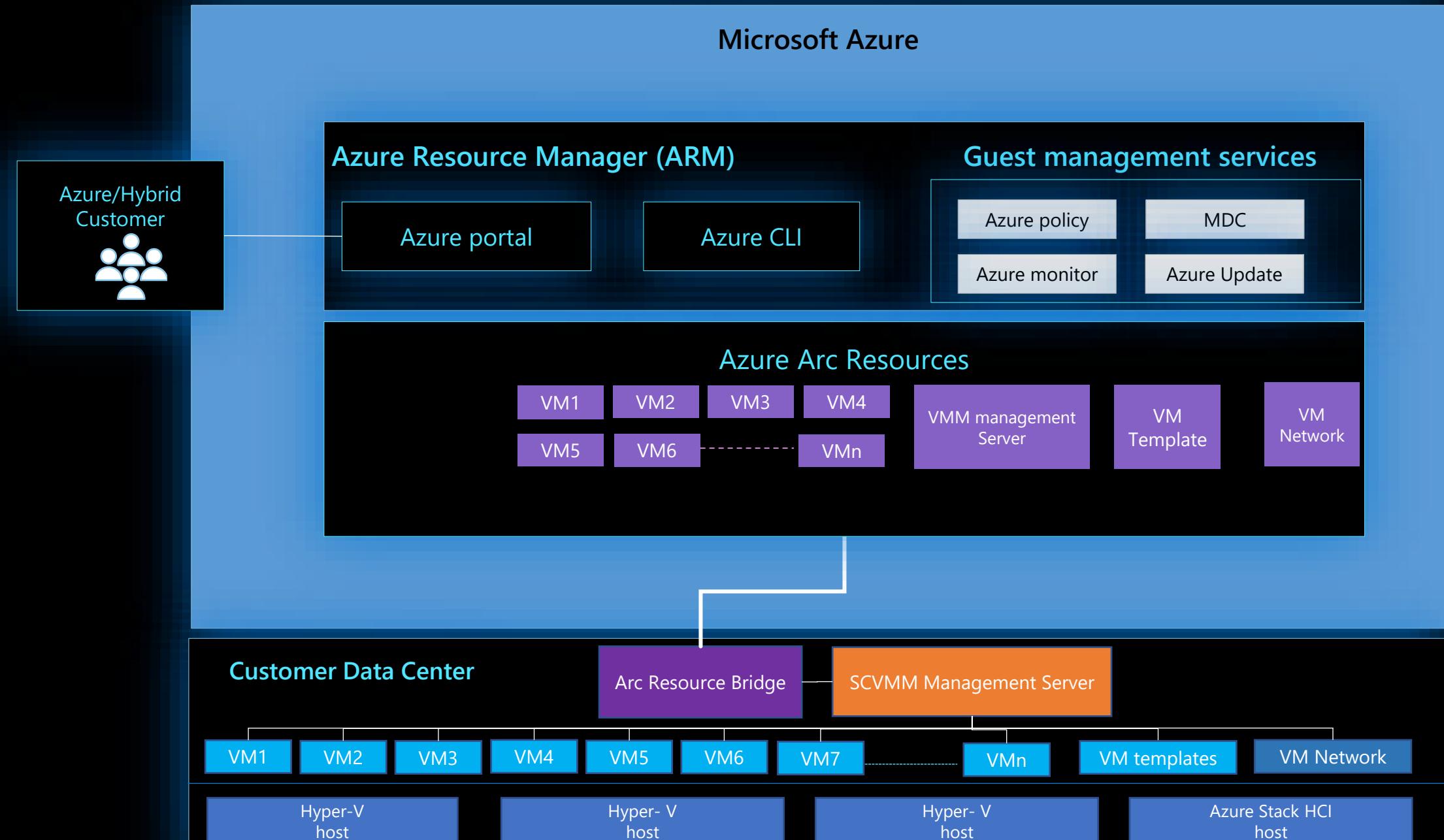
Today, our customers use System Center Virtual Machine Manager (SCVMM) at scale to manage and operate hundreds of physical Servers and tens of thousands of virtual machines on-premises, along with their Azure deployments. We want to ensure that these workloads can also benefit from ongoing innovations in Azure.

Extending Azure Arc to System Center Virtual Machine Manager (SCVMM)

Azure Arc-enabled System Center VMM is a new Azure Arc capability, now available in Preview. This enables on-premises System Center VMM environments to be connected to Azure, unlocking Azure-based self-service for end users and developers.

[Hybrid VM Management with Azure Arc-enabled System Center VMM - Microsoft Community Hub](#)

Azure Arc-enabled SCVMM - Architecture



Preping SCVMM Server

← Settings

Home

Find a setting

Update & Security

Windows Update

You're up to date Last checked: Today, 12:22 PM

Check for updates

*We'll automatically download and install updates, except on metered connection charges may apply). In that case, we'll automatically download only those update to keep Windows running smoothly.

Pause updates for 7 days Visit Advanced options to change the pause period

Change active hours Currently 8:00 AM to 5:00 PM

View update history See updates installed on your device

Advanced options Additional update controls and settings

System Center 2022 Update Rollup 1 is here

By  Molishvinayagan_R

Published Nov 15 2022 11:51 AM

5,599 Views

 Listen

We are glad to announce the release of the first Update Rollup for System Center 2022. Last April, we released [System Center 2022](#) and this Update Rollup brings in additional set of new capabilities, performance improvements and hybrid features. This release includes the much-awaited support for SQL server 2022 and Azure Stack HCI 22H2. Update Rollup 1 is currently available for Virtual Machine Manager (VMM) and Data Protection Manager (DPM).

Note: Update Rollup 1 for SCOM is available [here](#). Update Rollup 1 for SCO can be downloaded from [here](#). Follow [System Center blog](#) and System Center [twitter handle](#) to receive all the latest updates.

Let's take a closer look at all the new features and enhancements.

[Update Rollup 1 for System Center 2022 \(microsoft.com\)](#)

[What's new in System Center Virtual Machine Manager | Microsoft Learn](#)

Virtual Machine Manager 2022 build versions

The following table lists the release history for Virtual Machine Manager 2022.

Build Number	KB	Release Date	Description
10.22.1287.0	n/a	March 2022	System Center 2022 Virtual Machine Manager RTM
10.22.1508.0	5019202	November 2022	Update Rollup 1

[Release build versions for System Center Virtual Machine Manager | Microsoft Learn](#)

Microsoft

System Center 2022

Virtual Machine Manager

This product is licensed to:
Windows User

Product ID: 03535-092-6002024-02417

© Microsoft Corporation.
All rights reserved.

Server Version: 10.22.1508.0
[Product information](#)

Preping SCVMM Server

AHLSCVMM	Running	0 %	16384 MB	2.13:01:02
WS22CIU-NODE01	Running	0 %	65536 MB	8.01:53:55
WS22CIU-NODE02	Running	0 %	65536 MB	8.01:53:57

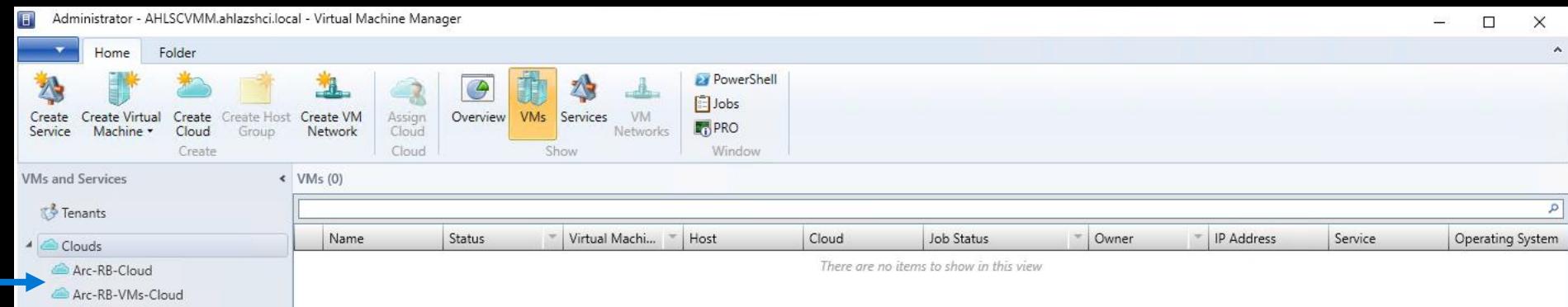
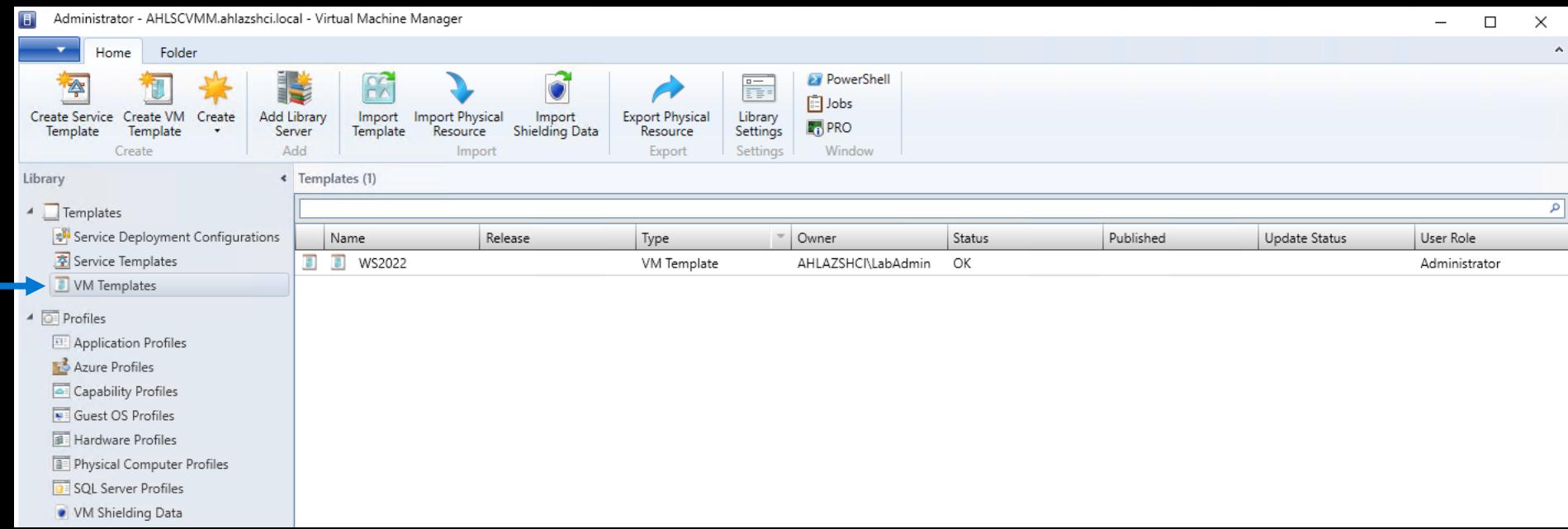
The screenshot shows the SCVMM Cluster Tools interface. The top navigation bar includes Home, Folder, Host Cluster, Create, Add Resources, Overview, Fabric Resources, Compliance, Scan, Remediate, Compliance Properties, Update Agent, Reassociate Agent, Connect via RDP, Jobs, PRO, PowerShell, and Window. The main pane displays 'Fabric' under 'Servers' with 'All Hosts' and 'WS22-vCluster' expanded. Under 'WS22-vCluster', 'W22CLU' is selected. The right pane shows a table titled 'Hosts (2)' with columns: Name, Host Status, Role, Job Status, CPU Average, Available Memory, and Operating System. Two hosts are listed: WS22CLU-NODE02.ahl... (OK, Host, Completed, 1%, 56.71 GB, Microsoft Windows Server 2...) and WS22CLU-NODE01.ahl... (OK, Host, Completed, 2%, 49.19 GB, Microsoft Windows Server 2...). A blue arrow points from the number '1' to the 'W22CLU' selection in the left sidebar.

1

The screenshot shows the SCVMM Home interface. The top navigation bar includes Create Logical Network, Create VM Network, Create MAC Pool, Create VIP Template, Create Logical Switch, Create, Add Resources, Overview, Fabric Resources, Virtual Machines, PowerShell, Jobs, PRO, Window, View Dependent Resources, Dependencies, Remove, and Properties. The main pane displays 'Fabric' under 'Servers' with 'All Hosts' and 'WS22-vCluster' expanded. Under 'Networking', 'Logical Networks' is selected. The right pane shows a table titled 'Logical Networks and IP Pools (1)' with columns: Name, Network Compliance, Subnet, Begin Address, End Address, Available Addresses, Available Addresses..., and Available Addresses...+. One entry is listed: 'ArcCompute' (Fully compliant, 10.101.0.0/24, 10.101.0.180, 10.101.0.199, 20, 20, 0). A blue arrow points from the number '2' to the 'Logical Networks' selection in the left sidebar.

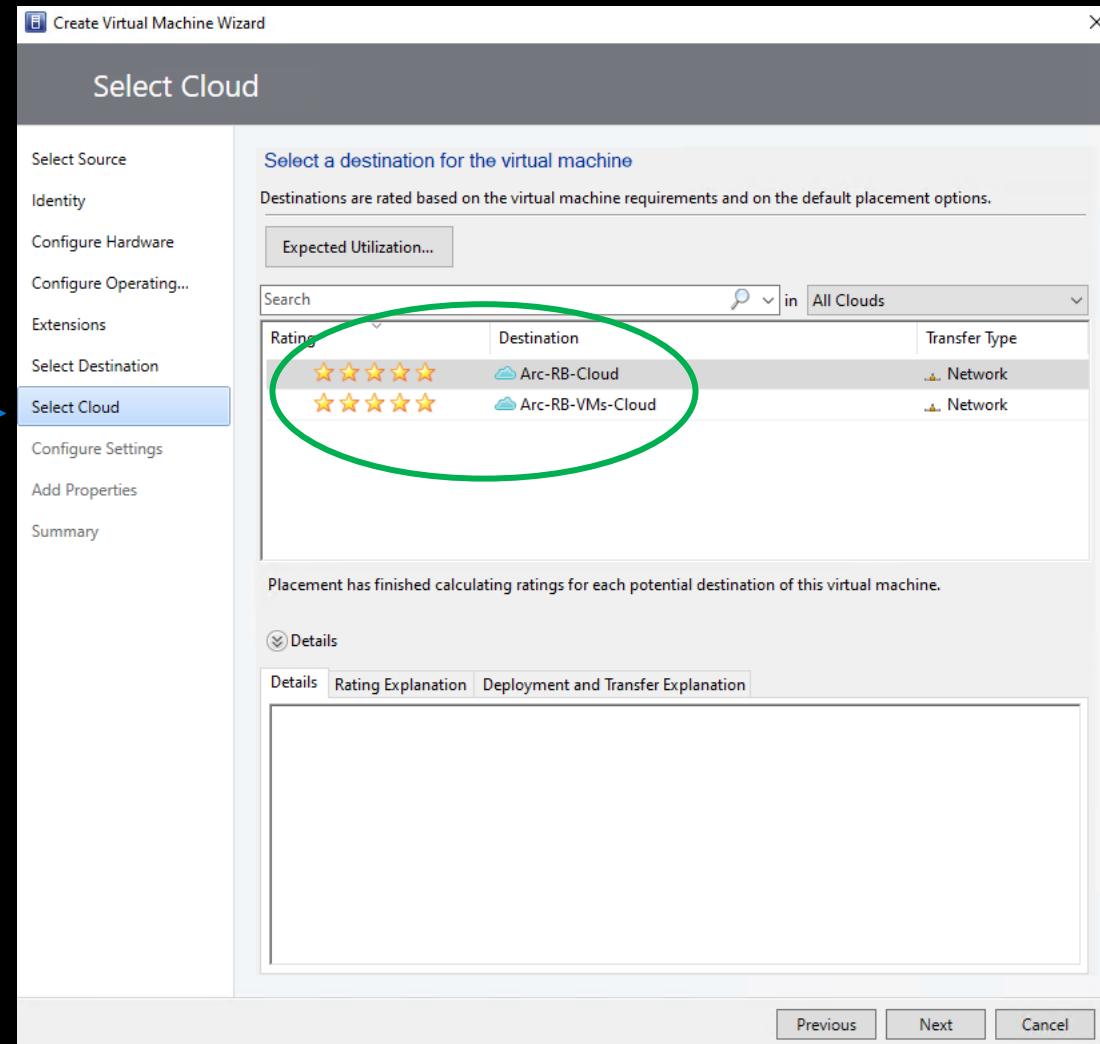
2

Preping SCVMM Server



Preping SCVMM Server

5



Administrator - ahscvmm.ahlazhi.local - Virtual Machine Manager

Home

Azure Arc

Arc-enabled SCVMM

PowerShell

Jobs

PRO

Window

Arc-enabled SCVMM

Deploy Azure Arc Resource Bridge to get started

Connect your SCVMM management server to Azure by deploying the Arc Resource Bridge on-premises

Learn about Arc Resource Bridge
[Overview](#) | [Pre-requisites](#) | [Steps to deploy](#)

Deploy Arc Resource Bridge View onboarded SCVMM in Azure

VMs and Services

Fabric

Library

Jobs

Azure Arc

Settings

Home > Azure Arc

Azure Arc | SCVMM management servers (preview) Microsoft | PREVIEW

Search

+ Create Manage view Refresh Export to CSV Open query Assign tags

All Azure Arc resources

Custom locations Data controllers Resource bridges (preview) Service principals Private link scopes

Azure Arc virtual machines (preview) Azure Stack HCI Kubernetes clusters Servers SQL Servers VMware vCenters (preview) SCVMM management servers (preview)

Filter for any field... Subscription equals all Resource group equals all Location equals all Add filter

No grouping List view

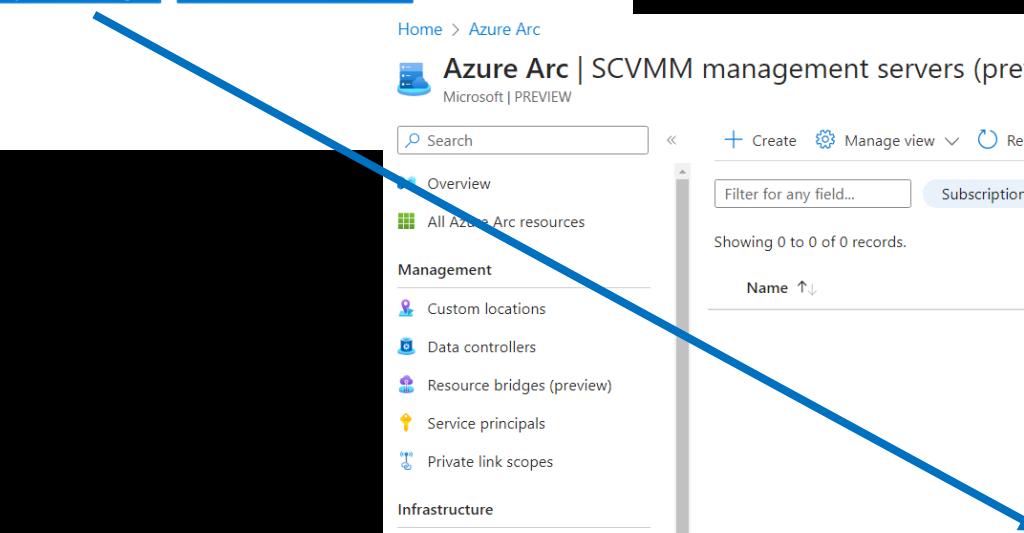
Showing 0 to 0 of 0 records.

Name ↑ Status ↑ Version ↑ Resource bridge ↑ Custom location ↑ Tags

No SCVMM management servers to display

Connect your existing SCVMM management server to Azure so you can provision and manage VMs on it through Azure Arc.

Create SCVMM management server Learn more



Connect SCVMM management server to Azure

...

[Create a new resource bridge](#)[Get started](#)[Basics](#)[Tags](#)[Download and run script](#)

Manage your SCVMM management server through an Azure Arc resource bridge

An Azure Arc resource bridge is an on-premises virtual machine that connects Azure to your SCVMM management server. Once the bridge is deployed, you can use Azure Arc to manage your SCVMM infrastructure and deploy Azure services. To start, create a new resource bridge or select an existing one. [Learn more about Azure Arc resource bridge](#)



Create a new resource bridge

Generate a script that deploys a new resource bridge on-premises in the SCVMM management server.



Use an existing resource bridge

If you already have a resource bridge that has network connectivity to your SCVMM management server, select this option.

< PreviousNext : Basics >

Connect SCVMM management server to Azure

Create a new resource bridge

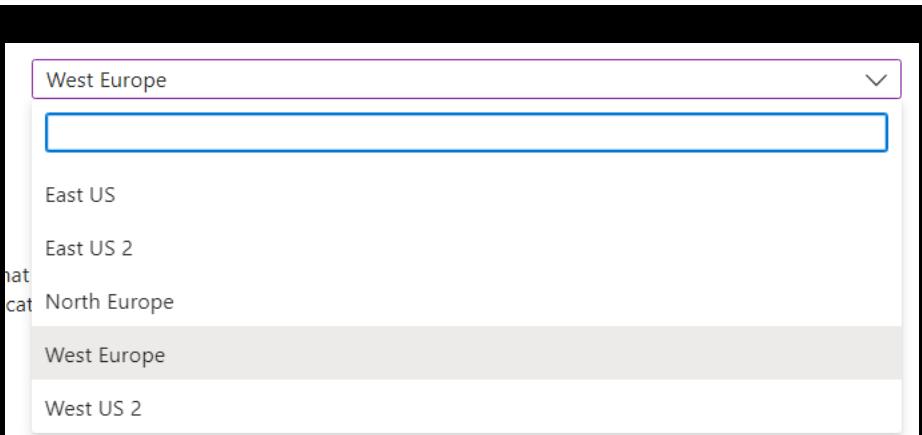
Get started **Basics** Tags Download and run script

The information you enter below will be used to generate a script, which will connect your management server to Azure and create resources in Azure that represent your management server, custom location, and resource bridge.

Resource bridge

An Azure Arc resource bridge is a virtual machine that will be used to connect your SCVMM management server to Azure. It'll run on-premises, but it'll be fully managed by Microsoft, including updates. Select the Azure region closest to your datacenter. This is where the Azure metadata for your SCVMM resources will be stored. [Learn more about resource bridge](#)

Name *	<input type="text" value="ahlscvmm-arcbridge"/> ✓
Subscription *	<input type="text" value="Microsoft Azure Sponsorship 2"/> ✓
Resource group *	<input type="text" value="ArcSCVMMRB-rg"/> ✓
Region *	<input type="text" value="West Europe"/> ✓
<small>i The same region will be used for the custom location and SCVMM management server.</small>	



Custom location

A custom location is an Azure resource that represents your management server deployment location. As part of the resource bridge creation process, we'll create a custom location that contains your management server resources. [Learn more about custom locations](#)

Name *	<input type="text" value="scvmm-azurehybridlab"/> ✓
<input checked="" type="checkbox"/> Use the same subscription and resource group as your resource bridge	
SCVMM management server	
An Azure resource will represent your management server in Azure.	
Name *	<input type="text" value="ahlscvmm"/> ✓
<input checked="" type="checkbox"/> Use the same subscription and resource group as your resource bridge	

< Previous

Next : Tags >

Connect SCVMM management server to Azure

Create a new resource bridge

[Get started](#) [Basics](#) [Tags](#) [Download and run script](#)

When the script deploys, three resources will be created in Azure: the resource bridge, custom location, and a resource to represent your SCVMM management server. Assign Azure tags to these resources to manage and create custom views. [Learn more about tags](#)

Physical location tags

Start with these options for physical location types, change them to suit your needs, or create your own. If you have the value field blank for these three options, the tags won't be created.

Name ⓘ	Value ⓘ	Resource	
Datacenter	: AzureHybridLab	All resources	
City	: FRA	All resources	
StateOrDistrict	: HES	All resources	
CountryOrRegion	: GERMANY	3 selected	
		3 selected	

Custom tags

Add additional tags to help you organize your resources to facilitate administrative tasks.

Name ⓘ	Value ⓘ	Resource	
		3 selected	

[< Previous](#)

[Next : Download and run script >](#)

Connect SCVMM management server to Azure

Create a new resource bridge

[Get started](#) [Basics](#) [Tags](#) [Download and run script](#)

Run the onboarding script

Open PowerShell on a local machine that has access to both SCVMM management server and Azure, then enter the script below. As the script runs, you'll be asked for your Azure and vCenter credentials in addition to other onboarding details. [Learn more about connecting to Arc](#)

[Windows](#) [Linux](#)

```
[CmdletBinding()]
Param(
    [switch] $Force
)
# Start Region: Set user inputs

$location = 'westeurope'

$applianceSubscriptionId = 'b3bf1377-93c2-49be-a5cc-d09f00a519a4'
$applianceResourceGroupName = 'ArcSCVMMRB-rg'
$applianceName = 'ahlscvmm-arcbridge'

$customLocationSubscriptionId = 'b3bf1377-93c2-49be-a5cc-d09f00a519a4'
$customLocationResourceGroupName = 'ArcSCVMMRB-rg'
$customLocationName = 'scvmm-azurehybridlab'

$vmmserverSubscriptionId = 'b3bf1377-93c2-49be-a5cc-d09f00a519a4'
$vmmserverResourceGroupName = 'ArcSCVMMRB-rg'
$vmmserverName = 'ahlscvmm'

# End Region: Set user inputs

function confirmationPrompt($msg) {
```

[Download script](#)

[< Previous](#)

[Close](#)

Script runtime

The script execution will take up to half an hour and you'll be prompted for various details. See the following table for related information:

Parameter	Details
Azure login	You would be asked to log in to Azure by visiting this site and pasting the prompted code.
SCVMM management server FQDN/Address	FQDN for the VMM server (or an IP address). Provide role name if it's a Highly Available VMM deployment. For example: nyc-scvmm.contoso.com or 10.160.0.1
SCVMM Username (domain\username)	Username for the SCVMM administrator account. The required permissions for the account are listed in the prerequisites above. Example: contoso\contosouser
SCVMM password	Password for the SCVMM admin account
Private cloud selection	Select the name of the private cloud where the Arc resource bridge VM should be deployed.
Virtual Network selection	Select the name of the virtual network to which <i>Arc resource bridge VM</i> needs to be connected. This network should allow the appliance to talk to the VMM management server and the Azure endpoints (or internet).
Static IP pool	Select the VMM static IP pool that will be used to allot IP address.
Control Pane IP	Provide a reserved IP address (a reserved IP address in your DHCP range or a static IP outside of DHCP range but still available on the network). The key thing is this IP address shouldn't be assigned to any other machine on the network.
Appliance proxy settings	Type 'Y' if there's a proxy in your appliance network, else type 'N'.
http	Address of the HTTP proxy server.
https	Address of the HTTPS proxy server.
NoProxy	Addresses to be excluded from proxy.
CertificateFilePath	For SSL based proxies, provide the path to the certificate.

Once the command execution is completed, your setup is complete, and you can try out the capabilities of Azure Arc-enabled SCVMM.

 [resource-bridge-onboarding-script](#)

6/20/2023 10:00 AM

Windows PowerS...

16 KB

> Windows PowerShell

Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! <https://aka.ms/PSWindows>

```
PS C:\Users\labadmin> cd .\Downloads\  
PS C:\Users\labadmin\Downloads> dir .\resource-bridge-onboarding-script.ps1
```

Directory: C:\Users\labadmin\Downloads

Mode	LastWriteTime	Length	Name
-	-	-	-
-a---	6/20/2023 10:00 AM	15878	resource-bridge-onboarding-script.ps1

PS C:\Users\labadmin\Downloads>

```
Select Administrator: Windows PowerShell
Create Config
Starting createconfig
cli.azurext_arccappliance.telemetry_helpers: Custom telemetry: {'context.default.azurecli.applianceDeploymentId': '/subscriptions/b3bf1377-93c2-49be-a5cc-d09f00a519a4/resourcegroups/ArcSCVMMR8-rg/providers/microsoft.resourceconnector/appliances/ahlscvmm-arcbridge-2b81bb74-67ab-44fc-9965-2834164198ae', 'context.default.azurecli.provider': 'scvmm', 'context.default.azurecli.portaltraceid': '00000000-0000-0000-0000-000000000000', 'context.default.azurecli.applianceTraceId': '2b81bb74-67ab-44fc-9965-2834164198ae', 'context.default.azurecli.applianceCommand': 'ArcApplianceRunCreateConfig', 'context.default.azurecli.currentTime': '2023-06-22T12:37:08Z', 'context.default.azurecli.userSubscriptionId': 'b3bf1377-93c2-49be-a5cc-d09f00a519a4'}
Please enter SCVMM Server FQDN(Role name in case of HAVMM) or IP address.: AHLSCVMM.ahlazhci.local
Please enter SCVMM server port (The default is 8100. This is the port number specified for VMM console to server connection e.g. vmserver.constoso.com:8100): 8100
Please enter SCVMM Administrator Username (domain\username): ahlazhci\labadmin
Please enter SCVMM Administrator Password:
Initializing chart values for provider: scvmm 2023-06-22T14:38:00+02:00 Inside SCVMM createClient
2023-06-22T14:38:05+02:00      INFO      scvmmProvider: CreateConfig

Deploy resource bridge as a Highly Available virtual machine (Y/N) (Enter 'Y' for Highly available virtual machine and 'N' for standalone VM. We recommend Highly available virtual machine for production environment)
Please enter SCVMM cloud:
1) Arc-RB-Cloud
2) Arc-RB-VMs-Cloud
Enter number: 1
You Selected: Arc-RB-Cloud

Do you want to configure the Appliance VM with Dynamic IP (from DHCP or third party IP assignment tool) or Static IP (from VMM IP Pool)? Enter 'Y' for Dynamic IP or Enter 'N' for Static IP (Y/N)
Please enter SCVMM VM network:
1) Compute
Enter number: 1
You Selected: Compute

Please enter SCVMM Static IP Pool:
1) ArcCloud-IP-Pool
Enter number: 1
You Selected: ArcCloud-IP-Pool
Arc Resource Bridge must have DNS resolution for external sites and physical host. Please enter IP address(es) of DNS servers(s) to configure the DNS settings for Arc Resource Bridge as a comma separated list (ex: 127.0.0.53, 127.0.0.51)10.1.01.0.1
Please enter Static MAC address (Press enter to assign MAC from Default VMM MAC Pool):
Please enter SCVMM library share (Ensure VMM server has write access on the selected Library Share):
1) \\AHLSCVMM.ahlazhci.local\MSSCVMLibrary
Enter number: 1
You Selected: \\AHLSCVMM.ahlazhci.local\MSSCVMLibrary
```

Fill out the data

```
Please provide Appliance cluster configuration
Please enter Appliance control plane IP: 10.101.0.6
Do you want to configure Appliance proxy settings? (y/n) n
```

```
All configuration files created successfully
Appliance Configuration YAML was created here: C:\Users\labadmin\Downloads\ahlscvmm-arcbridge-appliance.yaml
Resource Configuration YAML was created here: C:\Users\labadmin\Downloads\ahlscvmm-arcbridge-resource.yaml
Infrastructure Configuration YAML was created here: C:\Users\labadmin\Downloads\ahlscvmm-arcbridge-infra.yaml
urllib3.util.retry: Converted retries value: 1 -> Retry(total=1, connect=None, read=None, redirect=None, status=None)
msal.authority: openid_config = {'token_endpoint': 'https://login.microsoftonline.com/8eba9bd3-35fb-418d-ab86-fe070cb755fe/oauth2/v2.0/token', 'token_endpoint_auth_methods_supported': ['client_secret_post', 'private_key_jwt', 'client_secret_basic'], 'jwks_uri': 'https://login.microsoftonline.com/8eba9bd3-35fb-418d-ab86-fe070cb755fe/discovery/v2.0/keys', 'response_modes_supported': ['query', 'fragment', 'form_post'], 'subject_types_supported': ['pairwise'], 'id_token_signing_alg_values_supported': ['RS256'], 'response_types_supported': ['code', 'id_token', 'code id_token', 'id_token token'], 'scopes_supported': ['openid', 'profile', 'email', 'offline_access'], 'issuer': 'https://login.microsoftonline.com/8eba9bd3-35fb-418d-ab86-fe070cb755fe/v2.0', 'request_uri_parameter_supported': False, 'userinfo_endpoint': 'https://graph.microsoft.com/oidc/userinfo', 'authorization_endpoint': 'https://login.microsoftonline.com/8eba9bd3-35fb-418d-ab86-fe070cb755fe/oauth2/v2.0/authorize', 'device_authorization_endpoint': 'https://login.microsoftonline.com/8eba9bd3-35fb-418d-ab86-fe070cb755fe/oauth2/v2.0/devicecode', 'http_logout_supported': True, 'frontchannel_logout_supported': True, 'end_session_endpoint': 'https://login.microsoftonline.com/8eba9bd3-35fb-418d-ab86-fe070cb755fe/v2.0/logout', 'claims_supported': ['sub', 'iss', 'cloud_instance_name', 'cloud_instance_host_name', 'cloud_graph_host_name', 'msgraph_host', 'aud', 'exp', 'iat', 'auth_time', 'acr', 'nonce', 'preferred_username', 'name', 'tid', 'ver', 'at_hash', 'c_hash', 'email'], 'kerberos_endpoint': 'https://login.microsoftonline.com/8eba9bd3-35fb-418d-ab86-fe070cb755fe/kerberos', 'tenant_region_scope': ['EU', 'cloud_instance_name': 'microsoftonline.com', 'cloud_graph_host_name': 'graph.windows.net', 'msgraph_host': 'graph.microsoft.com', 'rbac_url': 'https://pas.windows.net'}}
msal.application: Broker enabled? False
cli.azurext_arccappliance.helpers: Appliance telemetry metadata: {"proxyConfig": "noproxy", "networkType": "static", "applianceVM": {"numCpus": "4", "memoryMib": "16384", "highlyavailable": "True"}}
Starting validate
cli.azurext_arccappliance.telemetry_helpers: Custom telemetry: {'context.default.azurecli.applianceDeploymentId': '/subscriptions/b3bf1377-93c2-49be-a5cc-d09f00a519a4/resourcegroups/ArcSCVMMR8-rg/providers/microsoft.resourceconnector/appliances/ahlscvmm-arcbridge-2b81bb74-67ab-44fc-9965-2834164198ae', 'context.default.azurecli.provider': 'scvmm', 'context.default.azurecli.portaltraceid': '00000000-0000-0000-0000-000000000000', 'context.default.azurecli.applianceTraceId': '2b81bb74-67ab-44fc-9965-2834164198ae', 'context.default.azurecli.applianceCommand': 'ArcApplianceRunValidate', 'context.default.azurecli.currentTime': '2023-06-22T12:43:01Z', 'context.default.azurecli.userSubscriptionId': 'b3bf1377-93c2-49be-a5cc-d09f00a519a4', 'context.default.azurecli.applianceMetadata': {"proxyConfig": "noproxy", "networkType": "static", "applianceVM": {"numCpus": "4", "memoryMib": "16384", "highlyavailable": "True"}}}
Validating the appliance configuration...
```

```
{"file": "/mnt/vss/_work/1/s/pkg/appliance/client.go:268", "func": "prepForKVA", "level": "info", "msg": "Running validation for command: ArcApplianceValidate", "time": "2023-06-22T14:43:01+02:00"}
Initializing chart values for provider: scvmm 2023-06-22T14:43:01+02:00 INFO Inside SCVMM createClient
2023-06-22T14:43:06+02:00      INFO      Performing provider validations
2023-06-22T14:43:06+02:00      INFO      scvmmProvider: Validate
```

```
  Select Administrator: Windows PowerShell
c", "applianceVM": {"numCpus": "4", "memoryMib": "16384", "highlyavailable": "True"}]}
Validating the appliance configuration...
{"file":"/mnt/vss/_work/1/s/pkg/appliance/client.go:268","func":"prepForKVA","level":"info","msg":"Running validation for command: ArcApplianceValidate","time":"2023-06-22T14:43:01+02:00"}
Initializing chart values for provider: scvmm 2023-06-22T14:43:01+02:00 INFO Inside SCVMM createClient, "level": "info", "msg": "Adding azure data for ArcApplianceDeploy", "time": "2023-06-22T17:02:35+02:00"
2023-06-22T14:43:06+02:00 INFO Performing provider validations
2023-06-22T14:43:06+02:00 INFO scvmmProvider: Validate
2023-06-22T14:43:29+02:00 INFO Testing proxy settings
2023-06-22T14:43:29+02:00 INFO Testing content delivery network connectivity

Appliance configuration validation was successful

Starting prepare
cli.azext_arcappliance.telemetry_helpers: Custom telemetry: {'context.default.azurecli.appliance.deployments/b3bf1377-93c2-49be-a5cc-d09f00a519a4/resourcegroups/ArcSCVMMRB-rg/providers/microsoft_resourceconnectors/ahlscvmm-arcbridge-2b81bb74-67ab-44fc-9965-2834164198ae', 'context.default.azurecli.provider': 'scvmm', 'context.default.azurecli.portaltraceid': '00000000-0000-0000-0000-000000000000', 'context.default.azurecli.applianceRunPrepare': '74-67ab-44fc-9965-2834164198ae', 'context.default.azurecli.appliancecommand': 'ArcApplianceRunPrepare', 'context.default.azurecli.currentdatetime': '2023-06-22T12:43:31Z', 'context.default.azurecli.userazuresubscriptionid': '9be-a5cc-d09f00a519a4', 'context.default.azurecli.appliancemetadata': '{"proxyConfig": "noproxy", "networkType": "public", "applianceVM": {"numCpus": "4", "memoryMib": "16384", "highlyavailable": "True"}}'}
Preparing the appliance configuration...
["file":"/mnt/vss/_work/1/s/pkg/appliance/client.go:268","func":"prepForKVA","level":"info","msg":"Running validation for command: ArcAppliancePrepare","time":"2023-06-22T14:43:31+02:00"]
Initializing chart values for provider: scvmm 2023-06-22T14:43:31+02:00 INFO Inside SCVMM createClient
2023-06-22T14:43:35+02:00 INFO Performing provider validations
2023-06-22T14:43:35+02:00 INFO scvmmProvider: Validate
2023-06-22T14:43:56+02:00 INFO Testing proxy settings
2023-06-22T14:43:56+02:00 INFO Testing content delivery network connectivity

2023-06-22T14:43:57+02:00 INFO Discovering kubernetes version...
2023-06-22T14:43:58+02:00 INFO The discovered kubernetes version is v1.22.11
2023-06-22T14:43:58+02:00 INFO ProvisionImage: Discovering image download information...
2023-06-22T14:43:58+02:00 INFO ProvisionImage: Downloading and validating image...

2023-06-22T14:44:57+02:00 INFO ProvisionRawFiles: SCVMM: Validating raw downloaded files...
2023-06-22T14:44:57+02:00 INFO ProvisionImage: SCVMM: Starting ImageProvider instance. Waiting for the appliance to be ready...
2023-06-22T14:45:24+02:00 INFO ProvisionImage: SCVMM: Waiting for the appliance to be ready...
2023-06-22T14:46:06+02:00 INFO ProvisionImage: SCVMM: Appliance is not ready yet, retrying... (1/5)

Appliance configuration was prepared successfully
Creating the appliance...
["file":"/mnt/vss/_work/1/s/pkg/appliance/client.go:268","func":"prepForKVA","level":"info","msg":"Running validation for command: ArcApplianceDeploy","time":"2023-06-22T17:02:35+02:00"]
Initializing chart values for provider: scvmm {"file":"/mnt/vss/_work/1/s/pkg/appliance/util.go:59","func":"addAzureData", "level": "info", "msg": "Adding azure data for ArcApplianceDeploy", "time": "2023-06-22T17:02:35+02:00"}
2023-06-22T17:02:36+02:00 INFO Inside SCVMM createClient
2023-06-22T17:02:48+02:00 INFO scvmmProvider: CloudInit
2023-06-22T17:02:48+02:00 INFO scvmmProvider: DeployAppliance
2023-06-22T17:04:13+02:00 INFO core: Waiting for API server...
2023-06-22T17:05:17+02:00 INFO core: Waiting for pod 'Cloud Operator' to be ready...
2023-06-22T17:06:52+02:00 INFO core: Waiting for pod 'Cluster API core' to be ready...
2023-06-22T17:07:27+02:00 INFO core: Waiting for pod 'Bootstrap kubeadm' to be ready...
2023-06-22T17:07:27+02:00 INFO core: Waiting for pod 'Control Plane kubeadm' to be ready...
2023-06-22T17:07:53+02:00 INFO Installing KVA Image Operator on the appliance
2023-06-22T17:07:53+02:00 INFO Performing provider validations
2023-06-22T17:07:53+02:00 INFO scvmmProvider: Validate
2023-06-22T17:08:12+02:00 INFO Testing proxy settings
2023-06-22T17:08:12+02:00 INFO Testing content delivery network connectivity

2023-06-22T17:08:13+02:00 INFO Discovering Kva Image operator download information...

2023-06-22T17:08:35+02:00 INFO core: Waiting for Cluster '77048cc4b88e0b93d37b967b284ce419903ccebb4828d' to be provisioned...
2023-06-22T17:11:36+02:00 INFO core: Waiting for Control Plane '77048cc4b88e0b93d37b967b284ce419903ccebb4828d' to be in running state...
2023-06-22T17:11:56+02:00 INFO core: Waiting for Arc Agents...
2023-06-22T17:11:56+02:00 INFO core: Waiting for deployment 'Appliance Connect Agent' to be scheduled...
2023-06-22T17:12:26+02:00 INFO core: Waiting for deployment 'Cluster Connect Agent' to be ready...
2023-06-22T17:13:25+02:00 INFO core: Waiting for deployment 'Config Agent' to be scheduled...
2023-06-22T17:13:25+02:00 INFO core: Waiting for deployment 'Extension Manager' to be ready...
2023-06-22T17:13:25+02:00 INFO core: Waiting for secret 'appliance-public-key' to be created...

Appliance creation was successful
```

```
[...]
```

To continue onboarding and to complete Arc enabling your SCVMM resources, view your VMMServer resource in Azure portal.
<https://portal.azure.com/#resource/subscriptions/b3bf1377-93c2-49be-a5cc-d09f00a519a4/resourceGroups/ArcSCVMMRB-rg/providers/Microsoft.ScVmm/vmmservers/ahlscvmm/overview>

```
[.env] PS C:\Users\labadmin\Downloads> [REDACTED]
```

Azure Arc | Resource bridges (preview)

Microsoft | PREVIEW

Search Manage view Refresh Export to CSV Open query Assign tags

Filter for any field... Subscription equals all Resource group equals all Location equals all Add filter

Showing 1 to 3 of 3 records.

No grouping List view

Name	Status	Version	Tags
ahlscvmm-arcbridge	Running	1.0.12	Datacenter: AzureHybridLab Cou...
ahlcsca7u3-arcbridge	Running	1.0.12	Datacenter: AzureHybridLab Cou...
hci03clus-arcbridge	Running	1.0.12	

Azure Arc | SCVMM management servers (preview)

Microsoft | PREVIEW

Search Create Manage view Refresh Export to CSV Open query Assign tags

Filter for any field... Subscription equals all Resource group equals all Location equals all Add filter

Showing 1 to 1 of 1 records.

No grouping List view

Name	Status	Version	Resource bridge	Custom location	Tags
ahlscvmm	Connected	10.22.1508.0	ahlscvmm-arcbridge	scvmm-azurehybridl...	CountryOrRegion: GER...

Azure Arc | Custom locations

Microsoft

Search Add Manage view Refresh Export to CSV Open query Assign tags Delete

Filter for any field... Subscription equals all Resource group equals all Location equals all Add filter

Showing 1 to 3 of 3 records.

No grouping List view

Name	Enabled services	Datacenter (tag)	Resource group	Cluster
ashci03-hybridcloudrg	Azure Stack HCI (hci-vmoper...		ArcHCIRB-rg	hci03clus-arcbridge
scvmm-azurehybridlab	System Center Virtual Machi...	AzureHybridLab	ArcSCVMMRB-rg	ahlscvmm-arcbridge
vcsa7u3-azurehybridlab	VMware (azure-vmwareoper...	AzureHybridLab	ArcVMwareRB-rg	ahlvcsa7u3-arcbridge

Search[Refresh](#) [Remove from Azure](#)[Overview](#)[JSON View](#)[Activity log](#)[Access control \(IAM\)](#)[Tags](#)[Settings](#)[Subscription ID](#)[Properties](#)[Locks](#)[SCVMM inventory](#)[Virtual machines](#)[Clouds](#)[VM networks](#)[VM templates](#)[Automation](#)[Tasks \(preview\)](#)[Export template](#)[Support + troubleshooting](#)[New Support Request](#)[Tags \(edit\)](#)[Datacenter : AzureHybridLab](#)[City : FRA](#)[StateOrDistrict : HES](#)[CountryOrRegion : GERMANY](#)[Essentials](#)Resource group ([move](#)) : ArcSCVMMRB-rg

Status : Connected

Location ([move](#)) : West Europe

Management server name : ahlscvmm

Subscription ([move](#)) : Microsoft Azure Sponsorship 2

Management server FQDN : AHLSCVMM.ahlazhci.local

Subscription ID : b3bf1377-93c2-49be-a5cc-d09f00a519a4

SCVMM version : 10.22.1508.0

Tags

Custom location : scvmm-azurehybridlab

Azure Arc Resource bridge : ahlscvmm-arcbridge

Manage your SCVMM resources

You can now see your SCVMM resources in Azure. When you project them to Azure and assign permissions, you can use them for creating new SCVMM virtual machines. [Learn more](#) ↗



1. Enable management server inventory in Azure

Select the virtual machines and other resources you want to enable in Azure.

[Learn more](#) ↗[View SCVMM VMs](#)

2. View all virtual machines

After you have enabled your SCVMM VMs, they will show up as a resource in Azure.

[Learn more](#) ↗[View all VMs](#)

az scvmm

Reference

Feedback

ⓘ Note

This reference is part of the **scvmm** extension for the Azure CLI (version 2.15.0 or higher). The extension will automatically install the first time you run an **az scvmm** command. [Learn more](#) about extensions.

Commands for managing Arc for SCVMM resources.

Commands

[az scvmm | Microsoft Learn](#)

az scvmm avset	Manage Arc for SCVMM Availability Set resources.
az scvmm avset create	Create availability set resource.
az scvmm avset delete	Delete availability set resource.
az scvmm avset list	Retrieve a list of availability sets.
az scvmm avset show	Get details of an availability set.
az scvmm avset update	Update availability set resource.
az scvmm avset wait	Place the CLI in a waiting state until a condition of the availability set is met.
az scvmm cloud	Manage Arc for SCVMM Cloud resources.
az scvmm cloud create	Create cloud resource.
az scvmm cloud delete	Delete cloud resource.
az scvmm cloud list	Retrieve a list of clouds.
az scvmm cloud show	Get details of a cloud.



Fragen aus der Community



Ausblick & Events

Azure Stack HCI Show



Manfred Helber
MVP Cloud and Datacenter
Trainer and Consultant
Manfred Helber GmbH

**Nächster Termin: 07.07.2023
12:00 bis 13:00 Uhr**

Sven Langenfeld
Azure Stack HCI
Commercial Sales Specialist
Microsoft DACH



Hybrid Show



PRIVATE

HYBRID

PUBLIC

Nächster Termin am 07.07.2023 um 14:00 Uhr



The Hybrid Cloud Conference

by Manfred Helber GmbH

29. – 30. November 2023 in Würzburg

<https://www.manfredhelber.de/hybrit-conference/>

Die Azure Arc Show



Manfred Helber



Alexander Ortha

Nächster Termin:

28.08.2023 um 14:00 Uhr



Vielen Dank!



BACKUP FOR MAY 22