Die Azure Arc Show

Alexander Ortha

Manfred Helber

27. Februar 2023 # 16 Uhr

Die Möglichkeiten von Azure Arc, Azure Stack HCI und Azure

Willkommen

News Ecke

General Availability: Azure Automation Hybrid Runbook Worker Extension

By Nikita Bajaj

Published Nov 28 2022 12:38 PM

Infrastructure is increasingly becoming more complex as organizations operate across multiple cloud and on-premises environments. Businesses are looking for a secure and reliable management services that can consistently manage this hybrid estate. Azure Automation provides a unified platform for execution of customer provided scripts to manage Azure, Arc-enabled and multi-cloud workloads. **User Hybrid Worker** enables execution of these scripts directly on the machines for managing guest workloads or as a gateway to environments that are not accessible from Azure. Azure Automation announces **General Availability of User Hybrid Worker extension,** that is based on Virtual Machine extensions framework and provides a seamless and integrated installation experience.

Note: The extension-based Hybrid Runbook Worker only supports the User Hybrid Worker type and does not include the System Hybrid Worker required for Azure Automation Update Management. It is supported for Windows & Linux Azure VMs and Azure Arc-enabled Servers. It is also available for Azure Arc-enabled VMware vSphere VMs in preview.

Common Scenarios

- To execute Azure Automation runbooks for in-guest VM management directly on an existing Azure virtual machine (VM) and off-Azure server registered as Azure Arc-enabled server or Azure Arc-enabled VMware vSphere VM (preview). Azure Arc-enabled servers can be Windows and Linux physical servers and virtual machines hosted *outside* of Azure, on your corporate network, or other cloud provider.
- To overcome the Azure Automation sandbox limitation - the common scenarios include executing long-running operations beyond three-hour limit for cloud jobs, performing the resource-intensive automation operations, interacting with local services running on-premises or in hybrid environment, running scripts that require elevated permissions.
- To overcome organization restrictions to keep data in Azure due to governance and security reasons - if you cannot execute Automation jobs on the cloud, you can run it on an on-premises machine that is onboarded as a User Hybrid Runbook Worker.
- To automate operations on multiple off-Azure resources running on-premises or in multi-cloud environments. You can onboard one of those machines as User Hybrid Runbook Worker and target automation on the remaining machines in the local environment.
- To access other services privately from the Azure Virtual Network (VNet) without the need to open an outbound connection to the internet, you can execute runbooks on a Hybrid Worker connected to the Azure VNet.

Benefits of extension-based User Hybrid Runbook Workers over agent-based Workers

The extension-based approach greatly simplifies the installation and management of the User Hybrid Runbook Worker, removing the complexity of working with the agent-based approach. Here are some key benefits:

- **Seamless onboarding** – Agent-based approach for onboarding Hybrid Runbook worker is dependent on the Log Analytics agent. Extension-based User Hybrid runbook worker has no dependency on Log Analytics solution. The runbook worker can be setup using the extension approach natively from the portal without a need to login to the machines.
- **Ease of Manageability** – It offers native integration with ARM identity for Hybrid Runbook Worker and provides the flexibility for governance at scale through policies and templates.
- **Unified experience** – It offers an identical experience for managing Azure and off-Azure Arc-enabled machines.
- **More secure -** It uses Azure Active Directory based authentication using VM system assigned managed identities. It eliminates certificate-based authentication required for Agent-based Worker, further improving security of the VM under management.
- **Multiple onboarding channels** – You have the choice to onboard and manage extension-based workers through the Azure Portal, PowerShell cmdlets, Azure CLI, Bicep, ARM templates and REST API.
- **Default Automatic upgrade** – It offers Automatic upgrade of minor versions by default, significantly reducing the manageability of staying updated on the latest version. We recommend enabling Automatic upgrades to take advantage of any security or feature updates without manual overhead. You can also opt out of automatic upgrades at any time. Any major version upgrades are currently not supported and should be managed manually.

General Availability: Azure Automation Hybrid Runbook Worker Extension (microsoft.com)

Azure Arc-enabled data services

Existing apps

Azure Arc-enabled SQL Server

Organize, inventory

Enhanced security with Microsoft Defender for Cloud

Free SQL Assessment service

GENERALLY AVAILABLE

App modernization

Azure Arc-enabled SQL Managed Instance

Azure SQL Managed Instance on any infrastructure

Fully automated, evergreen SQL

Cloud billing model for on-premises

GENERALLY AVAILABLE

Azure Arc-enabled PostgreSQL

Azure Database for PostgreSQL on any infrastructure

Fully automated, single server

Scale up/down/out/in

PUBLIC PREVIEW

Best practices assessment -Arc-enabled SQL Server

Subscribe

By Venkata Raj Pochiraju

Published Jan 18 2023 04:12 PM

If you are a Database Administrator (DBA) and responsible for managing, securing, protecting, and governing hundreds of SQL Servers, you are not alone, we are here to simplify these tasks using Azure Arc-enabled SQL Server. Learn more.

In this blog, I will introduce you to the **Best practices assessment** (BPA) feature powered by Azure Arc-enabled SQL Server. This feature allows you to proactively diagnose potential issues with your SQL Server environment running on-premises and in multi-cloud environments.

This capability in the past was only available to SQL Servers running on Azure VMs, and now we have enabled this capability to SQL Servers deployed outside of Azure enabled by Azure Arc-enabled SQL Servers.

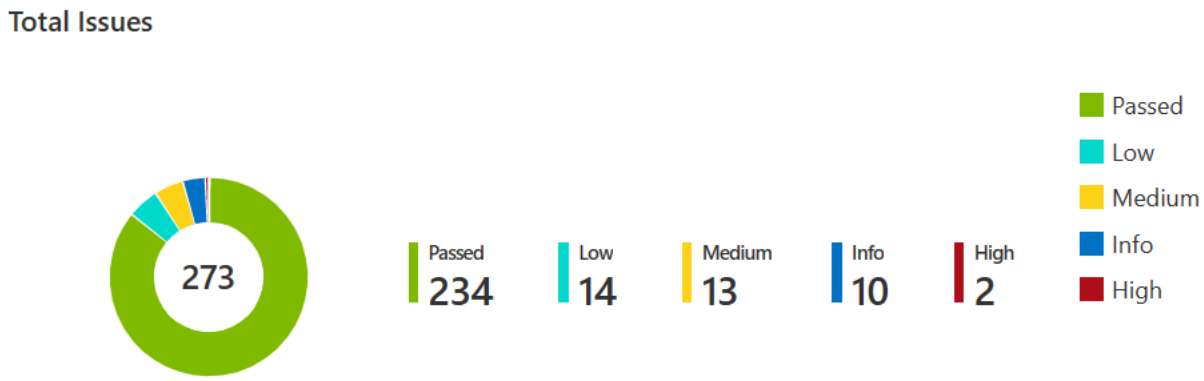
BPA for SQL Server performs a comprehensive evaluation of your Operating system, SQL Server instances, and databases. Proactively identifies any risks that SQL Server deployments may be running into, SQL Server and database configurations, security, performance, index strategy, trace flags, disaster recovery, high availability, and many more.

Once the assessment is enabled and executed, BPA will provide a comprehensive report with a prioritized list of the risks detected, the impacted objects, and step-by-step guidance on how to mitigate the risks reported.

Mitigating these risks will result in improved availability and performance thus optimizing your operational costs running your SQL Server workloads. This promotes managing and operating SQL Server health.

Assessment results

The chart below groups all the issues into impact categories, "High", "Medium", "Low", "Info" and "Passed". You can click on any of these slices in the pie chart to filter by the specific severity for review.



[Best practices assessment -Arc-enabled SQL Server - Microsoft Community Hub]

[Configure best practices assessment on an Azure Arc-enabled SQL Server instance - SQL Server | Microsoft Learn]

SQL Best practices Assessment

Results Trends

SQL best practices assessment Results

collected at 2023-01-22 08:04 AM UTC

Search

Severity	Tags	Check Id	I:
High	DBConfiguration,Performance	InstantFileInitialization	
High	Performance,Memory	LockedPagesInMemory	
High	Performance,DBFileConfiguration,DBConfigur...	AzTempDbFileLocation	
Medium	DBCC,Performance,DataIntegrity	DbIntegrity	
Medium	Index,Performance	UnusedIndex	
Medium	Backup	FullBackup	
Medium	Index,Performance	IndexFragmentation	
Medium	DBFileConfiguration,DBConfiguration	AzDataOnDataDisks	
Medium	Configuration,DBFileConfiguration	DbSpaceAvailable	
Medium	Configuration,Performance	AzDbDefaultLocation	
Medium	Configuration	DbRecoveryModel	
Medium	Backup	OutdatedTranLogBackup	
Medium	Security,UpdateIssues	LatestCU	
Medium	Performance,Indexes	FKNoIndexes	
Medium	Configuration,Performance	AzErrorLogLocation	
Low	DBFileConfiguration,DBConfiguration	AzDataOnDataDisks	

Search

Target	Name	Severity	Message
Server	tailwindsql3	High	Enable instant file initialization
Server	tailwindsql3	High	Enable the 'Lock pages in memory' option
Database	tailwindsql3:tempdb	High	Move tempdb files from C:\ to the local ephemeral SSD (temp disk)
Server	tailwindsql3	Medium	Update SQL Server and install service packs and cumulative updates. Current product version 15.0.2000
Server	tailwindsql3	Medium	Configure default data file location
Server	tailwindsql3	Medium	Configure default transaction log file location
Server	tailwindsql3	Medium	Move error log and default trace files to data disk
Database	tailwindsql3:AdventureWorksLT2019	Medium	Create full backup. Last full backup is over 7 days old
Database	tailwindsql3:AdventureWorksLT2019	Medium	Revise unused [IX_Address_AddressLine1_AddressLine2_City_StateProvince_PostalCode_CountryRegion]
Database	tailwindsql3:AdventureWorksLT2019	Medium	Revise unused [IX_Address_StateProvince] index on [SalesLT].[Address] table
Database	tailwindsql3:AdventureWorksLT2019	Medium	Revise unused [IX_Customer_EmailAddress] index on [SalesLT].[Customer] table
Database	tailwindsql3:AdventureWorksLT2019	Medium	Revise unused [IX_SalesOrderDetail_ProductID] index on [SalesLT].[SalesOrderDetail] table
Database	tailwindsql3:AdventureWorksLT2019	Medium	Revise unused [IX_SalesOrderHeader_CustomerID] index on [SalesLT].[SalesOrderHeader] table
Database	tailwindsql3:AdventureWorksLT2019	Medium	Run 'DBCC CHECKDB' command checks
Database	tailwindsql3:AdventureWorksLT2019	Medium	Remove fragmentation of SalesLT.Address.PK_Address_AddressID index. Current fragmentation level is
Database	tailwindsql3:AdventureWorksLT2019	Medium	Remove fragmentation of SalesLT.Customer.PK_Customer_CustomerID index. Current fragmentation lev

Announcing Public Preview of Viewing SQL Server Databases - Azure Arc

Subscribe

By Nikita Takru

Published Dec 15 2022 12:53 PM 2,520 Views

We are excited to announce the public preview of viewing Databases for Azure Arc-enabled SQL Server.

The feature surfaces all the active databases and their configurations for each of the Arc enabled SQL Servers in Azure.

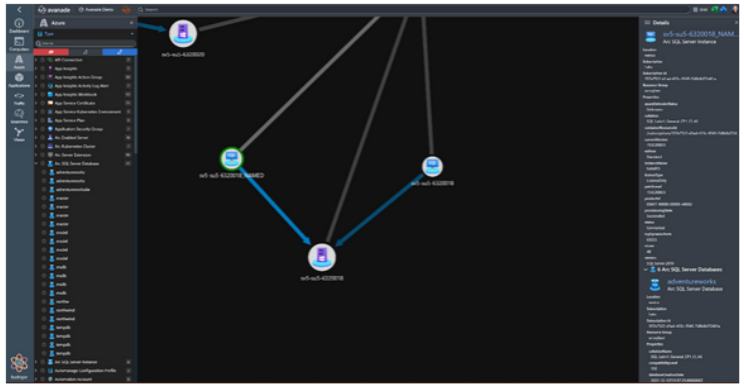
Customer Scenario

Today, customers and partners manage hundreds or even thousands of active databases. For each of these databases, it is essential to be able to create an accurate mapping of the active configurations. This could be for inventorying or even reporting purposes. Centralizing this database inventory in Azure using Azure Arc allows you to create a unified view of all your databases in one place regardless of which infrastructure those databases might be located on – in Azure, in your datacenter, in edge sites, or even in other clouds.

Partner Scenario

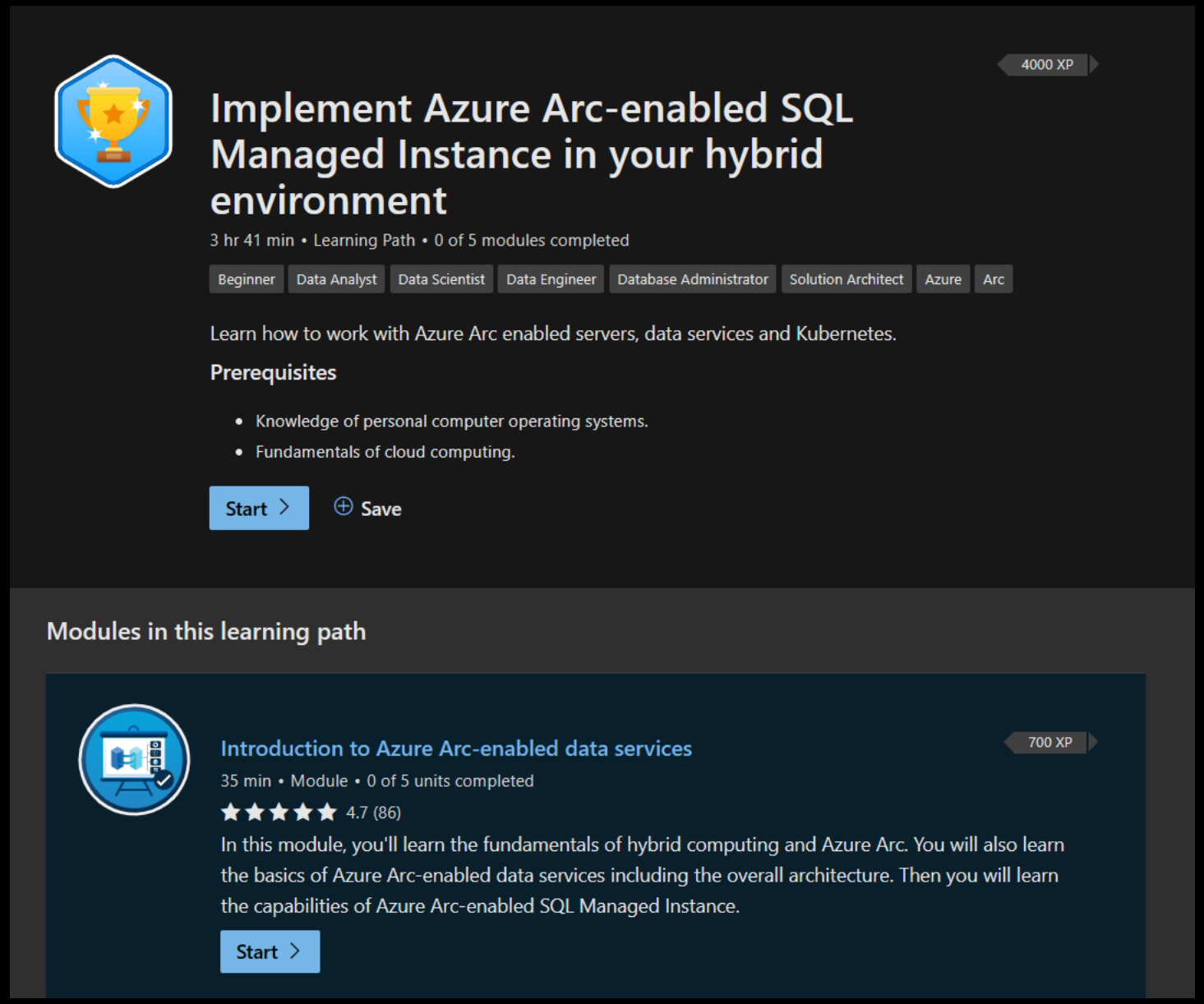
With the public preview of viewing SQL Server Databases for Azure Arc-enabled SQL Server, partners can leverage this information in building a service map and providing migration readiness analysis for their customers.

"Being able to view SQL Server Databases in Azure Arc is essential for our team when it comes to creating migration readiness analyses for our customers. Additionally, this feature allows our Insights platform to understand inventory and activity levels of existing databases, which directly tie to and drive cost savings." said Mike De Luca, Global Lead - Hybrid Cloud, at Avanade.

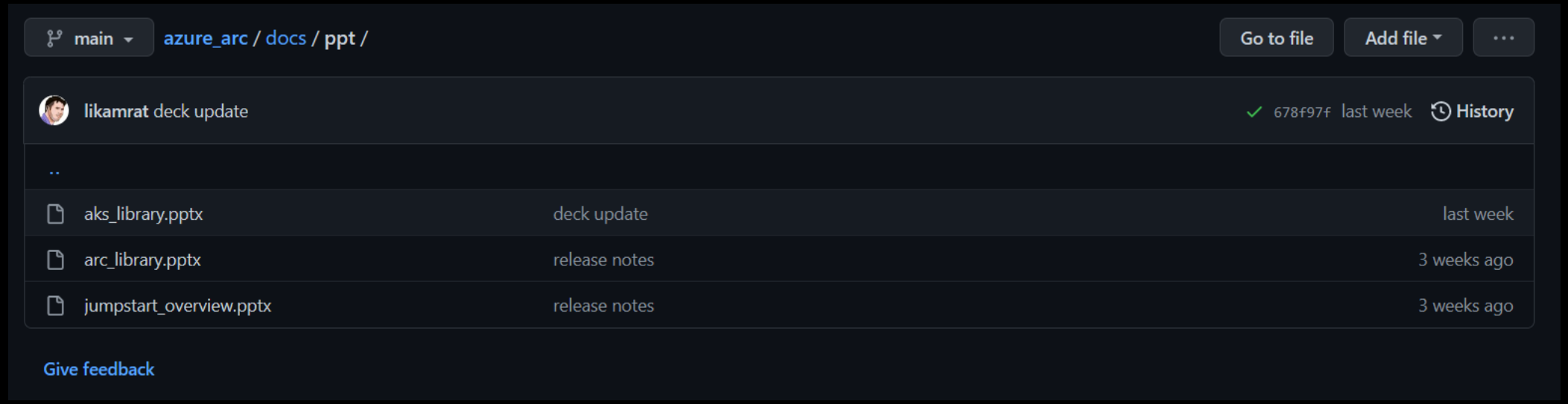


This image shows how Avanade is leveraging the feature of SQL Server Databases - Azure Arc in their Isotope tool. The databases are now visible in the left navigation pane and the diagram shows the relationship between Arc-enabled SQL Server instances and the Arc-enabled server that they are running on. This helps them visualize the dependency graph between applications, servers, and databases to help plan out migrations to Azure. The data for populating Isotope or other tools can be queried through the Azure Resource Manager APIs or the Azure Graph API.

[Announcing Public Preview of Viewing SQL Server Databases - Azure Arc (microsoft.com)]



[Implement Azure Arc-enabled SQL Managed Instance in your hybrid environment - Training | Microsoft Learn]



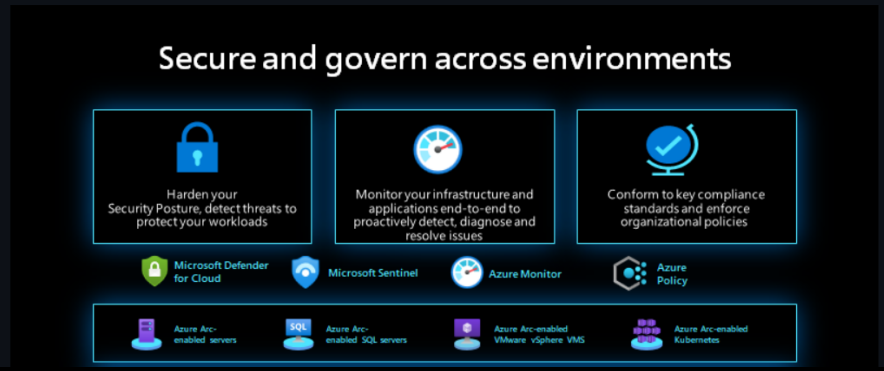
azure_arc/docs/ppt at main · microsoft/azure_arc (github.com)

MicroHack Azure Arc for Servers

MicroHack introduction

What is Azure Arc?

For customers who want to simplify complex and distributed environments across on-premises, edge, and multi-cloud, Azure Arc enables deployment of Azure services anywhere and extends Azure management to any infrastructure. Azure Arc helps you accelerate innovation across hybrid and multi-cloud environments and provides the following benefits to your organization:



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

Home / Azure Arc / Azure Arc-enabled Servers

Azure Arc-enabled Servers

Two day challenge hack going deeper on operations and management for Azure Arc-enabled servers.

Introduction

This is a two day hack to get you skilled up in the various aspects of using Azure Arc to onboard VMs outside of Azure and leverage the management plane and range of services to transform how you manage your hybrid estates.

> The hack is used in the UK to enable partners and those partners will make use of Azure Passes with pre-created resources to accelerate the hack. You are absolutely free to reuse the content yourself as it is 100% public, including the repository used to create the "on prem" resources.

The hack is a challenge hack, so each section gives you a number of challenges to meet, plus a set of links for your reference. As you complete each section you will screen share with your proctor to confirm the success criteria has been met before moving on to the next section.

Content

Prereqs
Attending an Azure Arc for Management & Governance hack? If so then complete these first.

Scenario
Your customer, Wide World Importers, would like a small proof of concept before moving forward with a larger Azure Arc project. Get the background and their initial requirements.

Hack Overview
Brief overview covering the flow of labs within this hack.

Azure Landing Zone
Deploy a default Azure Landing Zone using the Bicep repo.

Arc Pilot resource group
Create a target resource group, plus a few resources and tag inheritance policies.

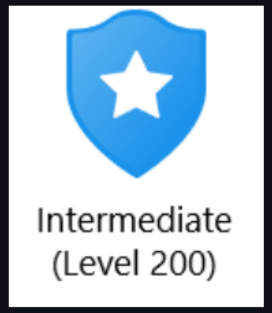
Azure Monitoring Agent
Summary of the switch from legacy agents (MMA, Dependency) to the Azure Monitor Agent. Enable VM Insights with the AMA.

Additional policy assignments
Explore some of the other built-in and custom policies for Azure Arc-enabled servers. Assign a few additional policies.

[Azure Arc-enabled Servers • Azure Citadel Hybrid Azure Arc and Management Partner Hack – Cloud Computing with a side of Chipz (jonnychipz.com)]

[Microsoft-Defender-for-Cloud/Module 16 - Protecting On-Prem Servers in Defender for Cloud.md at main · Azure/Microsoft-Defender-for-Cloud (github.com)]

Module 16 – Protecting On-Prem Servers in Defender for Cloud



Authors:

Alexander Ortha Github, Linkedin

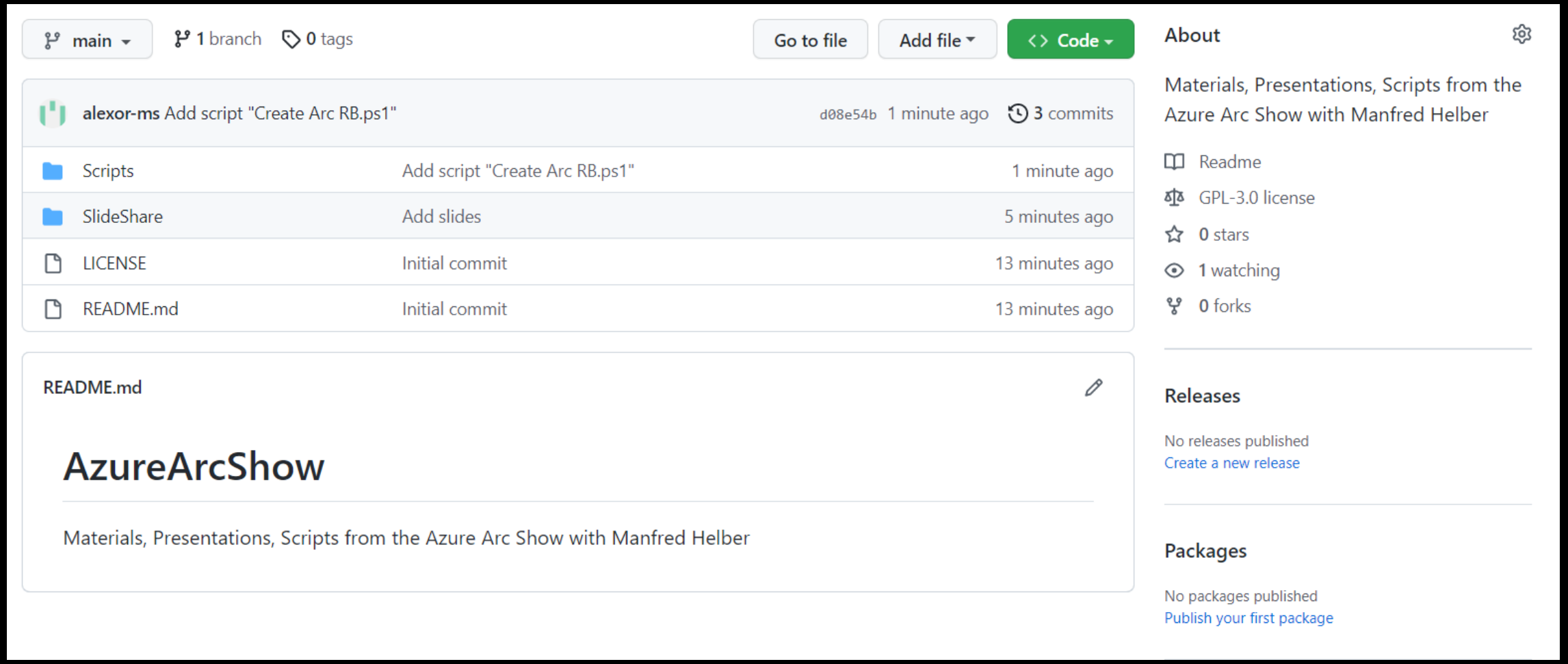
Liana Tomescu Github, Linkedin

Level: 300 (Intermediate)

Estimated time to complete this lab: 120 minutes

Objectives

In this exercise, you will learn how to deploy an server on your personal client machine using Hyper-V (which will act as the "on-premise server"), and then deploy Azure Arc on it in order to protect it using Microsoft Defender for Cloud.



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

Lernkurve rund um Azure Arc

Azure Arc enabled Azure Stack HCI

Provision and Manage on-premises VMs from Azure

Virtual Machine Lifecycle

Lifecycle(CRUD) & power management for Azure Stack HCI VMs from Azure control plane

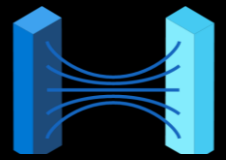
Self-Serve Operations

Using Azure RBAC, Application owners get IaaS capabilities for on-prem infrastructure

Single Pane View

Manage Azure Stack HCI VMs & Azure VMs

Coming Soon

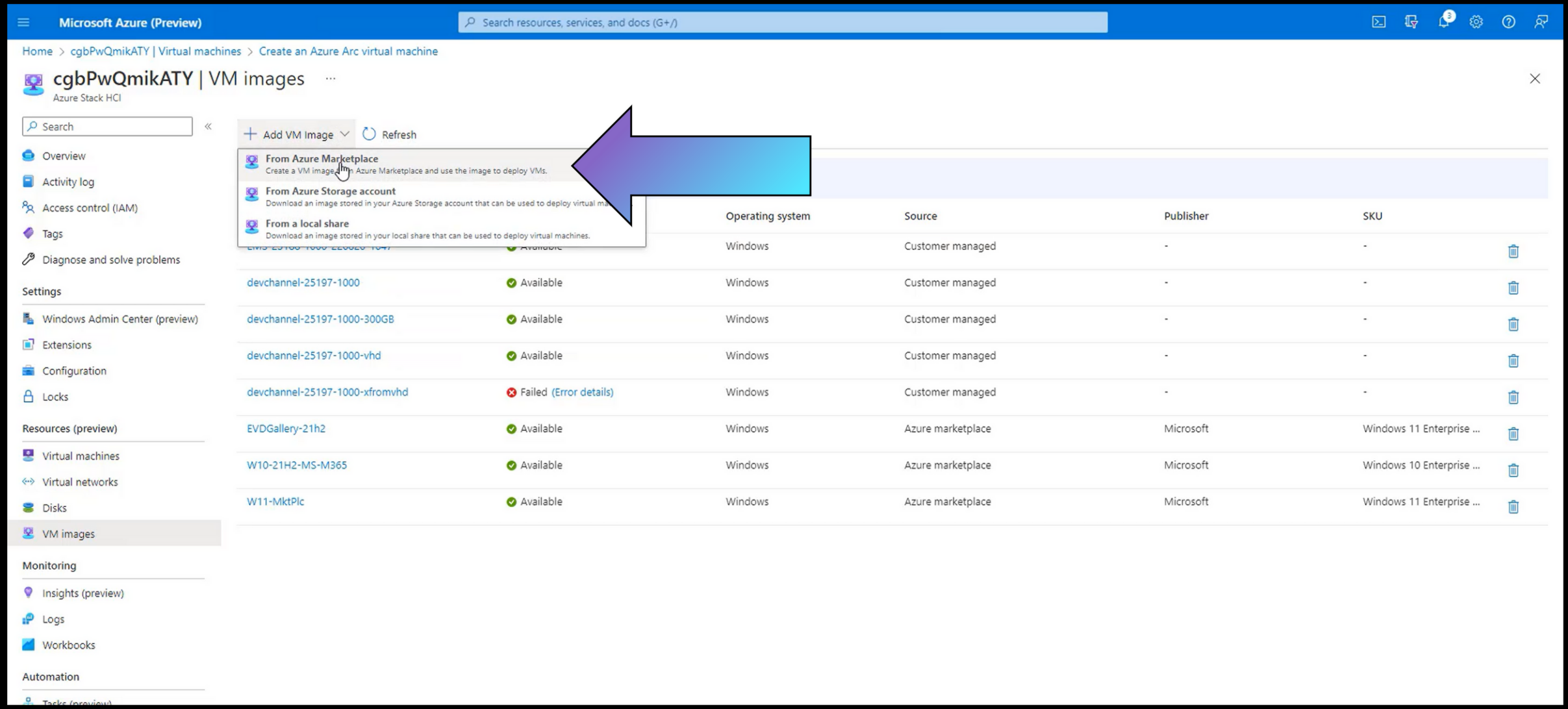


Azure Arc services

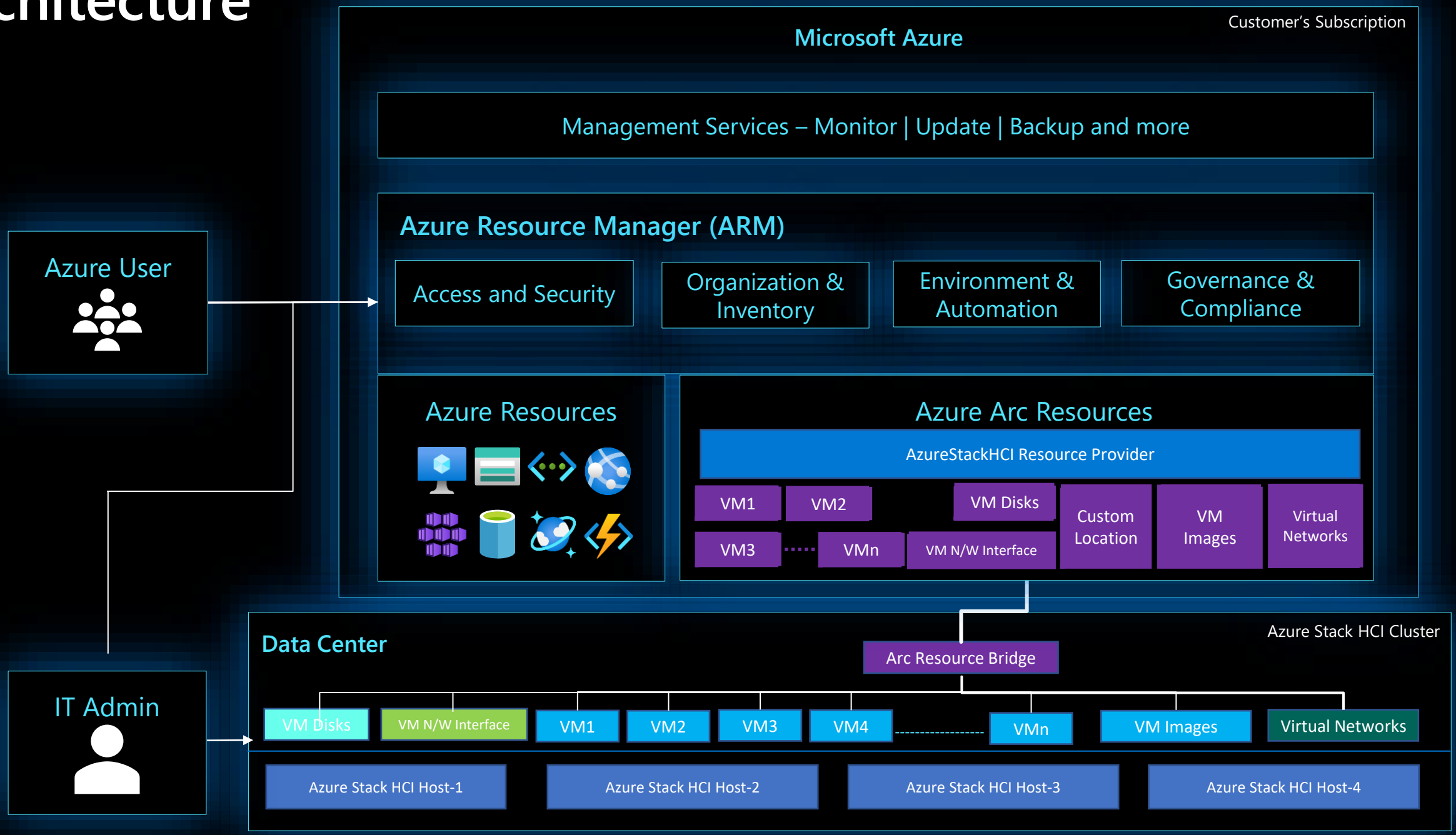
Get Azure services and management extensions

Azure Stack HCI environments hosted in your datacenter

➢Azure Arc-enabled VM management: Public Preview 2



Architecture



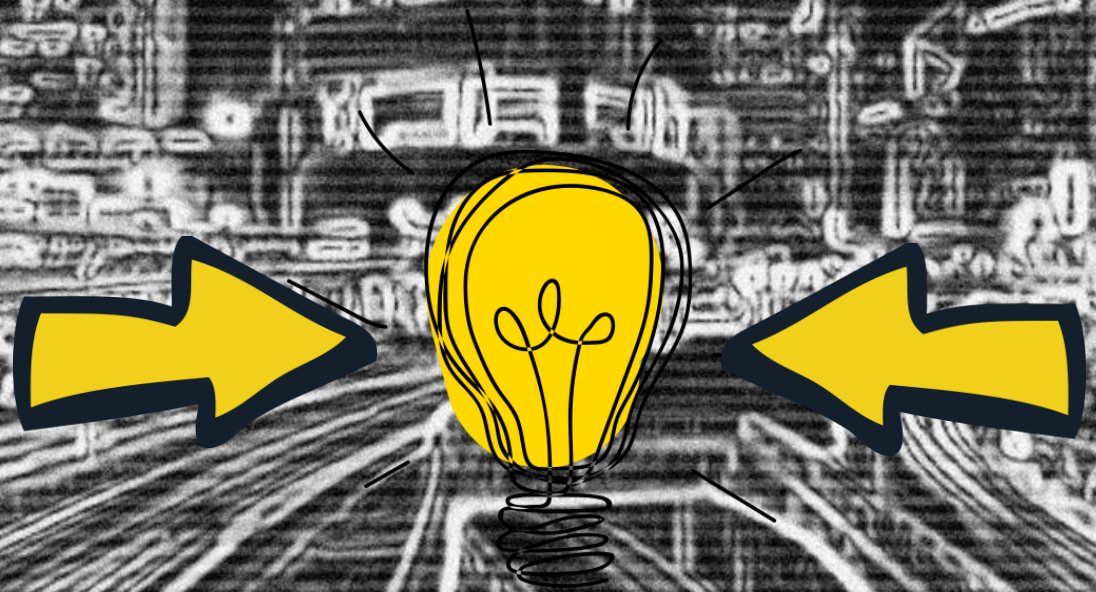
Verfügbare Images

Name	Publisher	Offer	SKU	latest version
Windows Server 2022 Datacenter: Azure Edition	microsoftwindowsserver	windowsserver	2022-datacenter-azure-edition	20348.1547.230207
Windows Server 2022 Datacenter: Azure Edition Core	microsoftwindowsserver	windowsserver	2022-datacenter-azure-edition-core	20348.1487.230207
Windows 11 Enterprise multi-session, version 21H2	microsoftwindowsdesktop	windows-11	win11-21h2-avd	22000.1574.230207
Windows 11 Enterprise multi-session, version 22H2	microsoftwindowsdesktop	windows-11	win11-22h2-avd	22621.1265.230207
Windows 10 Enterprise multi-session, version 21H2	microsoftwindowsdesktop	windows-10	win10-21h2-avd	19044.2604.230207
Windows 11 Enterprise multi-session + Microsoft 365 Apps, version 21H2	microsoftwindowsdesktop	office-365	win11-21h2-avd-m365	22000.1455.230110
Windows 10 Enterprise multi-session, version 21H2 + Microsoft 365 Apps	microsoftwindowsdesktop	office-365	win10-21h2-avd-m365	19044.2486.230110

Fragen aus der Community

Ausblick & Events

Azure Stack HCI Show



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

Nächster Termin: 03.03.2023
12:00 bis 13:00 Uhr

Sven Langenfeld
Azure Stack HCI
Commercial Sales Specialist
Microsoft DACH

Hybrid Show

Microsoft® Most Valuable Professional

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PRIVATE

HYBRID

PUBLIC

Nächster Termin am 03.03.2023 um 14:00 Uhr
Thema: Azure Migrate

Hybrid Workshop

Dreitägiger technischer Live-Demo Workshop
13.06.2023 – 15.06.2023

Zweck:

Der Weg in die Cloud ist nicht schwarz-weiß. Nicht alle Workloads passen in die Public Cloud, aber einige Workloads ergeben in einer On-Premises Landschaft keinen Sinn. Daher läuft es in vielen Umgebungen auf eine hybride Infrastruktur hinaus. Doch wie fängt man eine solche Implementierung eigentlich an? Welche Voraussetzungen gilt es zu klären? Wir funktioniert das alles? Ziel dieses Workshops ist es, diese Fragen zu klären und darüber hinaus am praktischen Beispiel die Konfiguration live zu zeigen.

Zielgruppe:

Dieser Workshop richtet sich an alle, die den Weg in die Hybrid Cloud wagen und vom umfangreichen Know-How von Manfred Helber und Eric Berg profitieren wollen.

Durchführung:

Der Workshop wird von den beiden Hybrid Cloud Experten und Microsoft Most Valuable Professionals (MVP) Manfred Helber und Eric Berg durchgeführt – Remote und in deutscher Sprache, inkl. vieler Live-Demos

Ergebnis:

Ziel des Workshops ist es, den Teilnehmenden den Einstieg in die Hybrid Cloud zu ermöglichen. Konzepte sollen verstanden, Services richtig eingeplant werden, unterstützt durch die vielen Live-Demos und umfangreichen Praxistipps der beiden Referenten.

Voraussetzung:

Teilnehmende sollten fundierte Grundkenntnisse im Bereich des Infrastruktur-Managements und ein Grundverständnis von Cloud Computing mitbringen.

Wir informieren Sie gerne: anfrage@manfredhelber.de

Manfred Helber

Eric Berg

https://www.manfredhelber.de/hybrid-workshop/

Vielen Dank!

Die Azure Arc Show

Alexander Ortha

Manfred Helber

Nächster Termin:

10.03.2022 um 13:00 Uhr