



Microsoft Azure



Azure Local

Operate cloud infrastructure across
distributed locations with Azure Arc

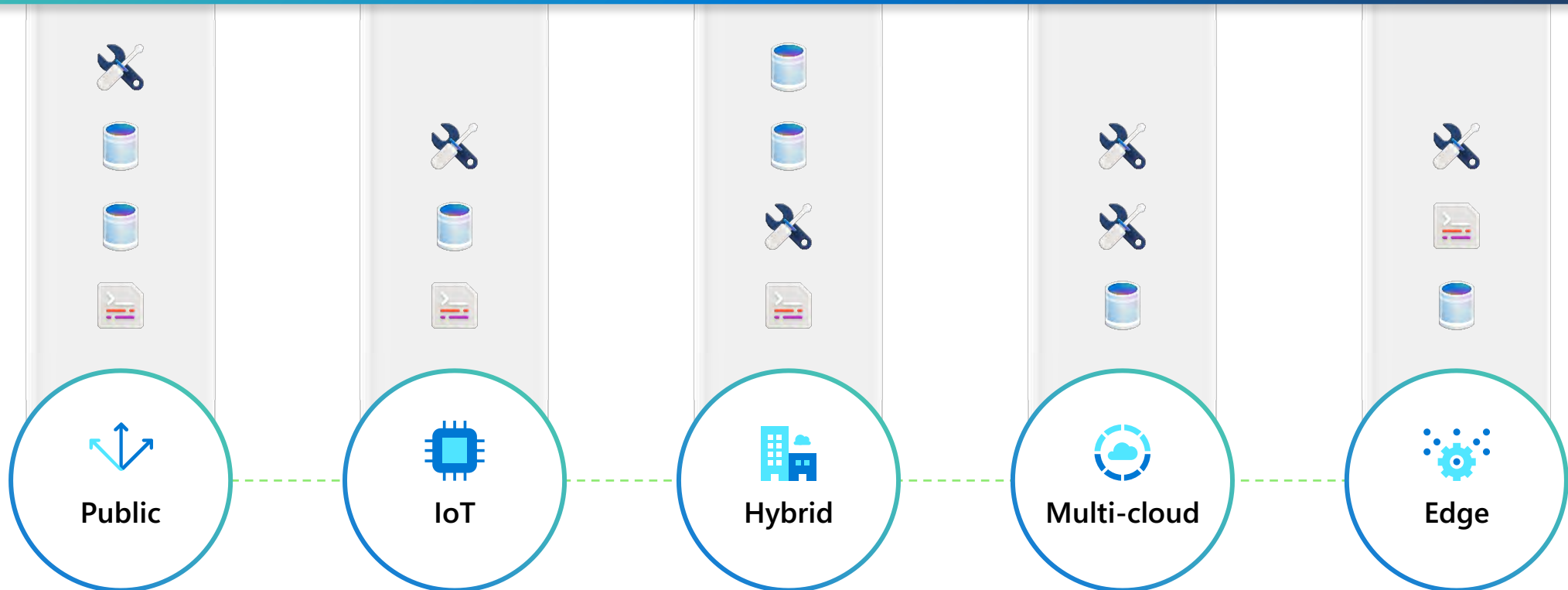
Updated March 2025

Agenda

- 1 Customer challenges and the adaptive cloud approach
- 2 Industry recognition
- 3 New product name
- 4 Industry use cases
- 5 What's new in Azure Local, how it works, new features, roadmap
- 6 Azure Virtual Desktop for Azure Local
- 7 Customer momentum
- 8 Hardware form factors
- 9 Licensing
- 10 Resources

Common customer challenges with highly distributed systems

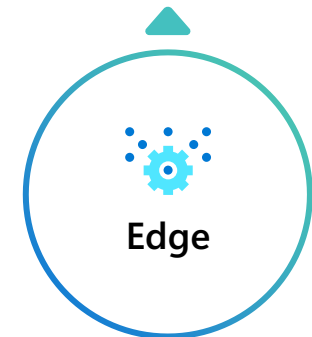
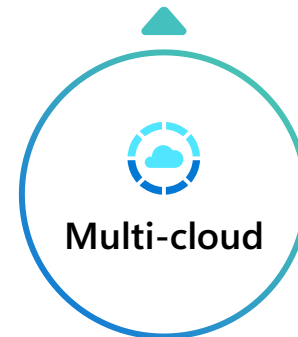
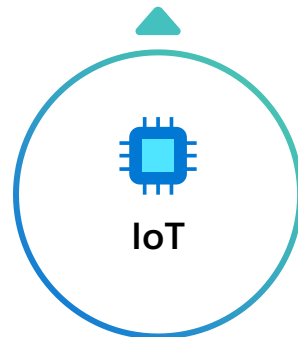
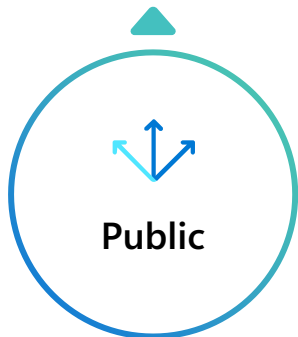
Sprawling Systems | Information and process silos | Increased technical debt



Advancing **hybrid** cloud to **adaptive** cloud



Thrive in dynamic environments by unifying teams, sites, and systems across public, hybrid, multi-cloud, edge, and IoT with a common operations, innovation, and insights platform



Adaptive cloud approach



Operate with AI-enhanced central management and security



Rapidly develop and scale applications across boundaries



Unify data and AI across a distributed estate



One unified and customizable global to local infrastructure

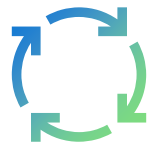


Enabled by Azure Arc



Introducing **Azure Local**

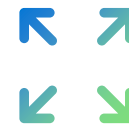
Cloud infrastructure for distributed locations, enabled by Azure Arc



Operate and scale with the power of the cloud



Ready for all your apps: VMs and containers alike



Flexibility to meet your requirements and budget



Extend cloud security to your distributed locations

A Leader in 2024 Gartner® Magic Quadrant™

Microsoft recognized once again as a Leader for its Ability to execute and Completeness of vision in 2024 Gartner® Magic Quadrant™ for Distributed Hybrid Infrastructure

Gartner®

2024 Gartner® Magic Quadrant™ for Distributed, Hybrid, Infrastructure (DHI)

Gartner, Magic Quadrant for Distributed Hybrid Infrastructure, Julia Palmer, Jeffrey Hewitt, Tony Harvey, Dennis Smith, Stephanie Bauman, Kevin Ji, 7 October 2024.

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Figure 1: Magic Quadrant for Distributed Hybrid Infrastructure



Gartner

Azure Local

What industry and scenarios does it serve?

New solutions across the IT estate in every industry

Manufacturing



- Real-time defect detection
- Predictive maintenance
- Secure, consistent operations

Retail



- Reimagined in person retail
- Streamline store operations
- Maximize the value of data

Healthcare



- Compliant and secure data
- Connected care experiences
- Clinical and operational data

And
more



Public



IoT



Hybrid

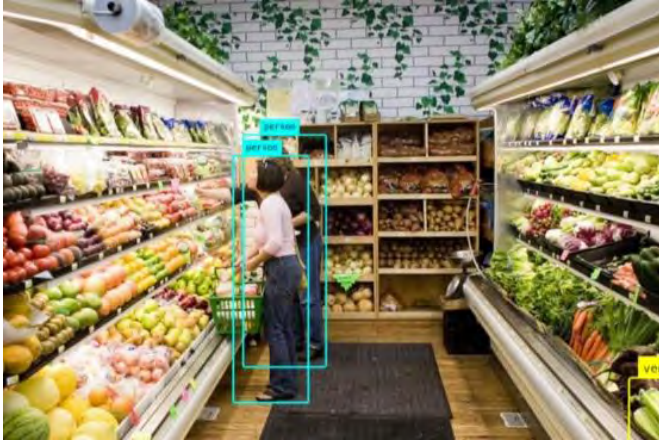


Multi-cloud



Edge

Durable scenarios for distributed infrastructure



**Local AI inferencing,
especially video**

Process data at the source

Example: Retail



**Mission critical and
near real-time**

Continuity and low latency

Example: Manufacturing



**Regulated and limited
connectivity**

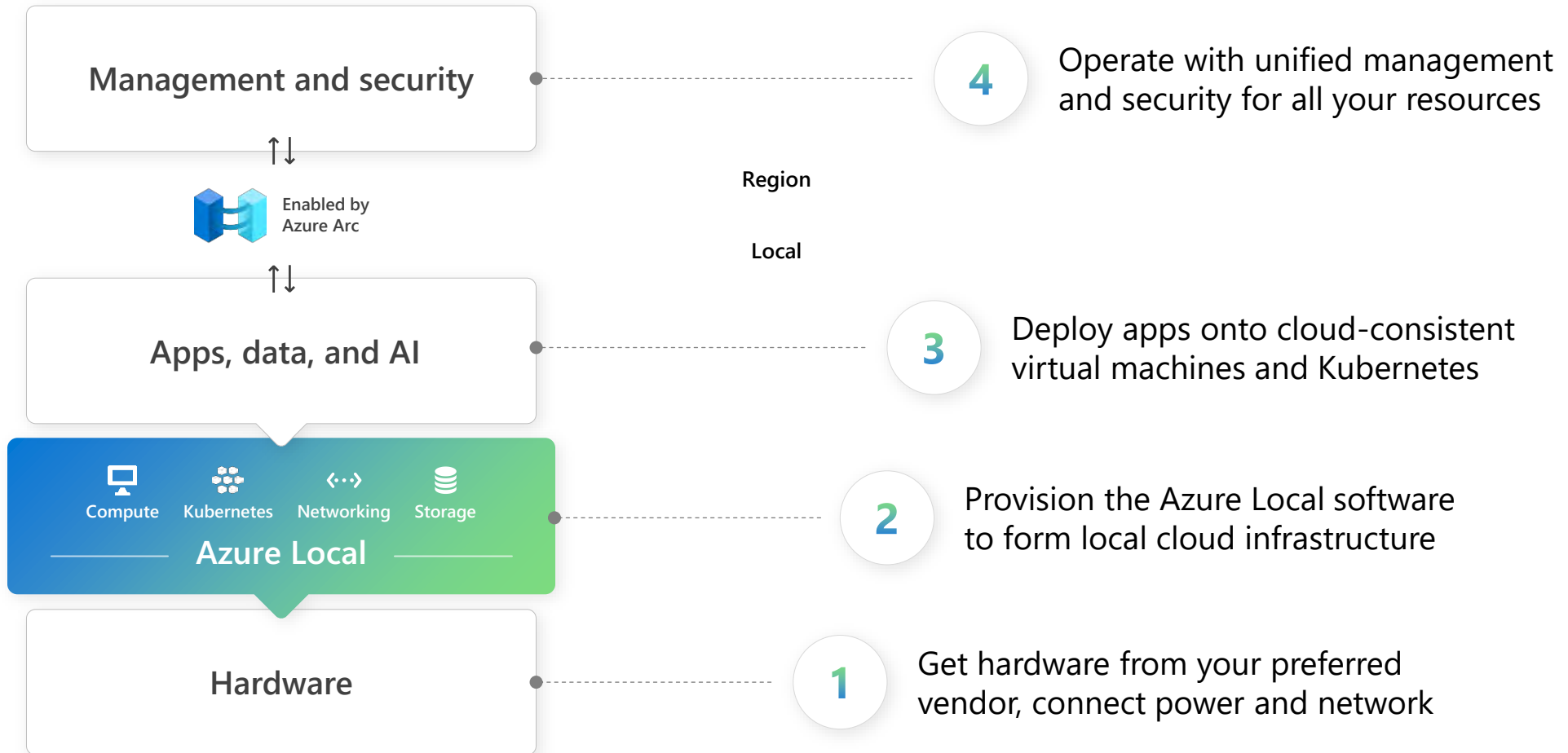
Keep data and control local

Example: Utilities

Azure Local:

New product, new features, how it works

How Azure Local works (connected)



Azure Local replaces Azure Stack HCI



Consistent software platform, Portal, and APIs



Low-spec, low-cost edge servers

Simpler, smaller hardware for light computing requirements.

NEW PREVIEW



Connected servers (formerly Azure Stack HCI)

Choose from over 100 hyperconverged server platforms from major OEMs.

✓ **GA**



Disconnected operations

Meet strict data residency regulations with a permanently disconnected option.

NEW PREVIEW

Existing customers of Azure Stack HCI will transition seamlessly to Azure Local with the next software update.



Azure Local

Enabled by Azure Arc

Operate and scale
with the power of
the cloud

Deploy distributed infrastructure from the cloud



Shift responsibility from on-site to central IT



Treat physical machines like cloud resources, using Azure portal, APIs, or even Terraform



Simple wizard, backed by powerful automation



Advanced options to customize the cluster, networking, and storage for your environment

Microsoft Azure

Home > Azure Arc | Azure Local >

Deploy Azure Local

Basics Configuration Networking Management

Instance details

Instance name *

Region *

Select the machines to use and validate

Selecting more than one machine creates a multi-node instance

+ Add machines Refresh

Name	Status	OS
Store-771-Node1	Ready	Az
Store-771-Node2	Ready	Az

Install extensions Validate selected machine

Identity provider

Identity provider for instance * Active Directory Local Identity Provider

Choose whether to use a network switch for the storage network

No switch for storage Network switch for storage

Storage network adapters connect all machines directly

Storage network adapters connect to a network switch

Group network traffic types by intent

Choose traffic types to group together on a set of network adapters and which types to keep physically isolated on their own adapters

Group all traffic Group management and compute traffic Group compute and storage traffic

Management, compute and storage intent

Management and compute intent

Storage intent

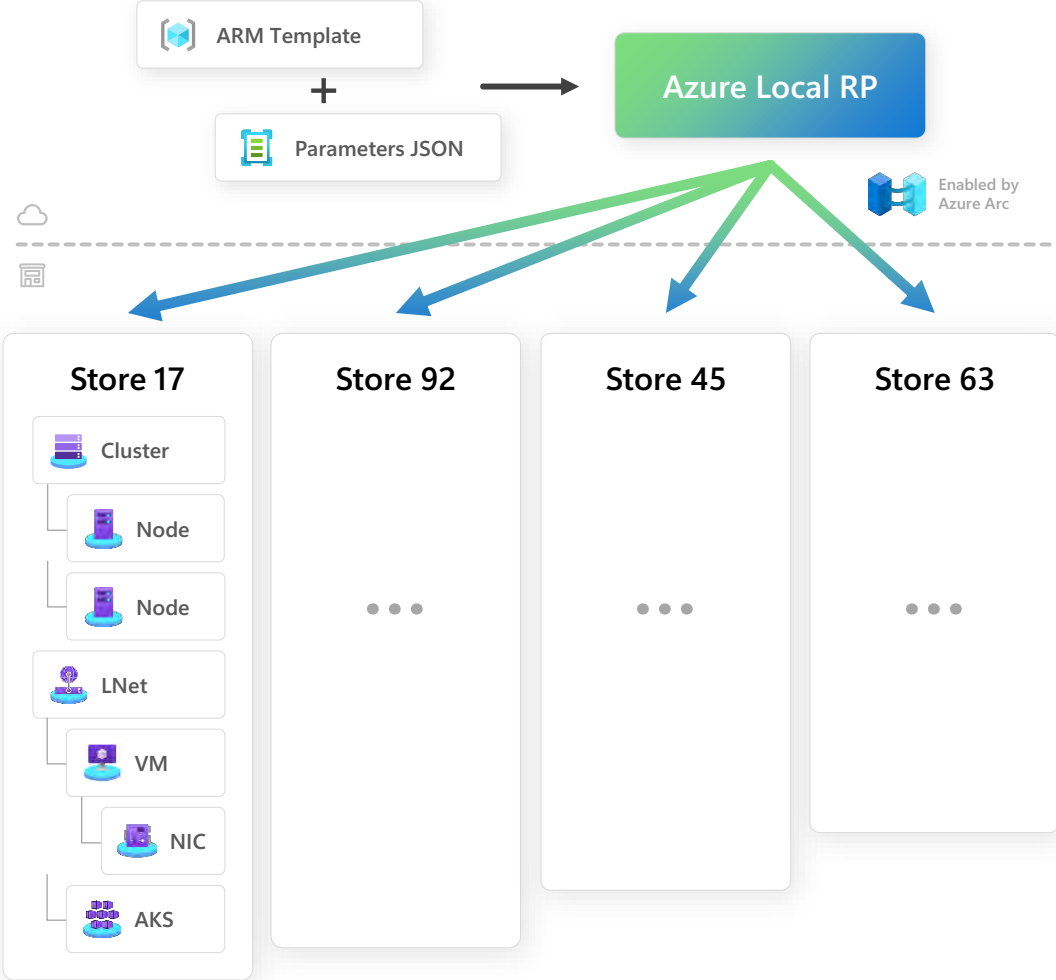
Management intent

Compute and storage intent

Review > create < Previous Next: Management Save

Repeat and scale with infrastructure-as-code

```
{} Contoso-Store-092.parameters.json X
29 "parameters": {
30   "clusterName": {
31     "value": "Contoso-Store-092"
32   },
33   "useDhcp": {
34     "value": false
35   },
36   "networkingPattern": {
37     "value": "hyperConverged"
38   },
39   "physicalNodesSettings": {
40     "value": [
41       {
42         "name": "Node1",
43         "ipv4Address": "100.156.94.11"
44       },
45       {
46         "name": "Node2",
47         "ipv4Address": "100.156.94.12"
48       },
49       {
50         "name": "Node3",
51         "ipv4Address": "100.156.94.13"
52       }
53     ]
54   },
55   "securityLevel": {
56     "value": "Recommended"
57   },
58   "clusterWitnessStorageAccountName": {
59     "value": "contoso092storageaccount"
60   }
61 }
```



One-click infrastructure updates from the cloud



Conveniently view and manage updates across locations in Azure Update Manager



Full-stack update package includes all Azure Local software plus OEM content ¹



Non-disruptive (workloads keep running)



You control when to apply updates

Microsoft Azure

Home > Azure Update Manager

Azure Update Manager | Azure Local

Refresh | One-time update | Feedback

Filter by name... | Subscription == 1 selected | Resource group == All | Location == All | Status == All

Name	Status	Update readiness	Current version
Contoso-Store-1508	Up to date	Critical	10.2411.0
Contoso-Store-0695	Update(s) available	Healthy	10.2405.0
Contoso-Store-2240	Update(s) available	Healthy	10.2405.0
Contoso-Store-0137	Update(s) available	Healthy	10.2408.2
Contoso-Store-1424	Up to date	Healthy	10.2408.0
Contoso-Store-0869	Up to date	Healthy	10.2411.0
Contoso-Store-0773	Update(s) available	Healthy	10.2405.0
Contoso-Store-0774	Update(s) available	Healthy	10.2405.0
Contoso-Store-0781	Up to date	Healthy	10.2408.1
Contoso-Store-0546	Update(s) available	Healthy	10.2405.0

Showing 1 - 10 of 10 results.

¹: Firmware and driver packages available for Premier solutions like Dell APEX Cloud Platform and Lenovo ThinkAgile MX455 V3

Central visibility across all your locations



Monitor infrastructure, VMs, and Kubernetes from the Azure portal, enabled by Azure Arc



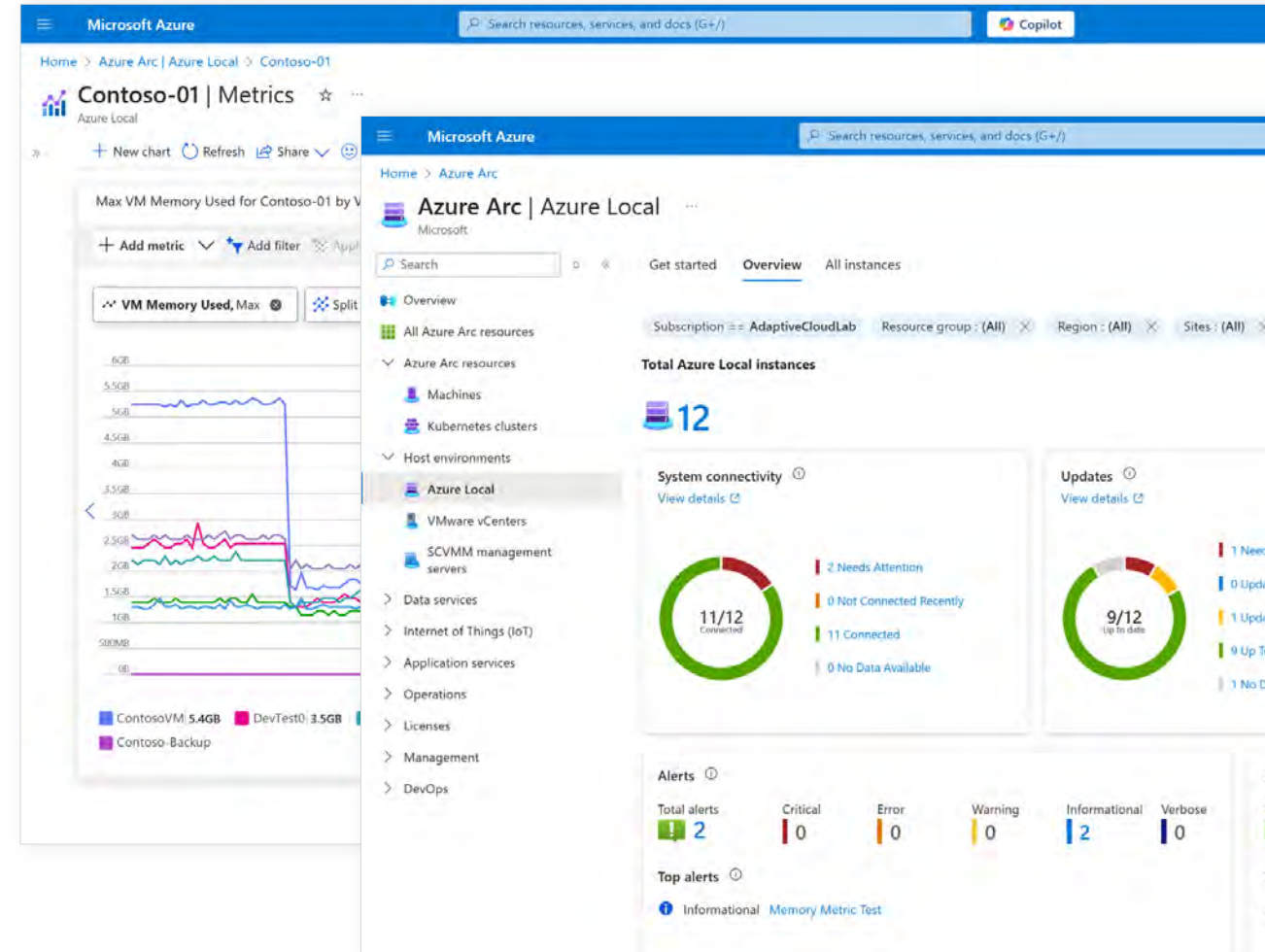
Ready-made dashboards you can customize



50+ standard metrics for infrastructure cover hypervisor, storage, and networking



Set alert rules to send email and more





Azure Local

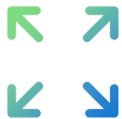
Enabled by Azure Arc

Ready for all your
apps: VMs and
containers alike

Full-featured, general-purpose virtual machines



Run traditional apps in VMs with your own images or Azure Marketplace images



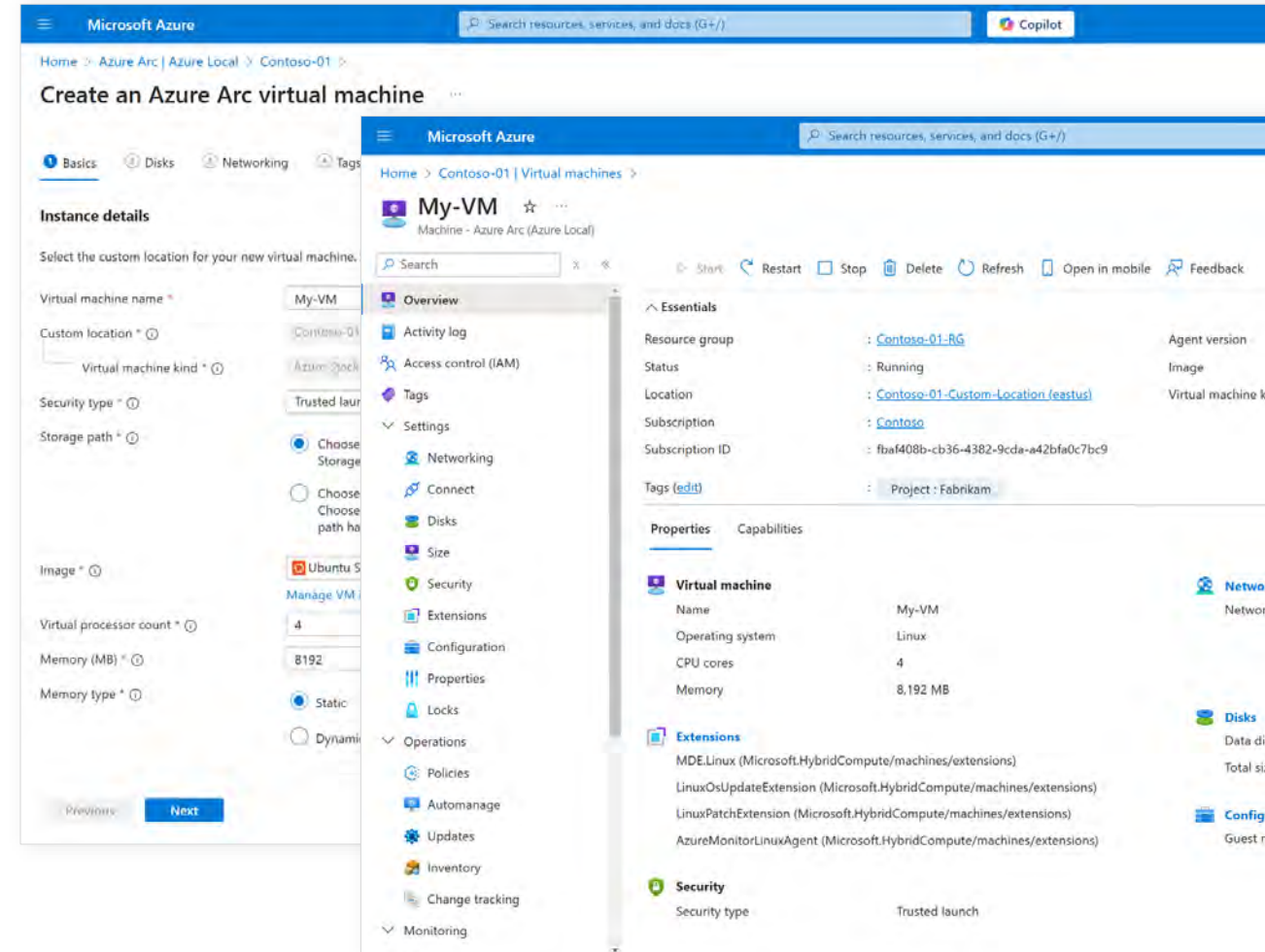
Total flexibility to customize VM specs, networking, storage, and configuration



Use familiar Azure portal and automation for cloud-consistent VM operations



VM extensions for monitoring, security, updates, AD join, custom script, and more



Migrate from VMware to Azure Local (preview)

NEW



Reduce your VMware costs and footprint with full-stack alternative



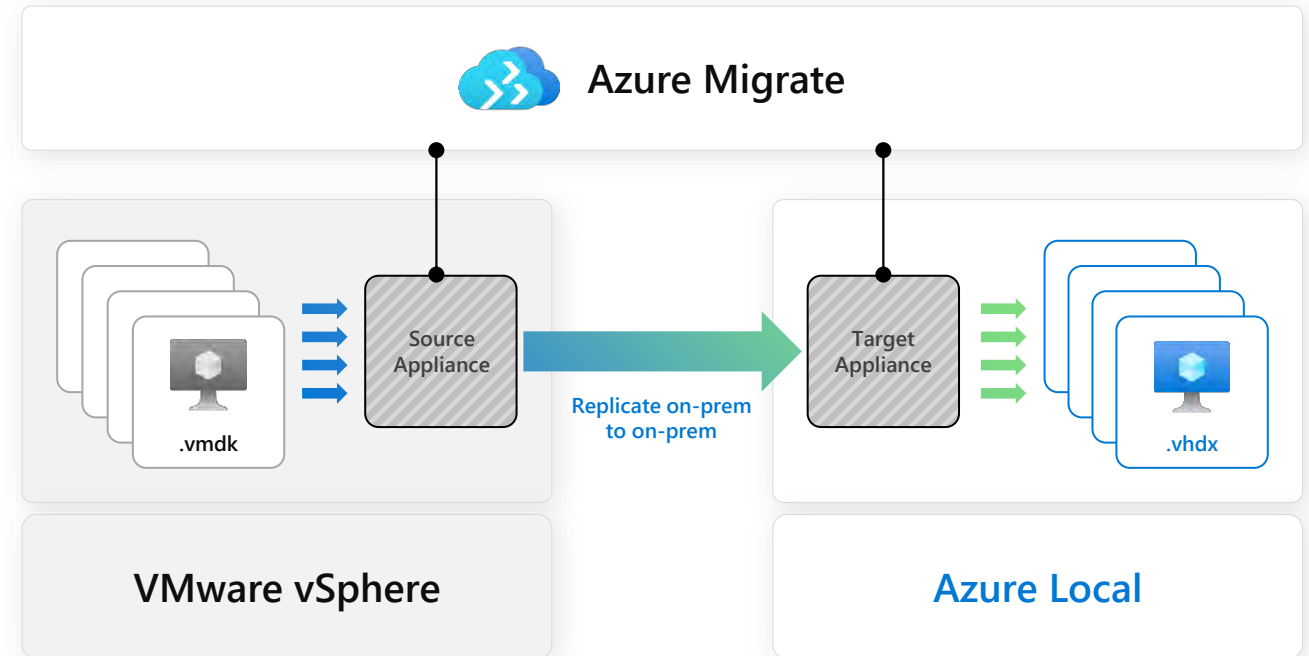
No need to change/rewrite apps



Copy and convert VMware VMDK to Azure Arc VM entirely on-premises



Guided workflow in Azure Migrate



Learn more at aka.ms/AzureLocal/Migrate

NEW

Azure Kubernetes Service built-in and included



Deploy container and cloud-native apps leveraging open-source technology



Managed Kubernetes with AKS-consistent portal and APIs to simplify operations



Microsoft-provided storage (CSI) driver and images for Linux and Windows



Infra-as-code and continuous delivery with Terraform and GitOps support

The screenshot displays the Azure portal interface for creating and managing a Kubernetes cluster. The top navigation bar shows 'Microsoft Azure' and a search bar. The main content area is titled 'Create a Kubernetes cluster with Azure Arc' and includes tabs for 'Basics', 'Node pools', 'Access', and 'Networking'. The 'Basics' tab is active, showing 'Project details' where a subscription is selected as 'Contoso' and a resource group as 'Contoso-01'. Below this, 'Cluster details' are shown with 'Kubernetes cluster name' as 'My-AKS-Cluster', 'Custom location' as 'Contoso-01', and 'Kubernetes version' as '1.28.9'. The 'Primary node pool' section shows 'Node size' as 'Standard_A' and 'Node count' as '5'. A 'Review + create' button is visible at the bottom of the wizard.

Overlaid on the right is a detailed view of the 'My-AKS-Cluster' resource. The 'Essentials' section lists: Subscription: Contoso, Subscription ID: eba548b-cb71-4663-9cda-a42bfa0c7bc9, Resource group: Contoso-01-RG, Status: Connecting, and Location: Contoso-01 (East US). The 'Properties' section for 'Kubernetes service - Azure Arc' shows: Agent version: 1.21.10, Managed identity certificate: January 5, 2025 at 10:21 AM PST, Kubernetes version: 1.29.4, Total node count: 5, and Total core count: 20.

No extra cost for use of Azure Kubernetes Service

Bring Azure's app, data, and AI services anywhere

Management services



Portal



Copilot



Graph



Identity



Defender



Monitor



Updates



Policy



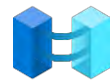
Support



Billing

Cloud region

Distributed location



Enabled by
Azure Arc

Popular



Windows
and Linux



Azure Virtual
Desktop



Azure IoT
Operations

App services



Containers
Apps



Logic Apps

Data services



Arc-enabled
SQL Server



Managed
instance



PostgreSQL

AI services

NEW



Video
Indexer



Local AI search
(preview)



Machine
Learning

Foundational services



Virtual
machines



Kubernetes
services



Logical
networks



Storage
paths

Azure Virtual Desktop with Azure Local

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

Home > Azure Virtual Desktop

Azure Virtual Desktop | Host pools

Search | Create | 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 4 of 4 records.

Name	Location	Host po...	Load bal...	Applicati...
Regional-EastUS	East US	Pooled	Breadth-first	29
Regional-WestEurope	West Europe	Pooled	Depth-first	17
Local-Site337	Custom Location	Pooled	Depth-first	6
Local-Site092	Custom Location	Pooled	Depth-first	1

Navigation: Overview, Quickstart, Manage (Host pools, Application groups, Workspaces, App attach, Scaling plans, Users, Custom image)

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

Home > Azure Virtual Desktop | Host pools > Local-Site337

Local-Site337 - Session hosts

Host pool

Add | Refresh | Export to CSV | Turn drain mode on | Turn drain mode off | Assignment | Remove | Start | Restart | Stop

Filter by Name | Status: 12 selected | Drain mode: 2 selected

Name	Health state	Total sessions	Drain mode	VM Location	Subscription	Agent version
win10multivm1.poc01.local	Available	10	Off	-	AdaptiveCloudLab	1.0.10004.2100
win10multivm2.poc01.local	Available	10	Off	-	AdaptiveCloudLab	1.0.10004.2100
win11multi05.poc01.local	Available	10	Off	-	AdaptiveCloudLab	1.0.10004.2100
win11multi07.poc01.local	Available	10	Off	-	AdaptiveCloudLab	1.0.10004.2100
win11multi08.poc01.local	Available	10	Off	-	AdaptiveCloudLab	1.0.10004.2100
win11multi09.poc01.local	Available	10	Off	-	AdaptiveCloudLab	1.0.10004.2100
win11multi10.poc01.local	Available	10	Off	-	AdaptiveCloudLab	1.0.10004.2100
win11multi-vm20.poc01.local	Available	10	Off	-	AdaptiveCloudLab	1.0.10004.2100

Azure AI services with Azure Local (preview)

NEW



Local AI Search

Search on-premises data with small and large language models

Private Preview



Azure ML Catalog

Deploy and manage validated AI models from the cloud

Private Preview

Learn more at aka.ms/AzureLocal/EdgeAI



Azure Local

Enabled by Azure Arc

Flexibility to meet
your requirements
and budget

Choose hardware from your preferred vendor



DELLTechnologies



Lenovo



Hewlett Packard
Enterprise



DataON



CISCO



SUPERMICR



FUJITSU

1

Engage directly with your preferred vendor

2

Customize hardware specs, storage, and networking

3

Purchase 1 to N nodes up-front or as-a-service

Explore solutions at aka.ms/AzureLocalCatalog

Accelerate demanding workloads with GPUs



Over 50 GPU-capable platforms with NVIDIA A2, A16, A40, and others



Dedicate whole GPUs to workloads to maximize AI/ML performance



Partition GPUs to increase density with virtual apps and desktops



VMs with GPU partitioning support **live migration and failover**¹ **NEW**

The screenshot shows the 'GPU Assignment' section of the Azure portal. The 'Add GPU' checkbox is checked. The 'Type' dropdown is set to 'GPU partition'. The 'Available partition size' dropdown is set to '4GB'. A green box highlights the 'Add GPU', 'Type', and 'Available partition size' fields.


Security type *	Trusted launch
Storage path *	<input checked="" type="radio"/> Choose automatically Storage path with high availability is selected automatically. Learn more
	<input type="radio"/> Choose manually Choose an existing storage path on this HCI cluster. Ensure that selected storage path has sufficient storage space. Learn more
Image *	Ubuntu Server 24.04 LTS
Virtual processor count *	4
Memory (MB) *	8192
Memory type *	<input checked="" type="radio"/> Static <input type="radio"/> Dynamic
GPU Assignment *	<input checked="" type="checkbox"/> Add GPU
Type	GPU partition
Available partition size	4GB 8GB

1 : Not yet supported by AKS 2 : GPU assignments in Azure Arc as of Dec 2024

Low-spec, low-cost options for edge use cases

NEW


Azure Stack HCI Requirements at launch	Azure Local ¹ Requirements at launch
Windows Server certified	Windows Server certified
Min. 2+ machines	1+ machine
Min. 4+ disks per machine	1+ SSD per machine ²
Min. 10-Gbps w/RDMA	1 Gbps/2.5 Gbps Ethernet ³
Active Directory required	Doesn't require AD ⁴



SuperMicro SYS-E302
Fan-less server



Dell MC-4000r/z + MC-4510c
Rugged two-sled chassis



HPE MicroServer Gen11
Micro tower server



Lenovo ThinkEdge SE350v2
Half-width, half-depth 1U

Example possible solutions, pending validation

1 : Reduced requirements allowed up to maximum of 3-node cluster 2 : Excludes OS boot disk 3 : Must support Hyper-V virtualization 4 : In preview now, coming 2025

Watch the demo

Deploy AKS using tower
servers and simple ethernet



[Demo Video](#)
(9 mins 39 secs)

NEW

Introducing disconnected operations (preview)



Satisfy regulatory requirements by operating permanently disconnected from the cloud



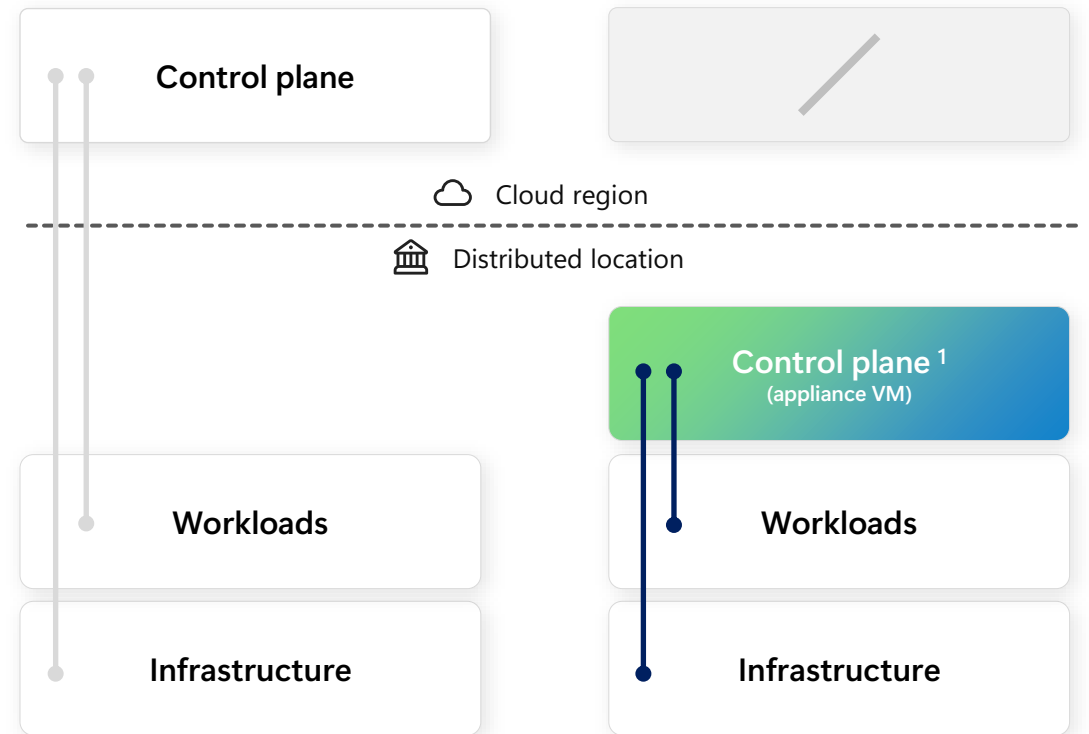
Host backend Azure resource manager, portal, and services in local appliance VM

Subset of services available:

Portal	ARM	Copilot	Key Vaults	Policy ²	Defender
Local	Machines	Kubernetes	Registries	AVD	Others

Azure Local
(connected)

Azure Local
disconnected



1 : Available only to customers who prequalify based on industry, use case, and other considerations 2 : Partial functionality (policy enforcement at resources creation for GA)

- Create a resource
- Dashboard
- All services
- FAVORITES
- All resources
- Recent
- Resource groups
- Identity management
- Key vaults
- Subscriptions
- Azure Arc
- Machines - Azure Arc
- Kubernetes - Azure Arc
- Tags
- Resource Explorer
- Marketplace
- Container registries

My Dashboard

Private dashboard

+ New dashboard Refresh Full screen Edit Export Clone Delete

Marketplace

Feedback

All resources

All subscriptions Refresh

sclusterkvvuzk2Inx	Key vault
s-cluster	Azure Local
v-Host1	Machine - Azure Arc
v-Host2	Machine - Azure Arc
v-Host3	Machine - Azure Arc
v-Host4	Machine - Azure Arc

Azure Local with disconnected operations

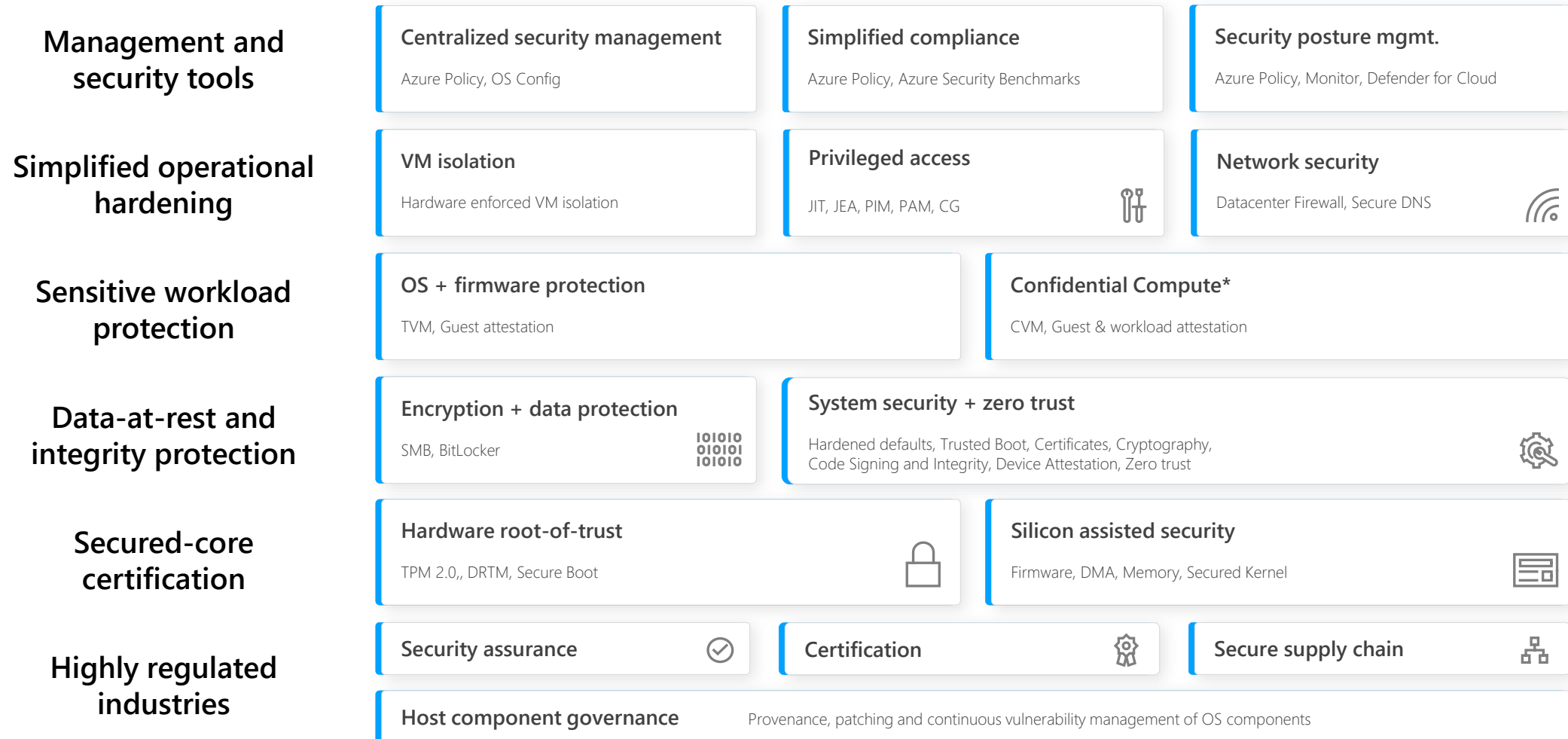


Azure Local

Enabled by Azure Arc

Extend cloud
security to your
distributed locations

Strong **default security** for apps and infrastructure



Home > Microsoft Defender for Cloud

Microsoft Defender for Cloud | Recommendations

Showing subscription 'AdaptiveCloudLab'

Search

Refresh Download CSV report Open query Governance report Guides & Feedback Switch to classic view

General

- Overview
- Getting started
- Recommendations**
- Attack path analysis
- Security alerts
- Inventory
- Cloud Security Explorer
- Workbooks
- Community
- Diagnose and solve problems
- Cloud Security
 - Security posture
 - Regulatory compliance
 - Workload protections
 - Data security
 - Firewall Manager

Search by title / resource

Risk factors == All Risk level == All Resource type == 6 selected

Group by title:

Add filter

Title	Affected resources	Risk factors ⓘ
Machines should have a vulnerability assessment solution	49/106 resources	
Storage accounts should restrict network access using virtual network rules	47/53 Storage accounts	Exposure to the Internet
Machines should be configured securely (powered by MDVM)	19/21 resources	Exposure to the Internet Vulner
Diagnostic logs in Key Vault should be enabled	15/29 Key vaults	
Azure Local machines should meet Secured-core requirements	9/11 Azure Local	
Vulnerabilities in security configuration on your Linux machines should be remediate...	6/21 resources	Exposure to the Internet
Non-internet-facing virtual machines should be protected with network security gro...	6/14 Virtual machines	
Immutable (read-only) root filesystem should be enforced for containers	5/11 Kubernetes - Azure Arc	
Guest Attestation extension should be installed on supported Windows virtual machi...	5/5 Virtual machines	
Services should listen on allowed ports only	5/11 Kubernetes - Azure Arc	
Kubernetes clusters should disable automounting API credentials		

Microsoft Defender for Cloud with Azure Local

Network threat landscape: by the numbers

90%+



of all cyberattacks abused
Remote Desktop Protocol
(RDP) in 2023

[Source: Sophos, 2023](#)

3M+



Exposed RDP ports could be
protected with stronger
network security

[Source: Sophos, 2021](#)

Introducing network security groups (preview)

NEW



Protect network access with inbound and outbound allow and deny rules



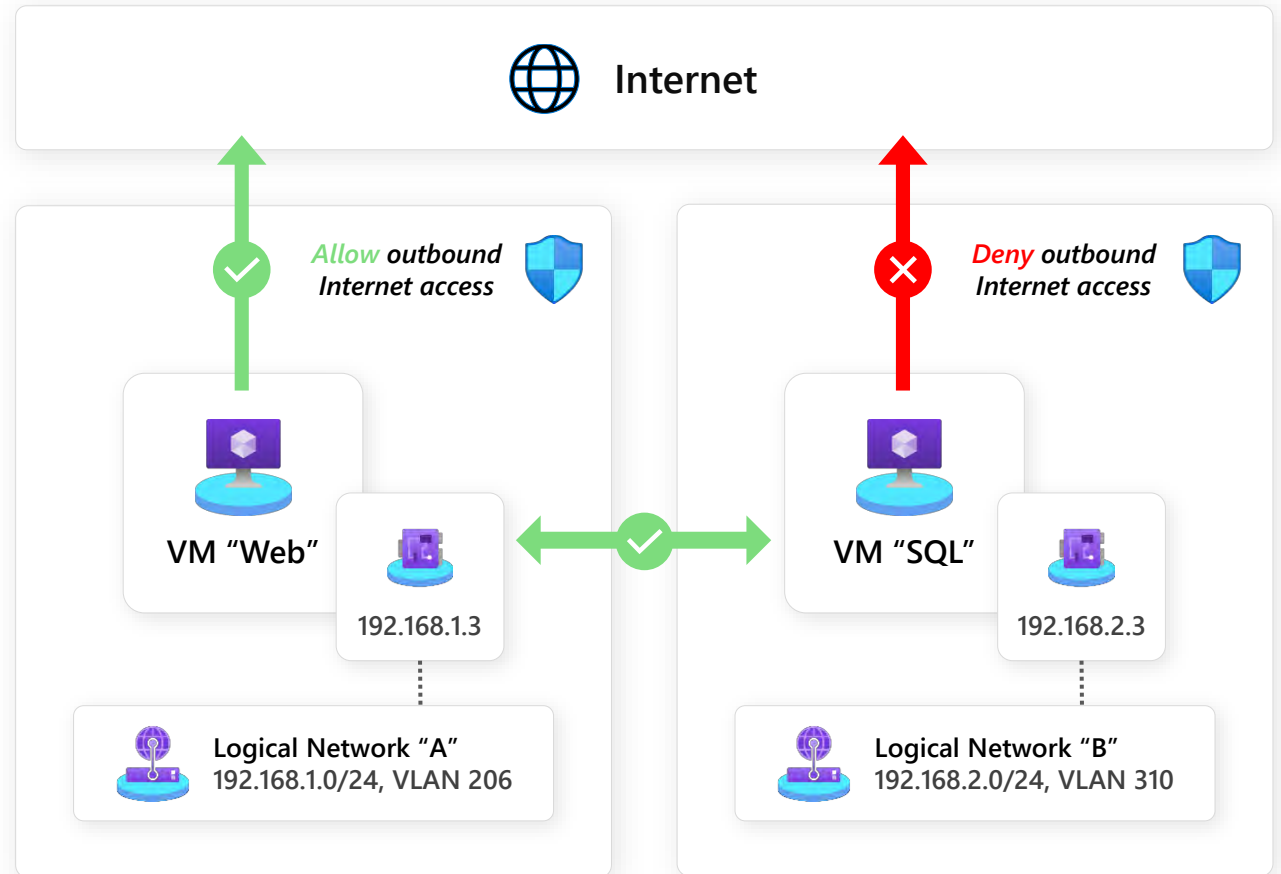
Complete 5-tuple control: source and destination IP, port, and protocol



Assign NSGs to individual VM interfaces or whole logical networks



Enforced within the virtual switch at the virtual port level



Home > Contoso-01 | Network security groups >

NetworkSecurityGroup-01

Azure Local Network Security Group

Search Delete Refresh

Overview

- Activity log
- Access control (IAM)
- Tags
- Diagnose and solve problems
- Settings
 - Inbound security rules
 - Outbound security rules
 - VM network interfaces
 - Logical networks
 - Properties
 - Locks
- Automation
 - Tasks
- Help
 - Support + Troubleshooting

Essentials

Resource group : [Contoso-01](#) Security rules : 1 inbound, 0 outbound
Location : East US Associated with : [0 Logical network, 1 VM network interface](#)
Subscription : [AdaptiveCloudLab](#) Custom location : [Contoso-01](#)
Subscription ID : fba508b-cb61-4383-9cda-a42bfa0c7bc9
Tags ([edit](#)) : [Add tags](#)

JSON View

Priority ↑	Name	Provisioning state	Port	Protocol	Source	Destination	Action
Inbound security rules							
300	RDP	✔ Succeeded	3389	Any	Any	Any	✔ Allow
310	SSH	✔ Succeeded	22	Any	Any	Any	✘ Deny
Outbound security rules							
100	ContosoApp	✔ Succeeded	80, 443	TCP	LogicalNetwork	LogicalNetwork	✔ Allow
200	AllowLogs	✔ Succeeded	80, 443	TCP	Any	Internet	✔ Allow
4000	DenyAllOutBound	✔ Succeeded	Any	Any	Any	Any	✘ Deny

Network security groups with Azure Local

Low-level attacks are increasingly sophisticated

Firmware attacks are hard to detect, persistent across reboots

Example

“MoonBounce” (2022)



Description

Rootkit that targets UEFI
Simple Firmware Interface (SFI)

Result

Controls system remotely

Example

“CosmicStrand” (2022)



Description

Targets the (virtual) hardware
initialization components

Result

Data exfiltration
Installs more malware

Example

“BlackLotus” (2023)



Description

Boot kit (UEFI) that
bypasses Secure Boot

Result

Controls system remotely

Introducing Trusted Launch for VMs (preview)

NEW



Protect network access with inbound and outbound allow and deny rules



Complete 5-tuple control: source and destination IP, port, and protocol



Assign NSGs to individual VM interfaces or whole logical networks



Enforced within the virtual switch at the virtual port level



The screenshot displays the Microsoft Azure portal interface. The top navigation bar includes the Microsoft Azure logo, a search bar, and the Copilot icon. The main content area is titled "Create an Azure Arc virtual machine".

Create an Azure Arc virtual machine

Project details

Select the subscription to deploy your virtual machine. Use resource groups like folders to organize and manage all your resources.

Subscription *

Resource group *

[Create new](#)

Instance details

Select the custom location for your new virtual machine. Some custom locations may support more than one kind of virtual machine.

Virtual machine name *

Custom location *

Virtual machine kind *

Security type *

Storage path *

Image *

[Previous](#) [Next](#)

VirtualMachine01

Machine - Azure Arc (Azure Local)

Overview

- Activity log
- Access control (IAM)
- Tags
- Settings
 - Networking
 - Connect
 - Windows Admin Center (preview)
 - Disks
 - Size
 - Security
 - Extensions
 - Configuration
 - Properties
 - Locks
 - Operations
 - Policies
 - Machine Configuration
 - Automanage
 - Run command (preview)

Resource group: [Contoso-01](#)

Status: [Running](#)

Location: [Contoso-01 / eastus](#)

Subscription: [AdaptiveCloudLab](#)

Subscription ID: fba508b-cb61-4383-9cda-a42fa0c7bc9

Tags [\(edit\)](#) [Add tags](#)

Properties Capabilities

Virtual machine

Name	VirtualMachine01
Operating system	Windows
CPU cores	4
Memory	8,192 MB

Extensions

joindomain (Microsoft.HybridCompute/machines/extensions)
--

Security

Security type	Trusted launch
Enable Secure Boot	Enabled
Enable vTPM	Enabled
Integrity monitoring	Enabled (last updated 11/20/2024 8:00 AM)

Networking

Network interfaces

Disks

Data disks

Total size

Configuration

Guest management

Watch the demo

Extend cloud security to your distributed locations

Microsoft Azure

Home > Contoso-01 | Microsoft Defender for Cloud >

Recommendations

Refresh Download CSV report Open query Governance report Guides & Feedback Recommendations by risk

You may be viewing limited information. To request tenant-wide visibility, click here →

Secure score recommendations All recommendations

Secure score 51% Active secure score recommendations 35/77

0 Attack paths We didn't find any attack paths in your environment. Learn more >

Name ↑↓	Max score ↓	Current score ↑↓	Potential score increase ↑↓	Status ↑↓	Unhealthy resources	Insights
Encrypt data in transit Host and VM networking should be protected on Azure Local...	4	4.00		Completed	0 of 61 resources	
Enable encryption at rest Azure Local systems should have encrypted volumes	4	0.00	+ 7%	Completed	12 of 22 resources	
Implement security best practices Azure Local machines should meet Secured-core requirements	Not scored	Not scored		Unassigned	3 of 10 Azure Local	
Apply adaptive application control Azure Local machines should have consistently enforced appl...	Not scored	Not scored		Completed	61 of 226 resources	
				Unassigned	9 of 10 Azure Local	
				Completed	0 of 10 resources	
				Unassigned	4 of 10 Azure Local	

[Watch the video](#)
(2 mins 51 secs)

Introducing rack aware clusters (preview)

NEW



Increased high availability (HA) between 2 rooms in the same location



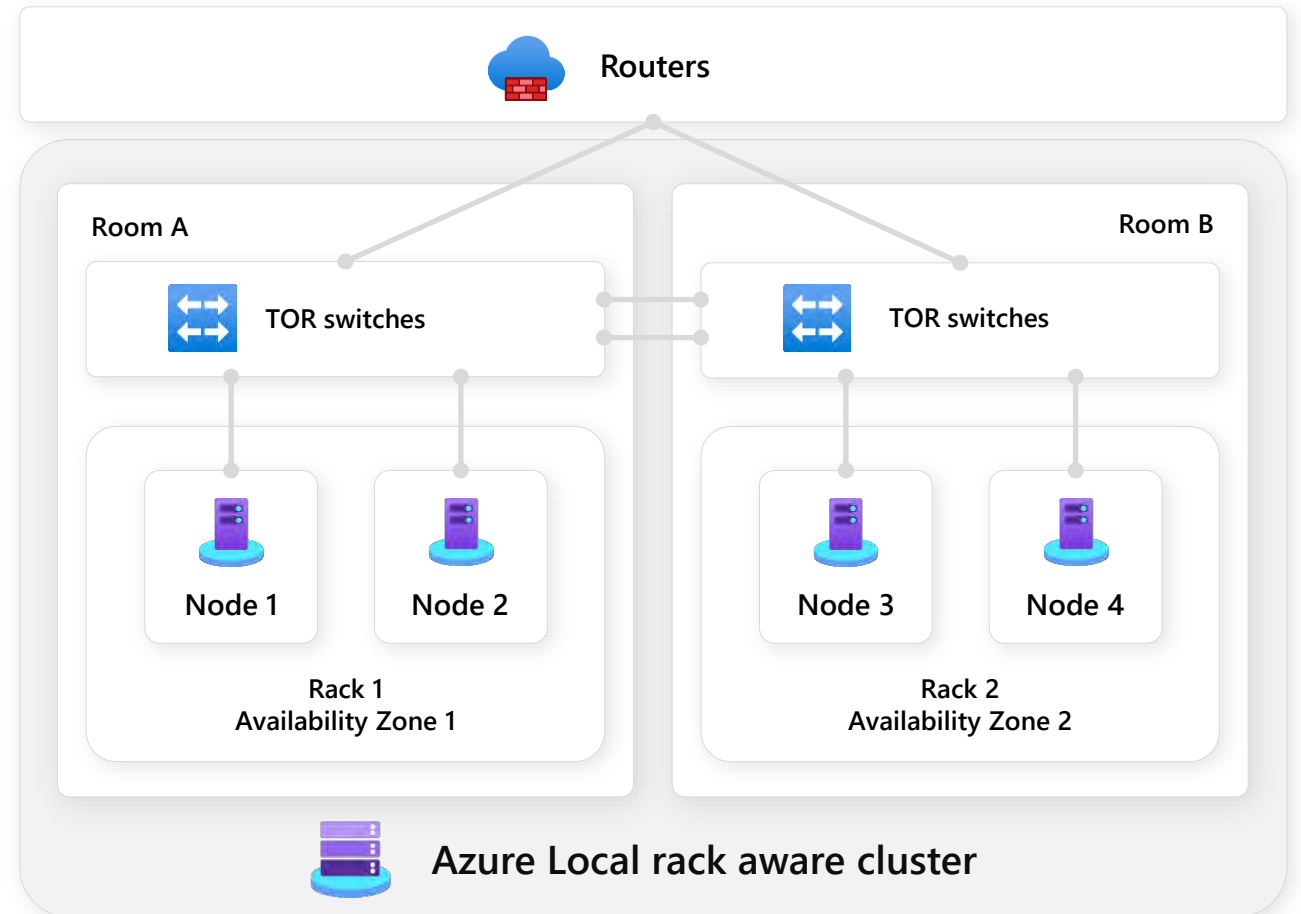
Synchronized S2D storage replication between local availability zones



Provision workloads to a specific local availability zone



Automatic workload and volume failover and failback



Azure Local (partial) product roadmap *

○ Preview ● GA

Fall 2024 Spring 2025 Fall 2025 Spring 2026



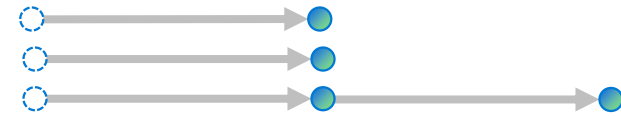
Operate and scale with the power of the cloud

Azure Arc gateway for simpler connectivity
Zero-touch OS provisioning from cloud
Day N cluster/storage/network management



Ready for all your apps: VMs and containers alike

Migrate from VMware
Hydrate pre-existing VMs into Azure Arc
VMs features: day N operations, OS disk, gallery, connect



Flexibility to meet your requirements and budget

Low-spec, low-cost hardware options
Local identities (no on-prem Active Directory)
Rack-aware clustering to replicate between rooms



Extend cloud security to your distributed locations

Remediate Defender recommendations
Software-defined networking
Trusted launch (including attestation)



* **IMPORTANT: Forward-looking roadmap is subject to change. It should not be interpreted as a commitment on the part of Microsoft, and Microsoft cannot guarantee its accuracy.**

Available Now

Azure Virtual Desktop for Azure Local

Azure Virtual Desktop is a cloud Virtual Desktop Infrastructure (VDI) solution designed to meet the challenges of distributed workforces

**Enable a secure,
remote desktop
experience
from anywhere**



Access Windows 11 and Windows 10 from anywhere



Maintain full control over configuration and management



Get the security and reliability of Azure



Optimize cost with multi-session and pay for only what you use

Azure Virtual Desktop for Azure Local now generally available



- ✓ Designed for customers who need **secure on-premises virtualized apps and desktops**
- ✓ Combines the **benefits of Azure Virtual Desktop and Azure Local**
- ✓ Customers can **deploy in their datacenters to extend their on-premises infrastructure** to Azure
- ✓ All while enjoying many of the **key benefits of Azure Virtual Desktop on Azure**, such as **Azure portal, Windows 11 and Windows 10 multi-session**

Azure Local provides a cloud native hybrid solution based on a modern subscription and an efficient hyper-converged infrastructure

Modern infrastructure to deploy cloud native solutions anywhere



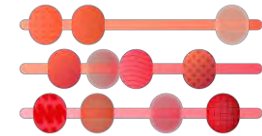
Cloud native
anywhere



Secured to run all
workloads from cloud
to edge



Familiar management
and operations



Flexible
options at the right price
and performance point

Azure Virtual Desktop for Azure Local extends the benefits of cloud VDI to on-premises



Secure anywhere

- Run virtualized desktops and apps securely with Entra ID, conditional access, and MFA
- Simplify VDI deployment
- No need to manage brokers, gateways, or underlying servers and storage



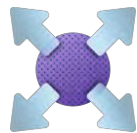
Windows 10 and 11 multi-session

- Windows 10 & 11 multi-session or single-session support
- Achieve high utilization & lower operation costs



Prime performance

- Enjoy optimized Microsoft 365/Teams/Windows App experiences
- Run graphic-intensive workloads with GPU support
- Built for sensitive low-latency workloads



Full control

- Satisfy data locality requirements
- On-premises storage and data residency



Scale cloud and on-premises

- Manage and scale deployments across both Azure and Azure Local through a single management experience
- Use the familiar Azure portal and admin experience



Optimize for cost

- Use existing eligible Windows licenses
- No need to manage overhead licenses for Remote Desktop Services (RDS)
- Save with Windows 10 & 11 multi-session support

Azure Virtual Desktop for Azure Local use cases



Security and compliance

Secure, high performance cloud platform for financial institutions that meets compliance requirements



Data sovereignty

Cloud functionality that can meet the data sovereignty and data gravity requirements for public sector entities



Low latency workloads

High performance and low latency cloud capabilities that can meet the compute requirements for the most demanding workloads



Virtual Desktop Infrastructure (VDI) modernization

Migrate existing VDI workloads to Azure using Azure Local



Customer momentum



CUSTOMER:

Coles Group

INDUSTRY:

Retailers

SIZE:

10,000+ employees

COUNTRY:

Australia

PRODUCTS AND SERVICES:

Azure
Azure Machine Learning
Azure Stack HCI
Azure Kubernetes Service
enabled by Azure Arc

[Read full story here](#)



“We’ve met our target of a six-times increase in the pace that we can deploy applications to stores, so that speed, and the reliability at that scale, have been amazing.”

—Silvio Giorgio, General Manager of Data and Intelligence, Coles Group

SITUATION:

Coles Group helps feed millions of Australians. The company has an appetite for innovation and has long invested in AI and computer vision. It wanted to scale edge AI capabilities and use technology to improve efficiency and offer leading customer experiences.

SOLUTION:

The retail giant is using Microsoft Azure Stack HCI as the foundation for its intelligent edge backbone, which helps it better manage applications and AI and computer vision use cases across its vast retail footprint.

IMPACT:

Since expanding its Azure Stack HCI footprint from 2 to more than 500 stores, Coles can roll out new applications to its stores six times faster using the intelligent edge backbone without disrupting workloads. This gives teams the capacity to drive value and experiential improvements in stores.



الإمارات العالمية للألمنيوم
EMIRATES GLOBAL ALUMINIUM

CUSTOMER:
Emirates Global Aluminium

INDUSTRY:
Manufacturing

SIZE:
10,000+ employees

COUNTRY:
United Arab Emirates

PRODUCTS AND SERVICES:
Azure Arc
Azure Stack HCI
Azure Kubernetes Service
enabled by Azure Arc

[Read full story here](#)



“Emirates Global Aluminium cuts cost of manufacturing AI by 86 percent with the introduction of Azure Stack HCI.”

SITUATION:

Many manufacturing technology applications, including AI, must have proximity to company equipment for cybersecurity, latency, response time, and other factors. Having only a public cloud strategy is not enough to enable edge scenarios with low latency needs.

SOLUTION:

Bringing together public and hybrid clouds, EGA built a new digital manufacturing platform with a hybrid cloud architecture. It runs Azure Kubernetes Service (AKS) on top of Azure Stack HCI to take advantage of containerization on-premises and uses Azure Arc for a consistent management layer across its public and hybrid cloud environments.

IMPACT:

If you compare costs for our current use cases on the public cloud before and on our new Azure hybrid cloud digital manufacturing platform, we’re looking at an 86 percent cost reduction. We also went from weeks and months between releases to multiple a day, which allows us to respond much faster and better to changing business requirements

Hardware form factors

The image features a solid blue background. On the right side, there is a large, rounded, teardrop-shaped graphic element. This shape is outlined with a thick orange line on its left and bottom edges, and a thick purple line on its right and top edges. The text 'Hardware form factors' is positioned on the left side of the image, centered vertically relative to the blue background.

Multiple form factors from various partners for any environment



Edge computing scenarios

Super small footprint for edge scenarios-can be ruggedized-industrial PCs class



Remote Office Branch Office

Tower form factor-for no rack environments



Infrastructure modernization

Industry rack mounted servers in various height-for datacenter modernization



Visit the [Azure Local Catalog](#) to discover the current hardware solutions available to fit your edge needs

Azure Local solution categories

Premier Solutions

Turnkey Azure Local solution

- Deepest integration and highest level of automation, built through deep engineering collaboration between Microsoft and solution partners
- Continuous testing by Microsoft and our partners, to ensure higher reliability and minimal downtime
- End-to-end deployment workflows that make it easy to deploy one cluster or a thousand clusters

Integrated Systems

Single purpose system with pre-installed software

- Optimized hardware selection with regular testing for ongoing reliability
- Delivered with software pre-installed and security set by default
- Validated full-stack updates and native hardware management tools

Validated Nodes

Broadest choice of hardware components

- Choose from a diverse selection of validated hardware from more than 30 partners, or re-use existing validated hardware
- Engage with preferred SI for deployment and integration, as needed
- On new hardware or check with your OEM or solution provider to ensure you are running a validated solution. In certain cases, you may be able to reuse existing hardware

Hardware deployment comparison

FEATURE	Validated nodes	Integrated systems	Premier solutions
Validated solution with certified hardware configuration	✓	✓	✓
Solution committed to 5 years of hardware support	✓	✓	✓
Solution testing requirement	Once	2-4 times/year	Continuously
Ease of deployment and updates	Manual	Double-click	Single-click, seamless
HCI software pre-installed or on-site deployment services		✓	✓
Solution available as multi-node		✓	✓
Support from Microsoft and hardware solution partner		✓	✓
Security settings and features enabled by default		✓	✓
Validated by Microsoft in our own labs			✓
One stop for Level 1 and Level 2 support for HCI software			✓
Call home support service option available			✓
Global availability (solution and services in 100+ countries)			✓
White glove deployment services available			✓
As-a-service purchasing option available			✓
Optimal customer use case	Customers who run multiple operating systems or want to manage their own firmware, driver, and OS updates	Customers seeking some level integration and validation from Azure Stack HCI for multi-node clusters	Customers requiring turnkey, enterprise-wide deployments across their global portfolio with simplified management



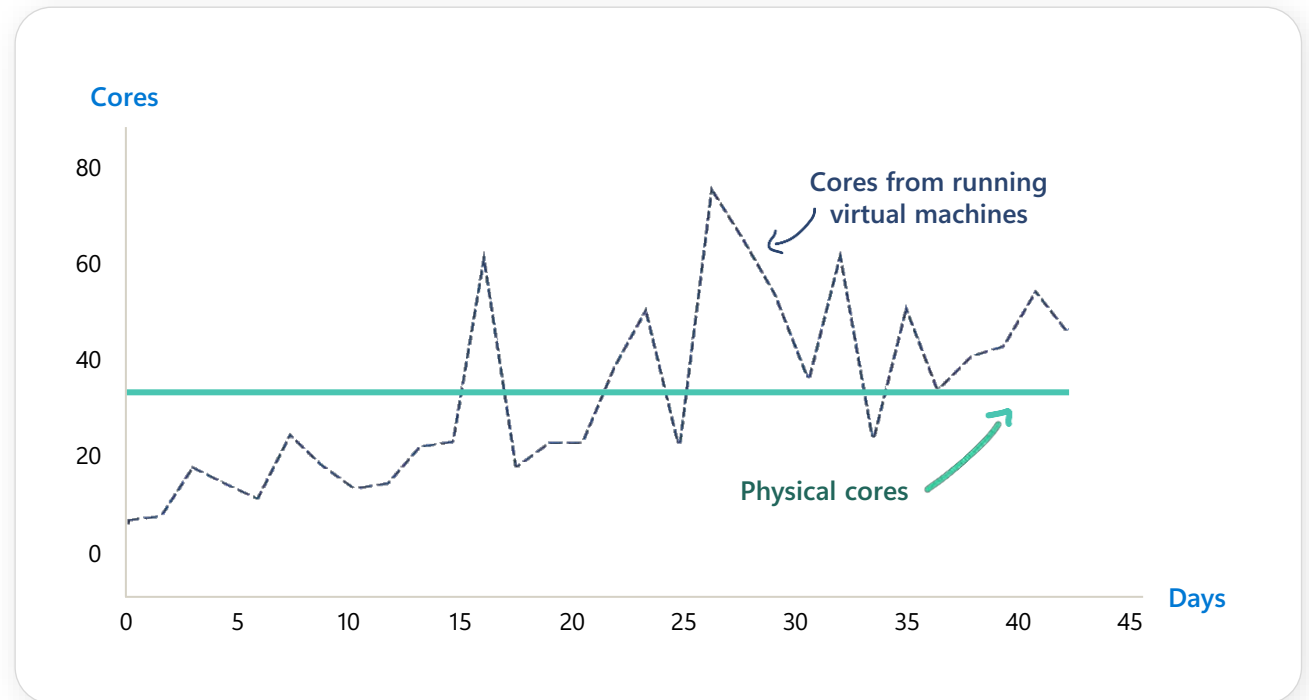
Licensing

What does Azure Local charge for?

\$10 USD/month
per physical processor core*

*Does not include
Guest OS licensing

*Include the use of AKS at no
extra cost



Predictable

Doesn't vary with consumption,
more VMs doesn't cost more



Simple

No math with memory, storage,
or network ingress/egress



Efficient

Virtualize efficiently, with higher
v-to-p density

Azure Local delivers simplicity and flexibility for licensing

How it works: License guests and apps separately



What you want to run:

Linux applications
Open-source software

What you buy:

OEM HW
+
Azure Local

Nothing else from Microsoft
See provider if fees apply



What you want to run:

A few Windows Server
roles or applications
persistent licensing

What you buy:

Validated OEM HW
+
Azure Local
+
Windows Server 2022
Standard(s)



What you want to run:

Unlimited Windows Server
roles or applications
persistent licensing

What you buy:

Validated OEM HW
+
Azure Local
+
Windows Server 2022
Datacenter



What you want to run:

Unlimited Windows Server
roles or applications
guest
subscription licensing

What you buy:

Validated OEM HW
+
Azure Local
+
Latest Windows Server
subscription guest licensing

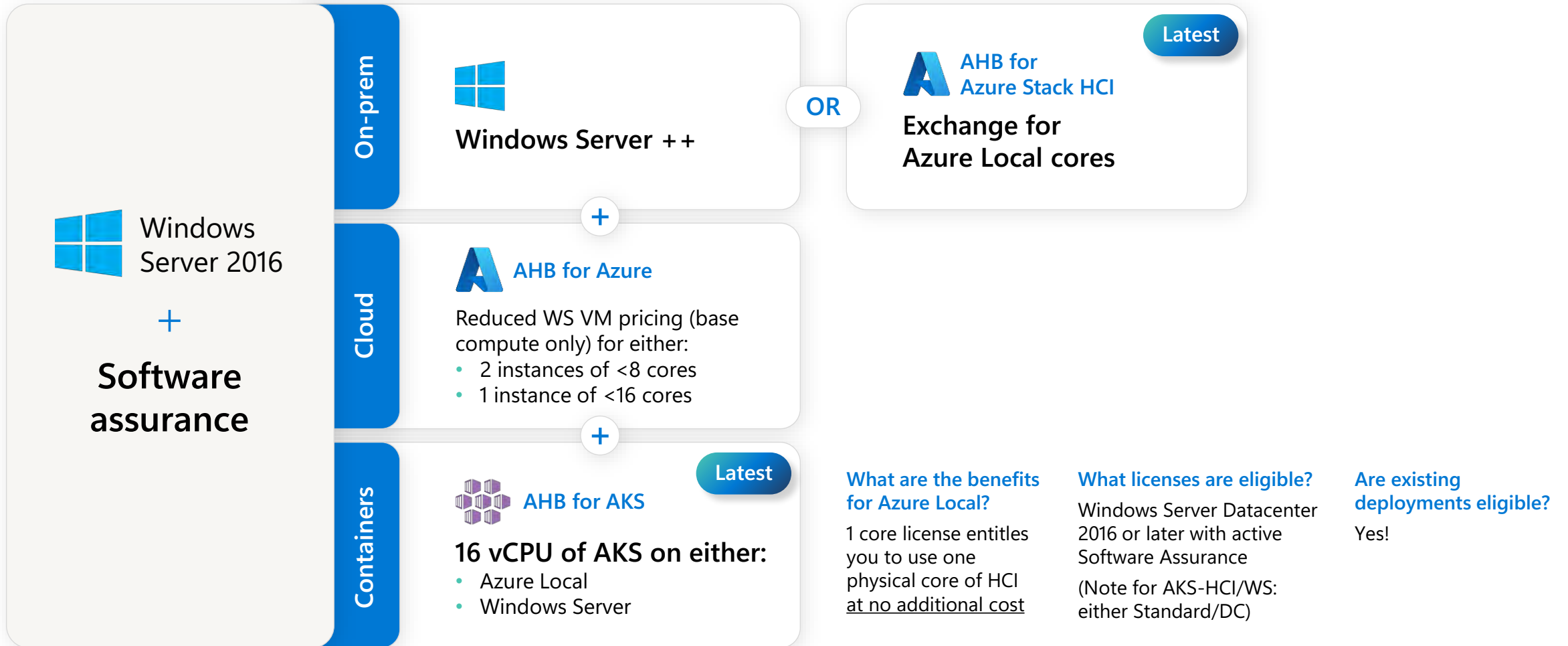
Host:
Subscription

Guest:
Perpetual or
subscription

Note: Valid for all Windows Server versions

Expanding Azure Hybrid benefits to the Edge

Each 16-core license covers:



Keep workloads protected after support ends

Extended Security Updates free in Azure or Azure Local for Windows Server and SQL Server

July 9, 2022

SQL Server 2008, 2008 R2
Extended Security Updates end

Get one more year of ESUs free
in Azure or Azure Stack HCI

July 12, 2022

SQL Server 2012 End of Support

Buy Extended Security Updates
to get 3 more years on-premises
(free in Azure or Azure Local)

January 10, 2023

Windows Server 2008 and 2008 R2
Extended Security Updates end

Get one more year of ESUs free
in Azure or Azure Local

October 10, 2023

Windows Server 2012 and
2012 R2 End of Support

Buy Extended Security Updates
to get 3 more years on-premises
(free in Azure or Azure Local)



Assess your options for 2012 workloads

1 Move to Azure

Move apps and workloads to Windows Server and SQL Server on Azure Virtual Machines

- Run securely with free Extended Security Updates for three more years after the deadline for Windows Server 2012 and 2012 R2 and SQL Server 2012
- Save with Azure Hybrid Benefit

Modernize when ready

- Modernize to PaaS with Azure services such as App Service, and Azure SQL Managed Instance. Never have to patch or upgrade again

OR

2 Move to Azure Local

Move apps and workloads to Windows Server and SQL Server on Hyper-V VMs on Azure Stack HCI

- Run securely with free Extended Security Updates for three more years after the deadline for Windows Server 2012 and 2012 R2 and SQL Server 2012

Modernize when ready

- Modernize to PaaS with Azure services such as App Service, and Azure SQL Managed Instance. Never have to patch or upgrade again

OR

3 Upgrade on-premises

Upgrade to latest version

- Windows Server 2022
- SQL Server 2019

Can't meet the deadline? Protect server workloads

- **Buy** Extended Security Updates to get 3 more years of security updates for Windows Server 2012 and 2012 R2 and SQL Server 2012

Overview of Extended Security Updates (ESU) supported solutions

Windows Server 2012 and 2012 R2 and SQL Server 2012

	On-premises	SPLA	Azure VMs and Azure Dedicated Host	Azure Local	Azure VMware solution, Azure Nutanix solution
SQL Server	Option to purchase ESU	Not available	Free ESUs	Free ESUs	Free ESUs
Windows Server	Option to purchase ESU	Not available	Free ESUs	Free ESUs	Free ESUs

Learn more about Extended Security Updates
<https://aka.ms/esupage>

Resources

Note: all Azure Stack HCI resources are still relevant to Azure Local for the 1U/2U server form factor

READ

- Azure Stack HCI Product Page azure.com/hci
- Azure Stack HCI Security Book aka.ms/ashcisecuritybook
- Azure Arc-enabled Infrastructure on Intel Whitepaper aka.ms/arcinfraonintelwhitepaper
- Azure hybrid solutions sustainability Whitepaper aka.ms/hybridsustainabilitywp
- Azure hybrid solutions sustainability infographic aka.ms/hybridsustainabilityinfographic
- Secure your hybrid cloud with Intel Whitepaper aka.ms/securehybridcloudwhitepaper
- Secure your hybrid cloud with Intel infographic aka.ms/securehybridcloudinfographic

WATCH

- [Extend your cloud with Azure Stack HCI](#)
- Azure hybrid solutions sustainability aka.ms/hybridsustainabilityvideo
- [Secure your Microsoft Azure Arc-enabled infrastructure](#)
- Security: [Securing Azure Stack HCI with Azure Defender & Secured-core](#)
- Demo: [Retail Edge Transformation with Azure Hybrid](#)
- Azure Virtual Desktop for Azure Stack HCI [Azure hybrid updates: YouTube](#)
- Product tour of Azure Stack HCI using WAC aka.ms/deployhciwithwac
- Disaster Recovery with Stretch Clustering aka.ms/stretchclustervideo
- Technical roadmap feature videos [Kernel Soft Reboot](#) | [Every Node Arc-Enabled Intent Driven Networking](#) | [GPU Management](#) | [Multi-cluster Monitoring](#) | [Automatic Virtual Machine Activation](#)

DO

- Visit Tech Docs to see how it all works aka.ms/hci-docs
- Visit the Azure Stack HCI Catalog aka.ms/azurestackhxicatalog
- Get training:
 - [Azure Stack HCI foundations – Learn | Microsoft Docs](#)
 - [Operate and maintain Azure Stack HCI – Learn | Microsoft Docs](#)
 - [Azure Arc-enabled Infrastructure Technical Event Series – Events | Microsoft Learn](#)



Thank you!