

Solution Brief

# Simplifying the management and operation of complex and distributed environments

Microsoft Azure Arc and Azure Stack HCI help organizations overcome key resource management, provisioning, policy enforcement, app deployment, and security challenges.

Microsoft Azure Stack HCI integrates with Azure Resource Manager and the Azure portal via native integration with Azure Arc. With the November 2021 feature update of Azure Stack HCI, all Azure Stack HCI clusters are now Arc enabled. This integration can be extended to creation and management of virtual machines (VMs) from Azure. It also simplifies the management and operation of Azure Stack HCI deployments by offering a centralized view in the Azure portal. This is an especially significant benefit for customers looking to achieve a cloud-like experience for provisioning, management, and monitoring for Azure Stack HCI in hybrid environments.

## Azure Stack HCI: Invented with purpose

Azure Stack HCI is a cloud-inspired hyperconverged infrastructure (HCI) software stack from Microsoft that runs on on-premises servers (or in a co-location facility), and that is controlled and managed by the owner. Delivered as an Azure service, Azure Stack HCI is ideal for enterprises that are starting their journeys to the cloud, but that have key workloads that need to stay on premises.

When IT administrators are ready to shift to a hybrid-cloud approach, they can extend on-premises infrastructure to Azure quickly and easily, with simplified access to cloud management and various Azure services. Azure Stack HCI builds in optional, vendor-native cloud integrations, including cloud-based backup, update management, security monitoring, and disaster recovery. This approach allows businesses to scale infrastructure with their needs while also controlling operating costs and simplifying maintenance.

Through its integration with Azure Arc, Azure Stack HCI makes it possible to use Azure role-based access control (RBAC) to delegate VM creation and management, thereby providing self-service

capabilities. This allows developers to create Windows or Linux VMs to run their apps and services without the overhead of managing the underlying infrastructure.

## HCI made simpler with every node Arc-enabled

The tight integration of Azure Arc and Azure Stack HCI simplifies the management and operation of complex and distributed environments on premises, at the edge, and in multicloud environments. And now, every node in an Azure Stack HCI cluster is Arc-enabled when you register a cluster with Azure. This means that all the powerful Azure management capabilities available with Azure Arc are available for your Azure Stack HCI nodes. Through the Azure portal, for each node, you can:

- Gain granular insights through rich monitoring capabilities.
- Enable consistent control and compliance at scale with update management, change tracking, and inventory.
- Define and apply policies.
- Continuously monitor for potential security vulnerabilities.
- And much more.

Azure Arc now also enables you to monitor the hardware telemetry of your Azure Stack HCI physical infrastructure. For example, you can check the health and performance of physical components such as the CPU and memory. You can also monitor storage metrics such as usage, input/output operations per second (IOPS), and latency. Because of comprehensive Azure Arc enablement, you can see every aspect of your clusters in a single pane of glass without having to manage each node and cluster individually.

Beyond monitoring and insight, you can use Azure Resource Manager to provision VMs directly on your Azure Stack HCI clusters. From

the Azure portal, you can see a see an inventory of hosts, virtual machines, virtual networks, disks and virtual machine images.

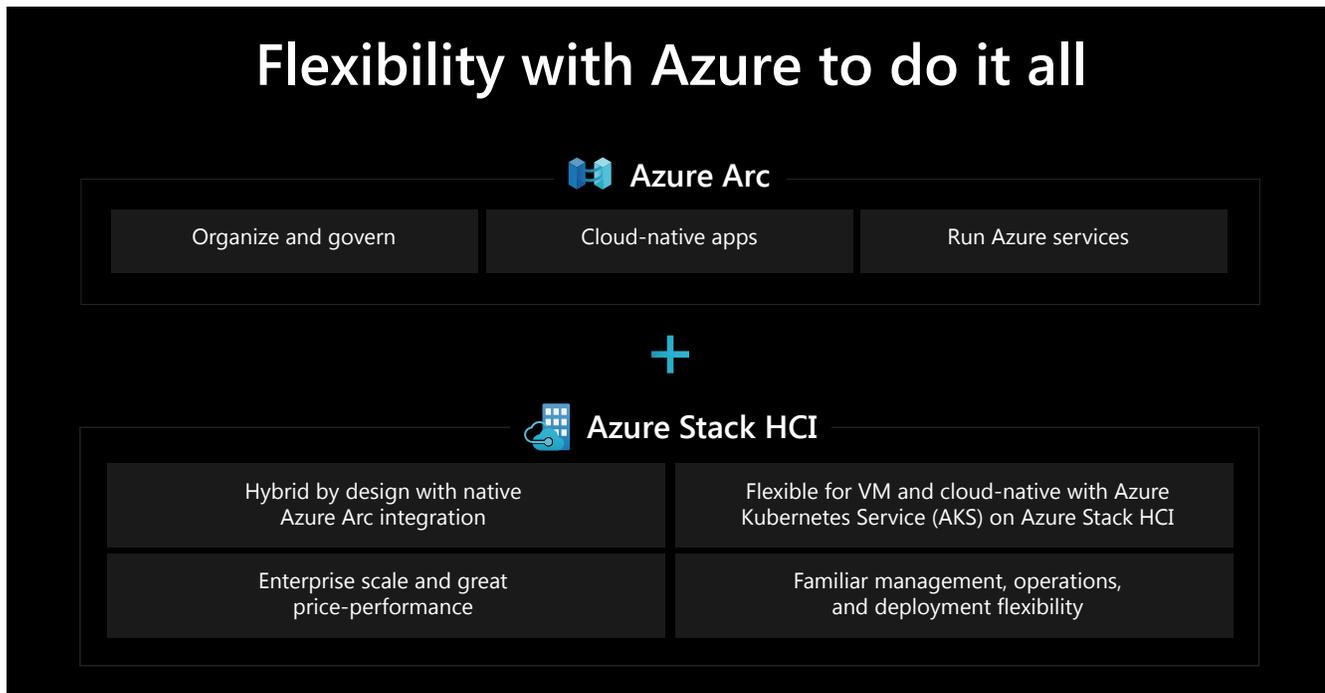


Figure 1: Azure Arc-enabled data services with Azure Stack

You can now provision and manage VMs running in your Azure Stack HCI cluster directly from the Azure portal. This capability provides a consistent user experience (UX) across the cloud and edge for provisioning and managing VMs, because VMs in a cluster will look the same as those in the cloud. This feature greatly simplifies and speeds up end-to-end provisioning and management because you can connect many HCI clusters into the Azure control plane, and you can then provision a VM onto any of them—all from the same interface.

You can also use Azure Resource Manager templates to automate VM deployments onto Azure Stack HCI—the same way you would in

Azure. And you can control which users in your Azure Active Directory (Azure AD) environment have access to which VMs on Azure Stack HCI, which enables a self-service scenario where users can provision VMs for themselves but can't access other users' VMs or the underlying fabric.

The Azure Policy guest-configuration feature provides native capability to audit or configure operating system settings as code, both for machines running in Azure and hybrid Azure Arc-enabled machines. The feature can be used directly per-machine, or at-scale orchestrated by Azure Policy.

By using Azure Arc to manage Azure Stack HCI and other cloud services, IT teams can:

- Monitor and manage clusters and nodes through a single pane of glass.
- Organize and govern across environments from the Azure portal, including provisioning and managing resources such as Windows, Linux, and VMware ESXi servers, Kubernetes clusters, and Azure data services.
- Deploy and manage Kubernetes apps at scale with GitHub and Azure Policy, an Azure service that lets IT teams automatically create extensions and policies that enforce and control the properties of a resource.
- Connect Azure Stack HCI to hybrid-specific Azure services anywhere, while ensuring consistency in data governance and security, managing costs efficiently, and enabling access to the latest innovations in cloud, automation, elastic scale, and unified management for data workloads running across hybrid infrastructures.
- Get built-in VM security anywhere, strengthening the organization's security posture and defending against threats with Azure Defender (integrated with Azure Security Center) for Azure and hybrid-cloud workload protection. IT teams can also detect, investigate, and mitigate security incidents using Azure Sentinel, a cloud-native security information and event manager (SIEM), and take advantage of native disaster-recovery capabilities.



## An added advantage for Azure Stack HCI

Azure Arc helps organizations get more from Azure Stack HCI by simplifying provisioning, management, and compliance tasks. With the ability to run data services and strengthen security anywhere, Azure Arc-enabled Azure Stack HCI is the key to overcoming resource management, policy enforcement, app deployment, and security challenges for on-premises, edge, and multicloud infrastructures. The level of integration now possible with Azure, and the benefits it brings to customers, exemplify why buying HCI from a public cloud vendor makes sense.

Get all of the benefits of Azure Stack HCI with the power of Azure Arc.

Learn more about **Azure Stack HCI** and **Azure Arc**.

Watch the video: **Every Node Arc-Enabled**.



©2021 Microsoft Corporation. All rights reserved. This document is provided "as-is." Information and views expressed in this document, including URL and other Internet Web site references, may change without notice. You bear the risk of using it.

This document does not provide you with any legal rights to any intellectual property in any Microsoft product. You may copy and use this document for your internal, reference purposes.