What's New for Azure Stack HCI at Microsoft Ignite 2021

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New Azure workloads and benefits

An important goal with edge infrastructure is to run the same workloads as the public cloud with the same benefits. To make that a reality, we're bringing the most popular Azure workloads to Azure Stack HCI.

We started last year with the Azure Kubernetes Service on Azure Stack HCI. AKS is the fastest-growing compute service in Azure. With AKS on Azure Stack HCI, you get the same push-button experience for deploying a robust, managed Kubernetes infrastructure as in the public cloud, but running completely on your servers, on your premises. Containerized workloads run side-by-side with other virtual machines.

In addition to running your containerized Windows and Linux apps, AKS provides the infrastructure to run select Azure platform (PaaS) services on Azure Stack HCI. Already this year, we've launched many popular

services, including SQL Managed Instance, PostgreSQL Hyperscale, App Service, Functions, Logic Apps, and API Management in preview on Azure Stack HCI.

Today, we're announcing two new highly anticipated workloads:

Azure Virtual Desktop for Azure Stack HCI (preview)

With the hybrid workplace here to stay, enabling secure remote work has never been more important. With Azure Virtual Desktop in the public cloud, users can access their desktops and applications from virtually anywhere. You can provide the familiarity and compatibility of Windows 10 and Windows 11 while benefiting from multi-session scalability and density. And because Azure Virtual Desktop is completely hosted and managed by Microsoft, you don't need to set up and operate your own complex VDI infrastructure.

But what about latency-sensitive applications like video editing or computer aided design? Or, what if your users need to access a legacy system on-premises that can't be reached from the Internet? To empower you to tackle these situations, Azure Virtual Desktop is adding a new hybrid option.

Azure Virtual Desktop for Azure Stack HCI (preview) uses the same cloud-hosted management plane as regular Azure Virtual Desktop, but you can create session host pools using virtual machines running on Azure Stack HCI. These VMs can run Windows 10 and/or Windows 11 Enterprise multi-session to match the experience your users expect from Azure. By co-locating desktops closer to users, you can enable low-latency direct access, with no round-trip through the cloud, using a technology called RDP Shortpath.

Azure Virtual Desktop for Azure Stack HCI is available today in public preview. During the preview, there is no charge for the AVD service. Pricing will be announced closer to general availability. The preview has some limitations and known issues, but we can't wait to hear your feedback as we continue to refine the experience!

Try out Azure Virtual Desktop for Azure Stack HCI (preview) today

Azure benefits for Windows Server (coming soon)

Windows Server is an essential workload for almost every organization, and it's consistently one of the most popular guest operating systems in Azure. Microsoft offers special benefits when you deploy Windows Server in Azure. Later this year, those same benefits will become available on Azure Stack HCI.

When deploying VMs with Windows Server 2022, you'll be able to access the new Azure Edition, a special version of Windows Server optimized for Azure VMs, with unique features like hot-patching that enables you to apply security updates without restarting (yes, really!).

For older versions of Windows Server, if you're not ready or able to upgrade, you can lift and shift onto Azure Stack HCI and get extended security updates included for free, just like in Azure. This applies to Windows Server 2008/R2 and will soon apply to Windows Server 2012/R2 when it reaches end of support, plus the corresponding versions of SQL Server.

To license and activate Windows Server, Azure Stack HCI already lets you bring your own Datacenter license to enable automatic VM activation (AVMA). Coming soon, if you don't already have a license, there's a convenient new option to pay for your Windows Server guests through your Azure subscription, just like in Azure.

All these benefits are enabled by an all-new Azure platform attestation service that's built into the Azure Stack HCI operating system, starting with the December update for version 21H2. Look for tutorials, documentation, and pricing details alongside the update next month.

New Azure management capabilities

Another important goal is to manage your edge infrastructure as an extension of the public cloud. That's why Azure Stack HCI natively integrates with the Azure Resource Manager to project your cluster into Azure as a first-class resource in the Azure Portal. This means you can leverage the same skills and processes across all your environments and manage Azure Stack HCI resources just like you'd manage cloud resources.

Arc-enabled host servers and extensions

Earlier this year, we introduced support for extensions in preview. From the Azure Stack HCI resource, you can discover, add, modify, or remove extensions. This means you can easily access add-on management functionality without leaving the Azure Portal. You don't need to copy files or click through an installer, and your changes automatically propagate to all nodes in the cluster, including new or replacement nodes that join later.

Starting today, with the general availability of Azure Stack HCI, version 21H2, your cluster will automatically Arc-enable your host servers when you register, so that you're ready to start using extensions. The first supported extension is Log Analytics, with enables multi-cluster monitoring powered by Azure Monitor Insights (preview), and you can expect to see more extensions in the coming months.

Arc-enabled VM management (preview)

In addition to managing your host cluster, you can now use Azure Arc to provision and manage virtual machines running on Azure Stack HCI directly from the Azure Portal. VMs and their associated resources like VM images, disks, and networks are projected into ARM as separate first-class resources by a new cross-platform technology called the Arc resource bridge.

With Arc-enabled VM management for Azure Stack HCI, you get consistent management across cloud and edge resources, including Azure Portal experiences and the ability to automate VM deployments using ARM templates. And because these resources support granular role-based access control, you can enable self-service: grant a user permission to manage their own VM, but not anyone else's, and not the underlying Azure Stack HCI cluster.

This has long been a top-requested feature, and we can't wait to hear what you think! The public preview is rolling out now. You can sign up to try it immediately or wait a few weeks until that's not necessary anymore.

Sign up for the preview

Azure Backup and Azure Site Recovery

To complement these new workload management capabilities, both Azure Backup and Azure Site Recovery now officially support Azure Stack HCI, version 21H2. With MABS v3 UR2 or later, you can back up Azure Stack HCI hosts and VMs, and with Azure Site Recovery, you can continuously replicate VMs from Azure Stack HCI to Azure, failover, and failback.

Learn more and get started in the docs

New Azure infrastructure innovation

Finally, an important goal with edge infrastructure is to leverage technology that's proven at scale in the cloud. At Microsoft, we manage some the largest datacenters in the world. Our engineers continuously innovate and refine how we do that, and with Azure Stack HCI, we deliver these innovations and refinements to you, for use on your servers, on your premises.

That's why Azure Stack HCI is a subscription service that receives regular feature updates.

Azure Stack HCI, version 21H2

In the latest feature update, known as "version 21H2" or the "21H2 feature update", every part of the stack gets better.

With kernel soft reboot, you can restart up to 10x faster than a normal reboot by skipping the pre-boot sequence and hardware power-on self-test. With high availability for GPU workloads, you can deliver acceleration to your most demanding AI/ML workloads without encumbering automatic failover. (For an example scenario, check out our joint Microsoft Ignite session with our friends at NVIDIA!) An all-new dynamic CPU compatibility mode enables you to mix and match processor generations in the same cluster with minimal degradation: the cluster intelligently figures out the greatest common subset of processor features it can expose to VMs. You can thinly provision your Storage Spaces Direct data volumes, which greatly simplifies capacity planning and management. Network ATC provides intent-based configuration for your host networking, including drift correction. Secured-Core Server provides a baseline assurance of hardware, firmware, and OS hardening to defend against current and future threats. And more!

Learn more about these features in docs

All these new features can be managed with the new Windows Admin Center v2110, which is generally available today.

Besides these new features, Azure Stack HCI, version 21H2 continues to provide the same functionality and compatibility as version 20H2, including support for the same guest OSes and applications, and the same infrastructure utility applications from our partners at Altaro, Veeam, Commvault, Veritas, and Datadog.

General availability

The 21H2 feature update is generally available and ready for production use. Based on feedback from Preview channel participants and our own internal measurements, it's the most reliable Azure Stack HCI release we've ever shipped. Production-level technical support is now available for version 21H2, including all the new features, and regular price billing applies.

New deployments should use version 21H2, and all existing Azure Stack HCI subscribers will receive 21H2 as a free over-the-air feature update. You can apply the 21H2 feature update non-disruptively using cluster-aware updating, just like a monthly security patch. Ensure that your cluster is fully patched, and then check for updates using your preferred management tool like Windows Admin Center or SConfig. Consult with your solution vendor for any hardware-specific advisories, and if you use System Center, make sure you upgrade to the Virtual Machine Manager 2022 preview first.

Learn how to update to Azure Stack HCI, version 21H2

Download Azure Stack HCI, version 21H2 for new deployments

Coming soon, the Azure Stack HCI solutions catalog will make it easier to find solutions that support new 21H2 features, including GPUs.

www.dataonstorage.com | 1-888-725-8588 | sales@dataonstorage.com