Technical Use Cases
For Azure Stack HCI

Branch office and edge

Virtual desktop infrastructure

High-performance Microsoft SQL Server

Trusted enterprise virtualization

Scale-out storage

Leverage your Azure Stack HCI investment to deploy Virtual Desktop Infrastructure (VDI), deliver centralized, highly-available, simplified, and secure management for your organization end-user computing. Enable scenarios like bring-your-own-device (BYOD), while providing customers consistent and reliable experience to business-critical applications without sacrificing security to your organization's infrastructure.

Below, you will find a how-to guide for building and deploying VDI environment on Azure Stack HCI, which includes:

- Solution Overview
- Step by step documentation for deploying VDI on Azure Stack HCI

Overview of Virtual Desktop Infrastructure (VDI)

Virtual Desktop Infrastructure, or VDI, uses server hardware to run desktop operating systems and software programs on a virtual machine. For as long as operating system virtualization existed, VDI offered the flexibility of running traditional desktop workloads, on centralized servers. There is a wide range of advantages to leveraging VDI in a business setting, including keeping sensitive company applications and data in a secure datacenter, accommodating a bring-your-own-device policy without worrying about personal data getting mixed with corporate assets, reducing liability when corporate assets are lost - covering both data loss prevention, as well as exposure of sensitive data to potential corporate espionage and/or hackers. In addition, VDI has become the de-facto standard for supporting remote and branch workers, as well as providing contractor and partner access.

Azure Stack HCI offers the optimal platform for VDI. Leveraging a validated HCI solution, and Microsoft's mature Remote Desktop Services, customers achieve a highly available, and highly scalable architecture.

In addition, Azure Stack HCI VDI solutions provide unique cloud-based capabilities for protecting VDI workloads and clients:
- Centrally manage updates using Azure Update Management
- Unified security management and advanced threat protection for VDI clients

[Learn more](#)

Deploying Virtual Desktop Infrastructure on Azure Stack HCI

1. Supported Configurations

   Fujitsu recommends the 1U dual-socket PRIMERGY RX2530 M5 and 2U dual-socket PRIMERGY RX2540 M5 rack server system as the best fit for the Virtual desktop infrastructure scenario. Please see below the configuration options that have been certified according to the Azure Stack HCI program.

PRIMERGY RX 2530 M5   PRIMERGY RX 2540 M5

Type	Hybrid: SSD+HDD		All-Flash: All-SSD	All-Flash: NVMe+SSD
Server	PRIMERGY RX2530 M5 (2.5'')	PRIMERGY RX2540 M5 (2.5'' or 3.5'')	PRIMERGY RX2540 M5 (2.5'')	
Scalability	2 to 16 nodes			
CPU	2x Intel Xeon Silver 4208 or better (16-56 cores)			
Memory	64GB to 3TB			
Drives	**Cache**	2-5x 2.5"SSD SAS/SATA (800 GB per node or higher)	2-12x 2 .5" or 2-6x 3.5" SSD SAS/ SATA (800 GB per node or higher)	-	2-4x 2.5" NVMe (3.2 TB per node or higher)
	Capacity	4-8x 2.5" HDD SAS/SATA (2.4TB per node or higher)	4-22x 2.5 " or 4-10x 3.5" HDD SAS/SATA (2.4 TB per node or higher)	4-24x 2.5" SSD SAS/SATA (1.92TB per node or higher)	4-24x 2.5" SSD SAS/SATA (1.92TB per node or higher)
Network	2x PLAN EP QL41xxx		2x PLAN EP MCX4-LX 25Gb 2p SFP28 LP	
RDMA / TPM 2.0	yes / yes			
HBA	Fujitsu PSAS CP400i SAS			

2. Plan Hardware Deployment

Deployment and Support

Fujitsu Product Support Services provide installation and support services for hardware and software. With the Fujitsu SolutionPacks, Fujitsu provides a special Infrastructure Support package that is designed to offer a single point of contact for all components (Fujitsu and 3rd-party) of a Fujitsu infrastructure solution.

Customers can acquire Fujitsu Product Support Services for deployment of Azure Stack HCI the following way:
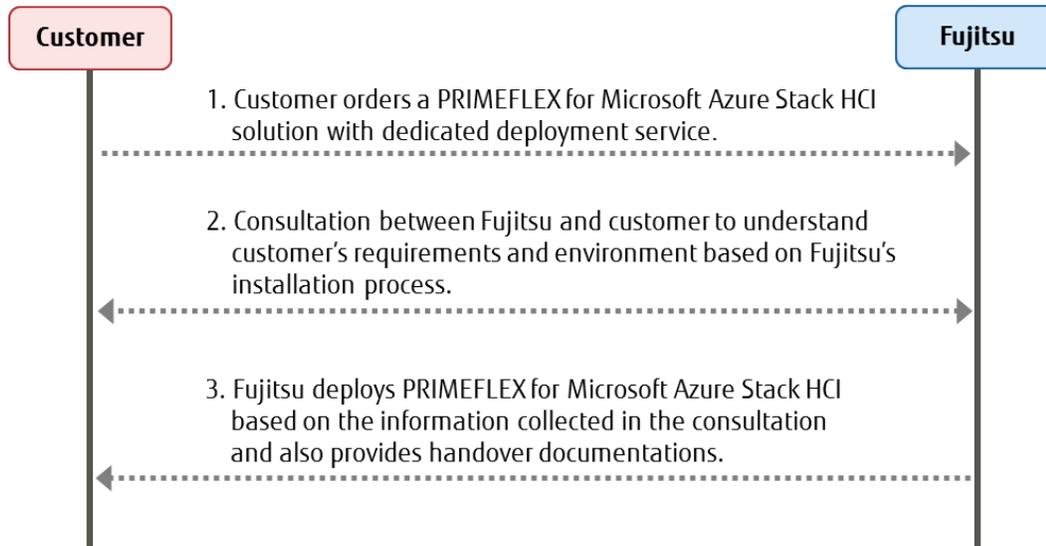
The following tasks are done by Fujitsu professional engineers:
-   All power and network cabling.
-   Installation and update Windows Server 2019 Datacenter.
-   Configuration of Windows Server 2019 features, cluster, network, and Hyper-V.

Infrastructure Management

For an efficient management of the complete hardware infrastructure, Fujitsu recommends Fujitsu Software Infrastructure Manager (ISM) providing a converged management for both the physical and the virtual environment, including compute, storage and network devices. ISM provides the following key features:

-   A dashboard with a customizable layout providing you with all relevant information to make quick and proactive decisions
-   Monitoring of all critical server components including CPU and memory utilization
-   Alerting in case of system failures to quickly identify affected components
-   Firmware updates of all hardware components in a Azure Stack HCI cluster (covers server, storage and switch devices)

Step by Step guide to deploy Azure Stack HCI
1. Install Windows Server 2019 Datacenter (follow guidance above for network connectivity for Clustering)
2. Add Roles and Features
3. Setup Failover Clustering and enable a Cluster Witness
4. Setup Storage Spaces Direct

The step 1 to 4 above are done by Fujitsu Product Support Services.

3. Deploy Remote Desktop Services

https://docs.microsoft.com/en-us/windows-server/remote/remote-desktop-services/rds-build-and-deploy

- Deploy the Remote Desktop Services infrastructure
- Create a session collection to hold the apps and resources you want to share
- License your RDS deployment
- Have your users install a Remote Desktop client so they can access the apps and resources.
- Enable high availability by adding additional Connection Brokers and Session Hosts:
  o Scale out an existing RDS collection with an RD Session Host farm
  o Add high availability to the RD Connection Broker infrastructure
  o Add high availability to the RD Web and RD Gateway web front
  o Deploy a two-node Storage Spaces Direct file system for UPD storage

4. Deploy WAC and enable Cloud-based capabilities

Install Windows Admin Center (WAC)

From WAC, configure Azure Update Manager and add your VDI clients

From WAC, configure Azure Security Center and add your VDI clients

Summary
With the completion of a VDI deployment using Azure Stack HCI, you now have a secure and resilient platform for running VDI end-user workloads, built to scale at your customer needs.