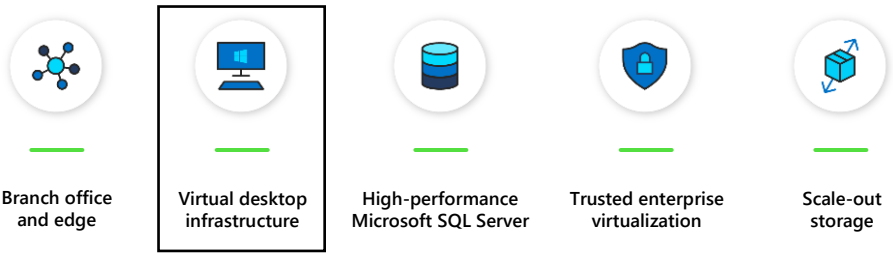
QCT AZURE STACK HCI: VIRTUAL DESKTOP INFRASTRUCTURE

Technical Use Cases For Azure Stack HCI



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:

- Solution Overview for VDI

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

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How to deploy Virtual desktop infrastructure on Azure Stack HCI

1. Hardware and OS configuration for Azure Stack HCI
   - ✧ Server: QuantaGrid D52BQ-2Ux 2~4 nodes
     - CPU: Intel® Xeon® Scalable processors with Silver, Gold and Platinum options
     - RAM: 256 GB~768GB
     - HBA: SAS 9305-16i
     - NIC: 1x Quanta OCP Mezz CX4, Dual Port 25G
     - Cache: 2~4x SATA SSD 480GB/960GB/1.92TB
     - Capacity: 4~8x SATA HDD 8TB/10TB
   - ✧ Switch: 2x TOR QuantaMesh T4048-IX8D and 1x BMC QuantaMesh T1048-LY4R
   - ✧ OS: Windows Server 2019 Datacenter Edition

2. Plan Hardware Deployment
   - ✧ Hardware:

     Each server is with two Intel Xeon Gold 5118 CPUs (2.3GHz, 12-core, 16.5MB cache), with sixteen Samsung 32GB DDR4 2666MHz ECC-Register DIMMs for a total of 512GB per node.

     The four servers were interconnected using a Mellanox based 25GbE Ethernet RDMA cards and support DCB/PFC/ETS Ethernet switch.

     The SSD(cache tier) + HDD(capacity tier) drives were added to a single Storage Spaces Direct pool with multiple volumes based on the number of QCT S2D server nodes.

   - ✧ Software:

     Each server ran Windows Server 2019 Datacenter Edition and participated in a Windows Failover Cluster (required for Storage Spaces Direct).

     Volumes were configured for operating system (OS), data drives as 2-way mirrored volumes, resulting in one local copy of data, and one remote copy on other nodes.

     Client user workloads ran in Hyper-V virtual machines, with Windows 10 as the guest OS and install some apps on windows 10 Enterprise Edition. Each VM was configured with 2 virtual cores (mapped to 1 physical core) and 8GB of RAM.

     The disk included as show:

Drive	Size(GB)	Purpose	Note
C:	40	Windows OS	Windows 10 client VM installed apps with Sysprep
D:	100	User Data	Client user data file

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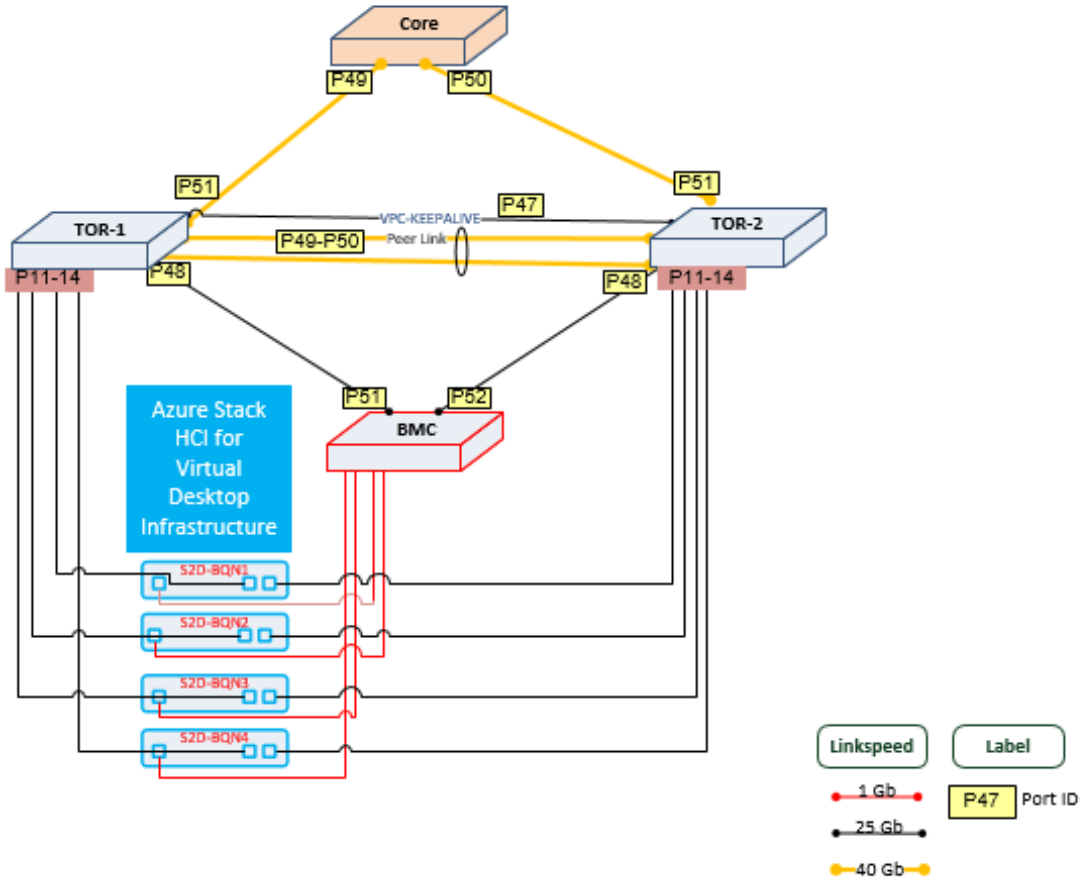
✧ Network and Switch Connectivity:



[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

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.

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- Enable high availability by adding additional Connection Brokers and Session Hosts:
  - Scale out an existing RDS collection with an RD Session Host farm
  - Add high availability to the RD Connection Broker infrastructure
  - Add high availability to the RD Web and RD Gateway web front
  - 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.

About QCT

Quanta Cloud Technology (QCT) is a global data center solution provider. We combine the efficiency of hyperscale hardware with infrastructure software from a diversity of industry leaders to solve next-generation data center design and operation challenges. QCT serves cloud service providers, telecoms and enterprises running public, hybrid and private clouds.

Product lines include hyper-converged and software-defined data center solutions as well as servers, storage, switches, integrated racks with a diverse ecosystem of hardware component and software partners. QCT designs, manufactures, integrates and services cutting edge offerings via its own global network. The parent of QCT is Quanta Computer, Inc., a Fortune Global 500 corporation.

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