Microsoft Azure

intel

Reimagine Retail with Hybrid Cloud Solutions

Powered by
Microsoft Azure Stack HCI with Intel®

Contents

Executive summary

The retail industry has experienced a wave of digital transformation with personalization trends, the hypergrowth of e-commerce, and evolving consumer behaviors. The future of retail is a seamless, connected, and curated experience for both customers and retailers. Support for these transformations—along with a focus on new technology—can help you quickly gain consumer data insights. This allows for deeper connections with customers while also ensuring privacy for their data.

Get greater simplicity and flexibility with a hyperconverged infrastructure (HCI) that combines virtualized storage, computing, and networking into a single package. Azure Stack HCI brings the advantages of HCI to your retail computing environment, delivering a world-class, integrated virtualization stack built on Intel technology to provide accelerated performance, efficiency, security, and availability. Azure Stack HCI is an ideal platform for running on-premises virtual machines (VMs) or virtual desktops with connections to Azure hybrid services.

This white paper is a technical how-to and why-to guide that discusses the advantages of Azure Stack HCI with Intel for a variety of retail scenarios. It's also intended to help technology decision-makers understand the technical depth and breadth of the Azure Stack HCI solution powered by Intel and demonstrate its value for the retail market. This partnership delivers solutions that meet retailer needs—specifically technology integration with edge computing, including Point of Sale (POS) systems and unified management across retail locations.

Adapt to new realities in retail

The retail world is undergoing a dramatic transformation. Retailers are embracing new business models, like contactless shopping and curbside pickup, significantly accelerating e-commerce. There are growing consumer expectations for a consistent, personalized shopping experience across online and offline channels. Many brands are seeking to create a more consumer-centric experience by moving to a direct-to-consumer model in response to shifting buying patterns.

Since the start of the COVID-19 pandemic:

75 percent of US consumers have reported new shopping behaviors. [1]

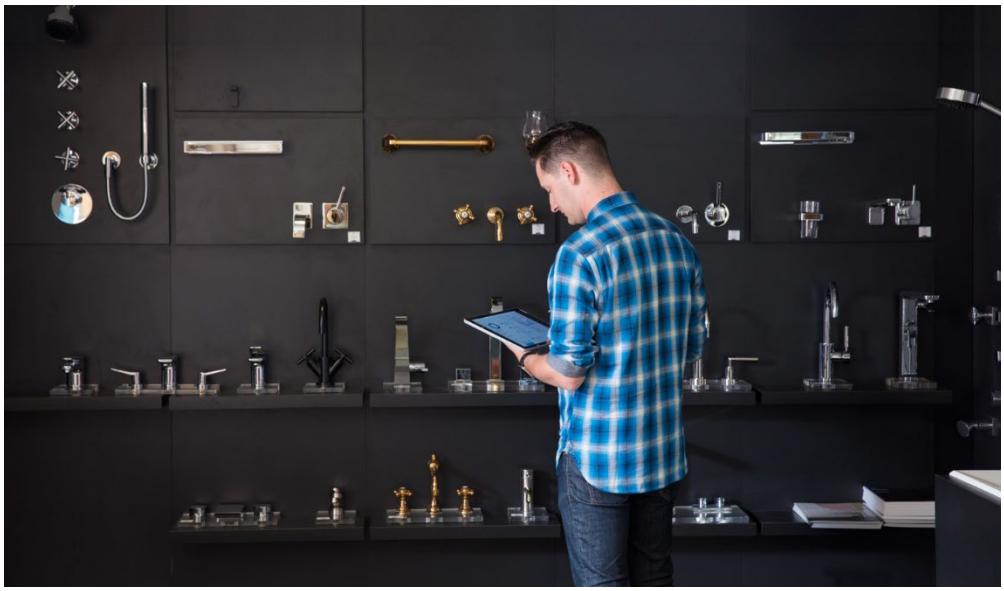
There was a 19 percent increase in global online sales in 2020. [2]

85 percent of shoppers increased curbside pickups. [3]

To keep up with this shift, retailers need to think broadly about how to enable new and truly omnichannel experiences, combining an intelligent supply chain with a personalized customer experience. To be ready for the future, retailers are looking for immediate access to the latest innovative capabilities and next-generation technologies—like AI and edge computing—to improve digital shopping and provide superior customer experiences across multiple channels.

[1] McKinsey & Company, 2020
[2] Statista, quoted in Sleeknote, 2022
[3] Business Wire, 2020

In addition, the hypergrowth of e-commerce will continue to occur with an increased focus on data security. This requires retailers to aim technology and infrastructure investments to drive innovation, harden consumer data privacy and security, and deliver superior customer experiences.



Meet retail challenges

Retailers with a proactive approach to managing and maximizing value from their generated data are in the best position to succeed in the new retail environment. This approach allows data to be pooled from multiple sources to streamline analytics and deliver insights in real time. These insights can help you better understand your customers, track real-time inventory, build an intelligent supply chain, and deliver an exceptional customer experience.

Nearly 62 percent of executives from mature companies say data insights are directly linked to a better customer experience. [4]

To accomplish this, IT faces challenges like managing the volume of data or ensuring it's stored and processed where businesses need it most. Cloud technology can certainly help with this. For example, over 94 percent of Fortune 500 companies are using some cloud services on Azure.[5] However, not all retail workloads can live in the cloud due to issues with data security, privacy, performance, or availability.

Retailers recognize that to process data for specific store location analysis, efficient computing infrastructure is required on site. Traditional IT infrastructure often can't accommodate this requirement. Setting up a high-density data infrastructure at a store location while also maintaining constant availability and security can incur high IT costs. With a limited IT team, budget, and associated physical infrastructure, you need computing investments to be cost-efficient and easy to deploy.

Affordable hybrid computing infrastructure

With distributed application deployment at a store, you need a solution that enables high availability for applications while using the cloud to support progressive scalability—all without costly IT investments or cumbersome deployment cycles. Local computing infrastructure can quickly build and deploy retail applications and solutions to gain real-time, actionable intelligence from the petabytes of data commonly generated in modern retail. However, you can also benefit from cloud innovation with a solution featuring consistent performance and scalability across the edge, hybrid, and cloud.

[4] Harvard Business Review Analytic Services, 2019
[5] ExtremeTech, 2020

Benefits of HCI in retail

Retailers have turned to HCI to reduce the cost, space, and power requirements while raising application performance. It can also help increase data security and privacy while delivering real-time data availability. HCI can handle large datasets and demanding workloads with efficiency while lowering latency and reducing bottlenecks. An HCI solution can help you run in-store applications, such as those used for POS, inventory management, video security on a shared infrastructure, with optimized performance. Azure Stack HCI can also help deploy IT infrastructure across multiple locations with unified management. This includes multiple graphics processing units (GPUs) in an Azure Stack HCI cluster to support edge inferencing, making it an ideal solution for AI deployments. Intel's hardware provides the infrastructure to deliver consistent performance across locations.

Modernize retail infrastructure

HCI can be an important part of a retailer's modernization strategy and be used to power mission-critical applications in store. Many see HCI as a datacenter architecture that's superior to older alternatives since it consolidates and enables central resource management through a single pane of glass.

HCI Architecture for retail

By combining storage, network, computing, and virtualization components in a compact system or appliance, HCI streamlines IT operations at the storefront level across multiple retail locations. HCI uses local storage in each physical server but virtualizes and shares the compute and storage resources among all servers in the cluster. These components are grouped to provide resiliency, high performance, and flexible resource pooling for your applications.

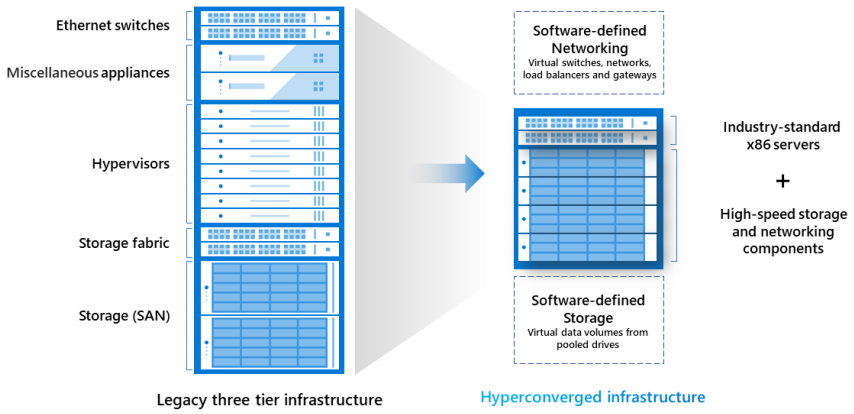


Figure 1: High-level visualization of the HCI architecture

Transform retail computing infrastructure

HCI solutions are ideal for retail stores with no on-site IT staff. This is due to their self-healing capabilities that maximize the uptime and performance of applications. An HCI solution offers you a hyperconverged infrastructure with just two nodes that can scale as needed. HCI provides simpler IT management and reduces the number of manual processes like patching and updating, thus eliminating the need for specialized IT expertise. And because it combines resources across multiple retail locations, an HCI solution provides central, consistent, and unified deployment and management.

Azure Stack HCI

Azure Stack HCI with Intel delivers infrastructure to modernize retail computing and simplify management of on-premises and cloud resources. This technology integrates edge and remote store locations into the core infrastructure and enables better control with optimized hardware and software across environments. It delivers a world-class virtualization stack enabled by Hyper-V and built on proven Intel technologies that have already been deployed at scale with built-in hybrid cloud capabilities. This includes technology such as Intel® Xeon® Scalable Processors, Intel® Ethernet Network Adapters, Secured-core Servers, and more.

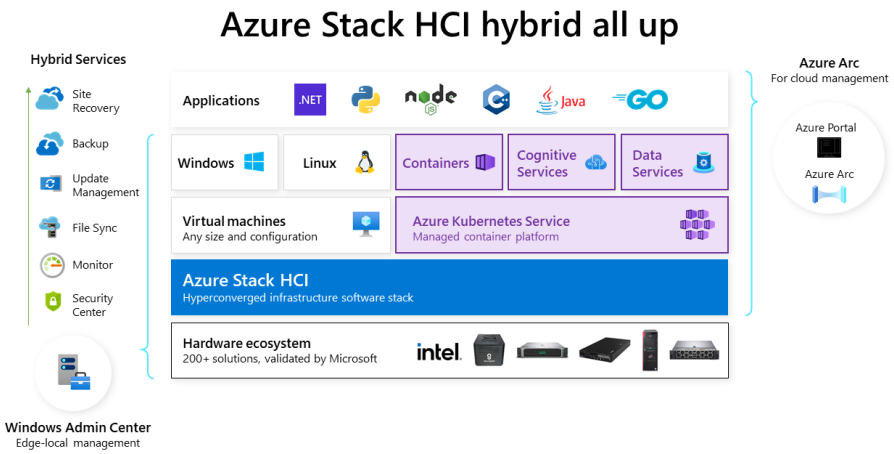


Figure 2: Modernizing retail computing infrastructure with Azure Stack HCI with Intel

With a foundation built with Intel technology, Azure Stack HCI enables faster performance, built-in security, and on-demand scalability. Intel offers a complete hardware foundation that supports compute, networking, storage, and security with solutions such as:

- 3rd Generation Intel® Xeon® Scalable Processors, with a wide range of SKUs to tailor cores and frequency to workload requirements. Intel® Deep Learning Boost (Intel DL Boost) is integrated into the processors to accelerate AI and ML workloads, especially for inferencing. They're also infused with Intel® Crypto Acceleration to enhance data protection and privacy by reducing the performance impact of pervasive encryption across data-intensive workloads.
- Intel Ethernet 800 Series Network adapters that offer 10–200 GbE, featuring Internet Wide Area RDMA Protocol (iWARP) and RDMA over Converged Ethernet v2 (ROCEV2), with low latency and improved throughput to the cluster.
- Intel® Optane™ Persistent Memory that affordably scales the memory available to workloads.

An Azure Stack HCI with Intel solution includes:

- Azure Stack HCI operating system (OS)
- Intel technologies for tailored performance, security, and scalability
- Azure hybrid services
- Windows Admin Center

- Hyper-V virtualized computer resources
- Storage Spaces Direct virtualized storage
- Optional SDN-based virtualized networking using Network Controller
- Single control plane management enabled by native integration with Azure Arc
- Azure Kubernetes Service on Azure Stack HCI

Why Azure Stack HCI

Azure Stack HCI powered by Intel utilizes the virtualization capability of Hyper-V and augments it using the power and versatility of HCI technology and the capability of Azure, giving you familiar tools paired with enhanced performance. By unifying resource management, using Azure resources, and reducing reliance on expensive legacy on-premises infrastructure such as storage-area network hardware, an HCI system reduces your total cost of ownership (TCO).

Deploy a hybrid cloud to your retail infrastructure

Hybrid by design, Azure Stack HCI with Intel allows you to deploy a hybrid cloud to your retail infrastructure. For a low-cost entry point, you can start with switchless 2-node clusters and deploy up to 16 nodes for scalability. Intel provides the consistent foundation to enable customizable performance and scalability for your retail environment. You can run critical processes, such as your POS system, on premises and benefit from data protection through the Azure cloud. In addition, every Azure Stack HCI node is Arc-enabled, offering the simplified monitoring and management of cloud and on-premises resources from a single platform.

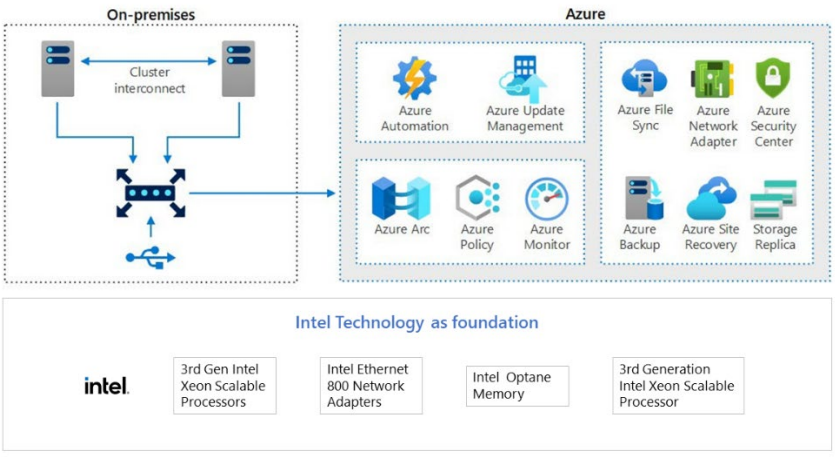


Figure 3: Deployment of hybrid cloud to your retail infrastructure

Enterprise scale for your retail workloads

Azure Stack HCI can reach thousands of retail locations while providing near-linear scaling performance as nodes are added. This helps ease capacity planning, forecasting, and purchasing as your deployment grows. Since this Azure service is charged per month and per physical core, you only pay for the performance you need at each store. The Azure Stack HCI catalog offers many solutions well-suited for small store deployments, such as single-socket servers, a wide range of CPU SKUs for customizable performance, and form factors adaptable to environments without datacenter racks.

Because Azure Stack HCI scales down to two nodes (many competitors need three) and can be deployed in a switchless environment (no networking hardware needed), capital expenditure costs are greatly reduced when deploying across hundreds of stores.

Hybrid cloud environment built for retail

Azure Stack HCI brings the simplicity of cloud capabilities to an on-premises environment—all within a single, easily managed hybrid platform. You can run analytics on data from an individual retail location and upload results for further cross-store analysis in the cloud or centralized data center. You can also run your POS system on-premises and still benefit from data protection through the Azure cloud. Azure hybrid services augment the cluster with hybrid capabilities such as cloud-based monitoring, Site Recovery, VM backups, and a centralized view of all Azure Stack HCI deployments in the Azure portal. You can manage the cluster with your existing tools, including Windows Admin Center or PowerShell, or through the Azure portal with the built-in Arc integration.

Seamless, unified management

You can monitor multiple clusters with Azure Stack HCI Insights (currently in preview). Azure Stack HCI Insights provides health, performance, and usage insights about registered Azure Stack HCI clusters. It then stores its data in a Log Analytics workspace, allowing it to deliver powerful aggregation and filtering to analyze data trends over time. The user experience is built on top of an Azure Monitor workbook that provides an aggregated view of multiple clusters. This integration allows you to monitor retail store workloads from a single interface through Azure Stack HCI Insights. This data is accessible from the convenience of your head office, and you can view all Azure Stack HCI deployments at once making your entire operation a unified system. In addition to built-in resiliency in each cluster, high availability for POS installations is ensured through native stretch clustering for automatic failover. This helps restore production quickly and requires no manual intervention from on-site or remote staff.

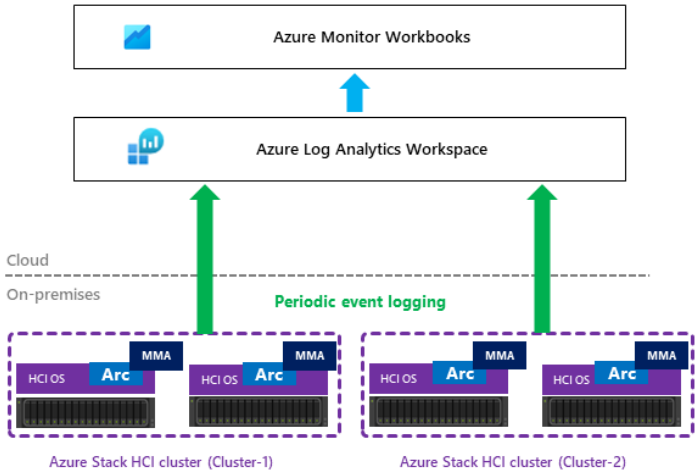


Figure 4: Manage your on-premises connected clusters from the Azure portal

Secure management for distributed locations

Azure Stack HCI brings industry-leading security capabilities with Azure Defender and Azure Sentinel to secure and protect HCI and your retail workloads against threats. Azure Defender uses extended detection and response capabilities to respond to threats like remote desktop protocol brute-force attacks or SQL injections. Azure Sentinel delivers intelligent security analytics and threat intelligence, providing a single solution for alert detection and threat visibility and response. Azure Stack HCI is the only hyperconverged hybrid solution that combines the full power of the public cloud with on-premises resources so you can natively monitor, secure, protect, and back up each provisioned site.

Azure Stack HCI GPU capability to improve performance

GPU support enhances customer experiences and allows you to deliver a more consistent hybrid workplace to any person, anywhere. You can use GPUs with clustered VMs running the Azure Stack HCI OS to provide GPU acceleration to workloads. With Azure Stack HCI, VM clusters recognize GPUs as a resource, allowing for multiple GPUs in your Azure Stack HCI cluster to support demanding workloads, such as AI and machine learning (ML) inferencing at the edge.

GPU acceleration with Azure Stack HCI delivers high efficiency and further enhances performance by reducing training and inference times for ML algorithms. Because VM clusters recognize GPUs as a resource, assigning a GPU to a VM or VM cluster is as simple as attaching a virtual hard disk. You can use Windows Admin Center to assign a GPU resource pool to a VM within a cluster. In addition, Windows Admin Center provides predefined dashboards offering a centralized view of the status and performance of a cluster and its components—including assigned GPUs.

Optimize Azure Stack HCI with Intel Technologies

Microsoft has collaborated with Intel to optimize its offering as a foundation for simplified, low-cost HCI. The Azure Stack HCI kernel, storage stack, memory manager, Hyper-V, Storage Spaces Direct, and networking components of the OS are engineered to work harmoniously with Intel-based technology. This broad portfolio includes the 3rd Generation Intel Xeon Scalable Processor platform, Intel Ethernet Network Adapters, and Intel Optane technologies—delivering high performance, security, and compatibility as VMs are migrated across generations or across data center, edge, and cloud locations. This co-engineering by Intel and Microsoft for Azure Stack HCI delivers higher data throughput, lower latency, increased memory capacity, and the potential to consolidate retail workloads with a smaller datacenter footprint. Intel provides built-in security for Azure Stack HCI, such as Intel Crypto Acceleration and Secured-core Servers, using Trusted Platform Modules (TPM) 2.0 to help defend against security threats and risks.

Accelerate AI and ML

Intel can help you overcome the common AI challenge of moving from concept to real-world scale quickly with lower cost and risk. The 3rd Generation Intel Xeon Scalable Processors are built specifically for the flexibility to run complex AI workloads on the same servers as your existing workloads. Now, you can run AI inference workloads with Intel® Deep Learning (DL) Boost on Azure Stack HCI. Intel DL Boost is based on the Intel® Advanced Vector Extensions 512 engine. It contains Vector Neural Network Instructions to deliver performance improvements by creating a new instruction that combines the previous three. This unique AI accelerator built into the 3rd Generation Intel Xeon Scalable Processors maximizes compute resources and improves cache and memory bandwidth utilization.

Trusted security for your distributed workloads

Azure Stack HCI supports Intel security, which creates a trusted foundation for protecting data in all its phases: at rest, in flight, and in use. This is made possible by the innovation of 3rd Generation Intel Xeon Scalable Processors that create a trusted, hardware-based execution environment to encrypt memory and protect VMs and data.

Data at rest

Azure Stack HCI offers powerful protection with Secured-core server and together with Intel, it provides holistic security when data is at rest. It encrypts inactive data when stored in Microsoft BitLocker, Server Message Block, encryption storage, or in a

database. Secured-core servers use the TPM 2.0 secure crypto-processor chips to provide a secure, hardware-based store for sensitive cryptographic keys and data—including systems integrity measurements. They also support Secure boot to ensure a device starts using only software trusted by the original equipment manufacturer (OEM). When the system starts, the firmware checks the signature of each piece of boot software. If all are valid, the system boots and the firmware gives control to the OS.

Secured-core servers also support virtualization-based security (VBS) and Hypervisor-based Code Integrity (HVCI). VBS uses hardware virtualization features to create and isolate a secure region of memory from the normal OS, protecting against an entire class of vulnerabilities used in cryptocurrency mining attacks. HVCI uses VBS to significantly strengthen code integrity policy enforcement, including kernel-mode integrity, which checks all kernel-mode drivers and binaries in a virtual environment before they're started. This prevents unsigned drivers or system files from being loaded into system memory.

Data in flight

Data is also encrypted when it's flowing between untrusted public or private networks. Azure Stack HCI uses Intel Crypto Acceleration—CPU instructions in 3rd Generation Intel Xeon Scalable Processors—to reduce the performance impact of pervasive encryption, including Vector Advanced Encryption Standard instructions and extensions to the Secure Hash Algorithms. Because of this accelerator in the processor, Remote Direct Memory Access (RDMA) and encryption can now be used simultaneously.

Data in use

For data in use, Intel provides Intel® Total Memory Encryption to encrypt the entire memory of a computer with a single transient key. All memory data passing to and from the CPU is encrypted. This includes memory data such as customer credentials, encryption keys, other IP, or personal information.

Higher network throughput for high-speed data

Intel Ethernet 800 Series Network Adapters enable Azure Stack HCI to move volumes with efficiency and security across cloud, on-premises, and edge environments. iWARP is a network protocol to implement RDMA, a recommended technology for Storage Spaces Direct in Azure Stack HCI. With Intel Ethernet 800 Series Network Adapters, Azure Stack HCI users have options when selecting storage protocols, as both iWARP and RoCEv2 are supported. The Intel Ethernet Network Adapter E810 Series can deliver up to 200 Gbps of total bandwidth, enabling high throughput for edge services and database applications like SQL Server. In addition, RDMA streamlines and accelerates node-to-node network traffic. For more on Intel Ethernet 800 Series controllers and other Intel Ethernet innovations, go to www.intel.com/ethernet.

Tailored local storage and memory capacities

There's tremendous data growth in retail locations due to various in-store apps, video surveillance, and more. This growth is accelerating the demand for memory and storage capacity. Azure Stack HCI supports Intel Optane Persistent Memory modules and Intel® Optane™ Solid State Drives (SSDs). These technologies, designed for consistently high performance and low latency, bring new computing possibilities to maximize the efficiency of your retail workload performance. Using persistent memory in memory mode, you can increase the number of VMs hosted per node at a lower cost per VM, or host larger active data sets for analytics. In addition, Intel Optane SSDs can be used as cache drives to get higher throughput and endurance for Storage Spaces Direct when serial-ATA SSDs or hard disk drives are used for capacity.

Azure Stack HCI with Intel retail scenarios

Azure Stack HCI and Intel accommodate a full range of retail workloads—from retail store apps to AI to established services—enabling new edge-based use cases and scenarios.

Managing inventory with accelerated AI and computer vision

Out-of-stock items cause abandoned purchases, becoming a loss in revenue for retailers. When a customer visits a physical store, the retailer needs to ensure products are available on shelves. Staff needs to be equipped with insights about stock levels to manage inventory more effectively. This scenario showcases a solution built on Azure Stack HCI with a 3rd Generation Intel Xeon Scalable Processor using DL Boost to accelerate ML and AI use cases.

Managing inventory with Azure Stack HCI enables IP cameras pointing at store shelves to provide high-definition video streams. The AI models process the video in near real-time to detect empty shelf sections. The streams are then fed to Azure Stack HCI, which will run a customized vision AI model in store. Powered by Intel Xeon Scalable Processors, Azure Stack HCI uses real-time intelligence for local store activity to aggregate the data across multiple storefronts.

Then, it uses an inference engine in the Intel® Distribution of OpenVINO™ Toolkit to streamline the development of vision applications on Intel platforms. It accepts multiple video input feeds, and an object detection model is used to find the product specified within the video stream.

Once detected, the number of objects in the frame is detected. If there's a stockout, employees are notified so they can replenish stock. Azure Stack HCI can also help analyze stockout trends to improve inventory planning across locations, and inventory management can be shared and optimized across multiple stores. This hybrid solution allows business owners to store, aggregate, and process data for further ML analytics. It also provides local processing at high speeds and seamlessly scales the on-premises infrastructure to the public cloud—offering an optimized, cost-effective solution.

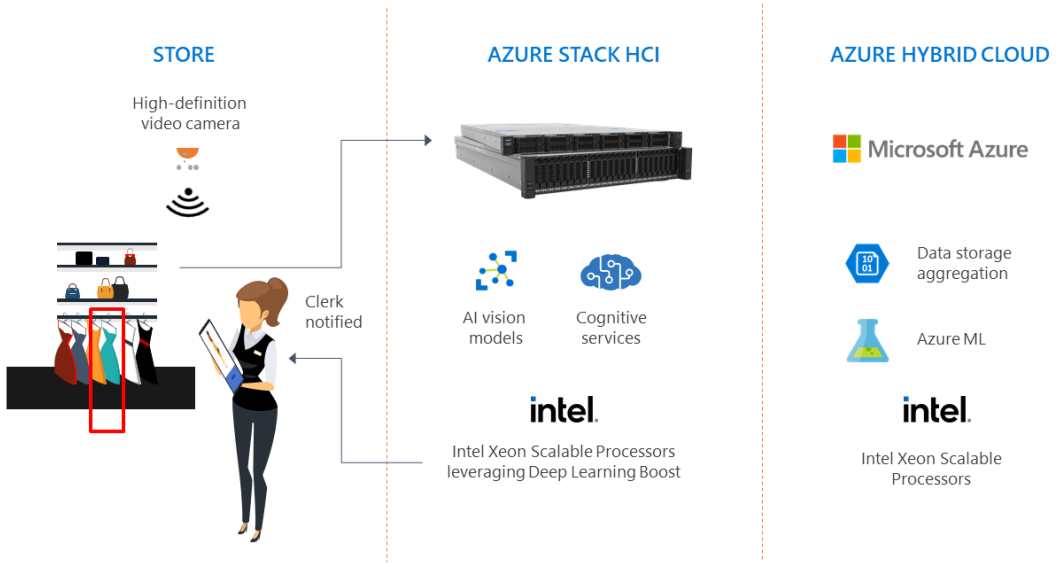


Figure 5: Managing inventory with Azure Stack HCI with Intel

Personalized greeting and experience

The customer experience should be personalized from the moment they step into a store with retailers providing customers the information they need—when they need it—based on their preferences. This personalized experience scenario begins when a customer walks into the store. If they opt-in, they'll be recognized as new or returning customers and provided personalized greetings and recommendations.

This is accomplished with edge devices, like cameras and Microsoft Surface Studio, that are connected to a local Azure Stack HCI cluster running Azure Cognitive Services. This enables accelerated AI inferencing, and Surface Studio uses a facial recognition API to determine if a customer is a familiar face. If they're a repeat customer, they would receive an intelligent greeting based on previous shopping history, like a recommendation to try a new product.

Intel Xeon Scalable Processors power Azure Stack HCI, enabling accelerated AI-inferencing of data collected throughout this experience. This customer data is stored securely at regional store locations using local Azure Stack HCI and Intel encryption technology. In addition, data centralization in Azure Stack HCI allows customers to be recognized at any store location.

Azure Stack HCI with Intel enables retail organizations to modernize their infrastructure with a flexible, scalable solution.

Customer story: Keeping POS data on-premises

Situation: A large US retail grocery chain was faced with the need to modernize over 1,400 stores that were running Windows Server 2012 with a small data center footprint and on-site POS operations.

Challenges: With local storage only, many stores relied on just two legacy Hyper-V servers, which weren't clustered or hyperconverged. Using traditional methods, full-scale modernization would have taken years to complete and would cause significant operational disruption. The grocery chain needed a new hybrid implementation to add cloud services, modernize applications, and support resiliency and fault tolerance.

Solution: The chain chose to modernize to a two-node Azure Stack HCI cluster, which offered the flexibility to maintain POS and legacy VMs on site at each retail location while still supporting centralized management at scale.

Benefit: As a result of implementing Azure Stack HCI with the full power of Azure at each retail location, the grocery chain was able to improve performance and reliability, increase scalability with high availability, and enhance disaster recovery—all at a lower TCO for each retail location. This two-node Azure Stack HCI cluster provided a standard entry point solution with the right compute power to run POS locally. Data automatically backed up with Azure and native integration with Azure Arc make it easy to monitor all clusters from a central location.

Partnership proof points

Intel and Microsoft work together to co-engineer hardware and some software optimizations on the Azure Stack HCI platform, covering critical fronts in performance, scalability, and security. The following section features proof points from this partnership.

ESG technical validation of performance and scalability

Enterprise Strategy Group (ESG) performed evaluation and testing of Azure Stack HCI using the Intel Solutions Engineering Lab.[6] Testing was designed to demonstrate the flexibility and simplicity of hybrid-cloud management.

The performance and scalability of the infrastructure for Online Transaction Processing (OLTP) and other use cases were also examined. This testing of Azure Stack HCI with Intel hardware discovered that:

- Using Intel Ethernet 800 Series network adapters, Azure Stack HCI sustained more than 3.06 million input/output operations per second and more than 2 Gbps data transfer with a 0.4 ms response time. This demonstrated the solution's ability to support even the most demanding business needs for streaming, file access, OLTP, and other use cases.
- Azure Stack HCI demonstrated linear scaling and delivered more than 2.6 million new orders per minute (NOPM) in an OLTP workload benchmark with Microsoft SQL. Running on 3rd Generation Intel Xeon Scalable Processors, it provides consistent and predictable performance as workloads increase the system demands.
- The cost per operation saw a linear decrease as workloads and cluster size increased, achieving a low price of $0.21 per NOPM at 2.6 million NOPM. These results show that Azure Stack HCI provides increasing cost efficiency as workload and cluster sizes are scaled to meet increasing business demands.

Streamline Azure Stack HCI deployments with Intel Select Solutions®

Intel and Microsoft recommend Intel Select Solutions configurations for Azure Stack HCI. These configurations are a predefined combination of compute, memory,

[6] Enterprise Strategy Group, 2021

storage, and network products to support specific workloads in basic and advanced configurations. They're built on Intel architecture—including the latest 3rd Generation Intel Xeon Scalable platform—and are available from multiple OEM partners who are verified to meet or exceed the performance threshold.

The work is completed upfront to allow enterprises to deploy and go. Solutions are preconfigured and tuned for specific workloads, such as mission-critical applications, data warehousing, or AI and analytics. Intel Select Solutions are established with extensive testing that determines the best price and performance configurations for each workload. And with every configuration verified to meet specific performance thresholds, you can have the solution that's right for you without extensive testing or proof of concept. The configurations evaluated and reviewed by ESG were based on Intel Select Solution configurations. To learn more, review the Intel Select Solutions for Azure Stack HCI page.

Start your journey to the retail hybrid cloud

The Azure Stack HCI mission is to deliver the best infrastructure that Azure can offer—one that's controlled by you using your preferred tools at your preferred location. Take advantage of HCI capabilities without sacrificing legacy functionality with Azure Stack HCI. It's optimized to take advantage of the latest Intel technologies to improve workload efficiency, performance, security, and scalability—all while using Azure hybrid services. Consolidate hardware, software, and cloud services into a single cluster to reduce your overhead costs while leveraging cloud efficiencies. As part of your existing Azure subscription, you pay for the physical compute power you need while reducing physical space requirements and gaining global monitoring and management through integration with Azure and Azure Arc.

Next steps

Using Azure Stack HCI with Intel, streamline your retail transformation and reimagine your retail computing infrastructure. Explore these resources to get started:

Read:

- Azure Stack HCI product page
- Azure Stack HCI for retail e-book and Azure Stack HCI for retail infographic
- Guide to Datacenter Modernization Through Azure Stack HCI
- Five Hybrid Cloud Use Cases for Azure Stack HCI
- Azure Stack HCI: Hybrid Cloud Essentials
- Optimizing Efficiency and Performance with Azure Stack HCI

Watch:

- Discover the new Azure Stack HCI
- Azure Virtual Desktop for Azure Stack HCI
- Securing Azure Stack HCI with Azure Defender and Secured-core
- Product tour of the new Azure Stack HCI using Windows Admin Center
- Disaster recovery through stretch clustering with Azure Stack HCI
- Technical roadmap videos
    - Kernel Soft Reboot in Azure Stack HCI
    - Arc-enabled Azure Stack HCI Clusters
    - Network ATC in Azure Stack HCI
    - Azure Stack HCI GPU management
    - Azure Stack HCI Insights
    - Automatic VM Activation for Azure Stack HCI

Do:

- Review the Azure Stack HCI 21H2 Evaluation Guide
- Visit the Azure Stack HCI solution overview to see how it all works
- Visit the Azure Stack HCI catalog
- Visit Intel Select Solutions for Azure Stack HCI to see configurations for Intel Select Solutions for Azure Stack HCI
- Learn and train
    - Azure Stack HCI foundations
    - Operate and maintain Azure Stack HCI