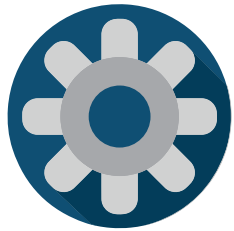


Cisco HyperFlex Systems



**Ready for
any application**



**Ready for
any cloud**



**Ready for
any scale**

Hyperconverged multicloud platform

You need infrastructure that can adapt to match the speed of your business— whether deploying traditional enterprise applications or containers in multicloud environments. Cisco HyperFlex™ Systems with Intel® Xeon® Scalable processors deliver hyperconvergence with power and simplicity for any application, on any cloud, and at any scale. Engineered on the Cisco Unified Computing System™ (Cisco UCS®), Cisco HyperFlex Systems deliver the agility, scalability, and pay-as-you-grow economics of the cloud with the benefits of on-premises infrastructure.

The solution

Our platform includes hybrid, all-flash, or all-NVMe configurations, an integrated network fabric, and powerful data optimization features that bring the full potential of hyperconvergence to a wide range of workloads and use cases, from validated enterprise applications to edge computing. Faster to deploy, simpler to manage, and easier to scale than first-generation hyperconverged offerings, Cisco HyperFlex Systems are ready to provide you with a unified pool of infrastructure resources to power applications as your business needs dictate.

Cisco HyperFlex
Systems with Intel
Xeon Scalable
processors



Cisco HyperFlex Systems

- **Any application.** Validated designs for enterprise applications; support for containerized, cloud, and multihypervisor applications
- **Any cloud.** Tools for cloud mobility including deployment, monitoring, and application placement
- **Any scale.** Independently scale processing and storage resources with compute- and GPU-only nodes

What's new?

The 3.5 version introduces enhancements to enable more workloads and simplify operations:

- All-NVMe nodes.** Cisco HyperFlex HX220c All NVMe Nodes combine Intel Optane™ caching drives with up to 32 TB of NVMe storage for the highest performance for mission-critical applications.
- Artificial intelligence (AI) and machine learning (ML) support.** With GPU acceleration available in Cisco HyperFlex HX-Series nodes and GPU-only Cisco UCS servers, you can power every step of the data science workflow: data acquisition, model training, machine learning, and inference generation.
- One-click full-stack upgrades.** A unique feature in Cisco HyperFlex Systems, you can upgrade your node firmware, hypervisor, and data platform software with fully automated rolling updates.
- Cisco Intersight management as a service.** Enables real-time monitoring and predictive intelligence for compute, network, and now storage resources through telemetry established with the data platform. Also, you can now run clusters with different hypervisors and software revisions in different locations from a single interface.

Any application, anywhere

Cisco HyperFlex Systems include a purpose-built, high-performance, low-latency hyperconverged platform that adapts to support all of your applications (Figure 1). It supports your virtualized and containerized applications in any cloud—whether they run in Microsoft Windows Server 2017 Hyper-V, VMware vSphere, or Docker containers with Kubernetes.

Cisco® Validated Designs give you the benefit of pretested enterprise application deployment using the best practices developed by Cisco engineers. Cisco Validated Designs help you speed deployment and reduce risk for virtual desktop environments (Citrix or VMware), Oracle Database, Microsoft SQL Server, big data applications including Splunk and SAP HANA, and graphics-accelerated high-performance computing applications.

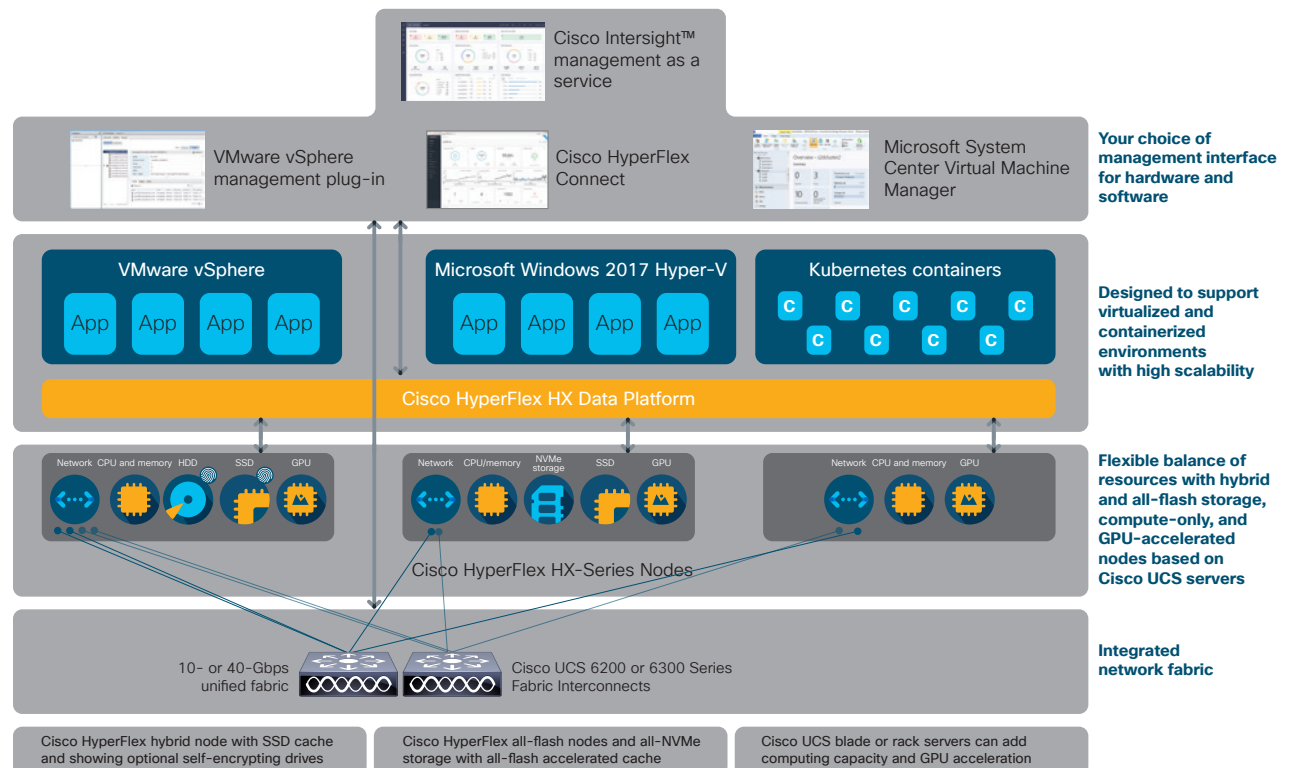


Figure 1. Cisco HyperFlex Systems support virtualized and containerized applications with a wide range of management options.

What's new (continued)

- **10-Gbps networking at the edge.** You can interconnect Cisco HyperFlex Edge clusters with Cisco and third-party 10 Gigabit Ethernet switches.
- **Enhanced network availability.** Intelligent failover is supported with multiple Cisco UCS virtual interface cards that maintain availability in the event of an interface card failure.
- **Enhanced cluster availability.** Failover testing and execution are integrated into the Cisco HyperFlex Connect interface so that you can test and increase confidence in your disaster recovery plans.
- **Increased container support.** In addition to supporting Kubernetes containers with Cisco Container platform, Cisco HyperFlex Systems now support the Red Hat OpenShift Container Platform, both with persistent storage for containers supported through the data platform.

Complete end-to-end solution

Designed with an end-to-end software-defined infrastructure approach, the platform eliminates the compromises found in other hyperconverged products. We combine software-defined computing using Cisco UCS servers, software-defined storage using the powerful Cisco HyperFlex HX Data Platform, and software-defined networking (SDN) using Cisco® Unified Fabric, which integrates smoothly with Cisco Application Centric Infrastructure (Cisco ACI™).

With hybrid, all-flash, and all-NVMe configurations, and self-encrypting drive options, Cisco HyperFlex Systems deliver a preintegrated cluster that is up and running in an hour or less and that scales resources independently to closely match your application resource needs (see Figure 1). Cisco HyperFlex Systems support your applications in Microsoft Hyper-V, VMware vSphere, and containerized deployments in private cloud or in multicloud environments. Cisco HyperFlex Edge delivers a simple, low-cost option for remote and branch-office locations.

Engineered on the Cisco UCS platform

Cisco UCS provides a single point of connectivity that integrates Cisco HyperFlex HX-Series all-flash or hybrid nodes and a variety of Cisco UCS servers into a single unified cluster. We give you

the flexibility to choose the combination of CPU, flash memory, graphics acceleration, and disk storage resources you need to deliver an optimal infrastructure for your applications. Incremental scalability allows you to start small and scale up as your needs grow. You gain the cost savings and performance advantages of Cisco UCS with the flexibility to choose among the solutions offered by the broad Cisco UCS management partner ecosystem.

Powered by next-generation data technology

The Cisco HyperFlex HX Data Platform combines the cluster's solid-state disk (SSD) drives and hard-disk drives (HDDs) into a single distributed, multitier, object-based data store. The HX Data Platform uses a self-healing architecture that replicates data for high availability, remediates hardware failures, and alerts IT administrators so that problems can be resolved quickly and your business can continue to operate.

- **In-cluster synchronous replication** stripes and replicates data across the cluster so that data availability is not affected if single or multiple components fail (depending on the replication factor configured).
- **Compression and deduplication** that does not affect performance, so it is always on to consistently reduce storage requirements.
- **Space-efficient, pointer-based snapshots and clones** facilitate backup operations.

“HyperFlex’s approach ensures high performance of Microsoft SQL and Oracle databases and critical applications with faster delivery of the environment, lower costs, and more effective management.”

Edivaldo Rocha
CEO
CorpFlex
[Read the story](#)

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- **Logical availability zones** increase availability for larger clusters by automatically partitioning the physical cluster into logical zones and then intelligently placing data to increase cluster resiliency to node and component failures.
- **Stretch clusters** support deployment into two geographically split locations for active/active operations even through a data center failure.
- **Thin provisioning** allows large data volumes to be created without dedicated storage, enabling a “pay-as-you-grow” procurement model.
- **Self-encrypting drive options** securely store data at rest in coordination with enterprise key management software.
- **Native replication** transfers virtual machine data to local or remote clusters for backup or disaster-recovery purposes. You can script, test, and execute failover plans with PowerShell scripting, or you can integrate with third-party products.
- **Data protection API** integration so that enterprise backup tools can protect your data.

Simplified system and data management

Cisco HyperFlex Systems integrate storage functions into existing management tools, allowing instant provisioning and cloning for dramatically simplified daily operations. It also improves control with advanced automation and orchestration capabilities and robust reporting

and analytics features that deliver improved visibility and insight into IT operations.

- **One-click full-stack upgrades.** Unique in the industry, you can upgrade your node firmware, your hypervisor, and the HX Data Platform software with rolling updates initiated from the Cisco HyperFlex Connect interface.
- **Centralized management.** You can configure, deploy, manage, and monitor global operations from the Cisco Intersight management portal, including deploying and running clusters with different hypervisors and software revisions in different locations from a single interface. You can also monitor, provision, and access advanced analytics for troubleshooting and proactive fault detection.
- **Easy cluster management.** All of your cluster operations can be managed with locally hosted Cisco HyperFlex Connect software. Virtual-machine-level management is supported in Microsoft System Center Virtual Machine Manager (SCVMM), Microsoft Hyper-V Manager, or the VMware vSphere plug-in.

Next steps

To deploy any application, in any cloud, and at any scale, contact your Cisco sales representative or authorized partner.

Learn how Cisco HyperFlex Systems with Intel Xeon Scalable processors can enable your digital transformation at cisco.com/go/hyperflex.