

Deliver apps and desktops anywhere, anytime, faster

Deploy a simple and flexible virtual desktop infrastructure solution with Cisco HyperFlex VDI for Citrix. The combination of Cisco HyperFlex Systems with Citrix Virtual Apps and Desktops solves the toughest digital workplace issues. Securely deliver virtual apps and desktops anytime, anywhere, on any device.

Overcoming today's IT challenges

Fast-paced markets require businesses to be more agile than ever before. This presents several challenges for IT leaders and organizations. They must:

- Increase business and IT flexibility.
- Manage costs more effectively.
- Improve application availability.
- Reduce IT complexity.
- Simplify infrastructure management.

Combining hyperconverged systems with application and desktop virtualization and delivery technologies can help you transform your IT infrastructure to overcome these challenges. Based on Cisco HyperFlex and Citrix Virtual Apps and Desktops and Citrix ADC, Citrix and Cisco offer innovative virtual desktop infrastructure (VDI) solutions that combine worker mobility, video and collaboration tools, broad device support, and secure access to applications and content.

Cisco HyperFlex VDI for Citrix

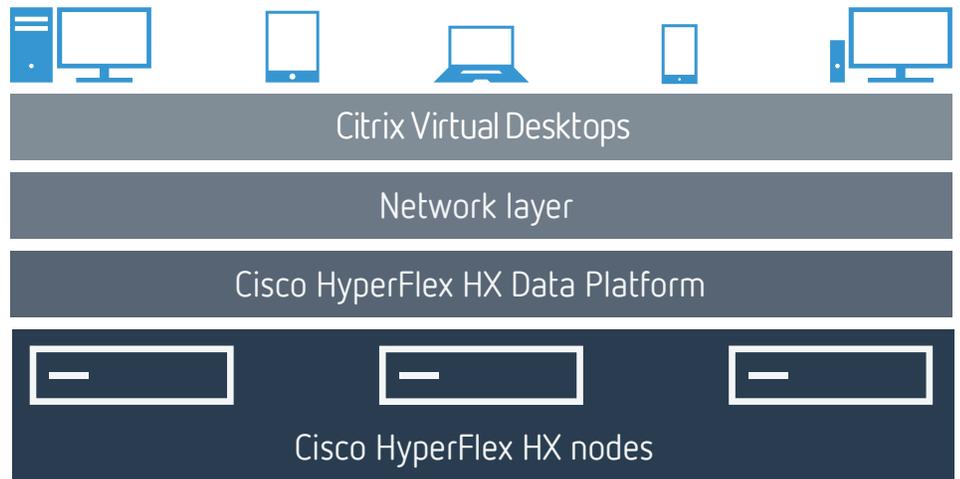
Together, Citrix and Cisco provide simplified management and lower total cost of ownership (TCO) through a fully certified, turn-key solution for application and desktop virtualization and software-defined application delivery with a broad, validated architecture that scales performance as you grow. The Cisco HyperFlex VDI for Citrix solution

consists of the following components:

- Cisco HyperFlex HX-Series systems
- Cisco UCS fabric interconnects
- Cisco UCS Manager
- Cisco Nexus platform switches
- Cisco HyperFlex HX Data Platform
- Citrix Virtual Apps and Desktops
- Citrix ADC
- VMware ESXi hypervisor

The Cisco HyperFlex nodes provide computing, cache, and storage resources and are centrally managed by Cisco UCS Manager. The HX Data Platform software serves computing and networking resources and a shared pool of storage resources from separate Cisco HyperFlex HX-Series nodes for consumption by a mix of workloads. This SDS platform is managed by the VMware vSphere web client plug-in. Citrix Virtual Desktops delivers complete application and desktop virtualization on the unified architecture. Citrix ADC provides advanced, software-defined application delivery control and load balancing.

This solution focuses on simplicity of deployment and operation. It delivers a hyperconverged platform that allows you to start small and grow incrementally without the need for expensive storage devices connected to computing resources by either storage area



A logical view of the Cisco HyperFlex VDI for Citrix solution.

network (SAN) or network-attached storage (NAS) methods. A basic cluster requires three hyperconverged nodes managed by Cisco UCS Manager. Beyond this, a Cisco HyperFlex cluster can increase computing and storage resources for dynamic scaling according to workload needs.

Connecting a mix of computing-only Cisco UCS servers to a set of hyperconverged Cisco HyperFlex nodes introduces even more flexibility. In this scenario, the hyperconverged node provides storage for the Cisco UCS computing-only nodes. This allows either storage or computing capacity to be added independently to achieve optimal levels of cluster resources.

The Cisco HyperFlex solution also delivers storage efficiency features like thin provisioning, data de-duplication, and compression for greater capacity and improved performance. Cloning and snapshots provide additional operational efficiency.

The combination of Cisco HyperFlex with Citrix Virtual Apps and Desktops and Citrix ADC solves the toughest workforce mobility problems with simplicity, efficiency, and flexibility.

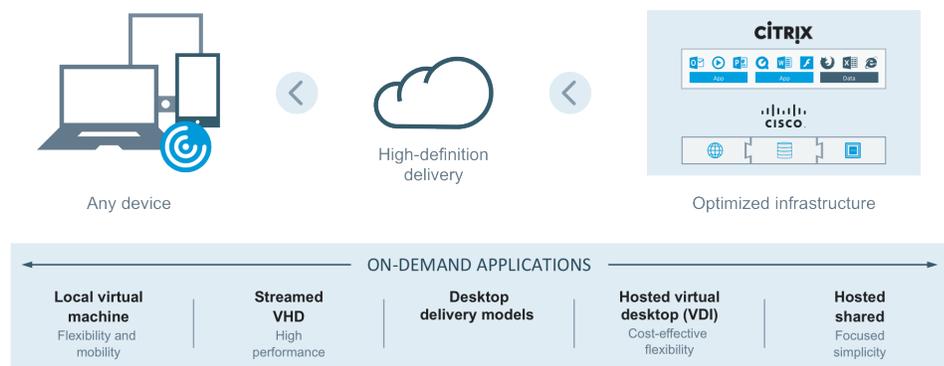
Deploy faster

Citrix and Cisco's validated, pre-packaged solution helps you deploy your VDI

environment more quickly. Provision your environment in less than one hour using automatic server configuration through Cisco UCS service profile templates. Improve automation and scalability with UCS Manager and Citrix Virtual Desktops user profile templates that pre-define detailed user access policies. Reduce deployment risk with a certified solution that is part of the tried, tested, and validated Cisco UCS architecture in use by more than 50,000 customers.

Streamline management

The Cisco HyperFlex VDI for Citrix solution unifies management using a single set of tools to speed changes and increase reliability. Decrease administrative overhead with a single point of management for all system hardware and software. Cisco UCS management handles all of a cluster's hardware management functions and is accessible through a VMware vSphere plug-in, providing a single point of control for the physical infrastructure, the data platform, and the virtualization layer. Simplify operations and allow staff to continue using the mechanisms they already know via integration with hypervisor tools. Cut application management costs by as much as 90% using Citrix Virtual Desktops to securely deliver virtual desktops on any cloud, public or private. Increase virtualization flexibility with support for existing and new



With an independently scalable, optimized infrastructure, the Cisco HyperFlex VDI for Citrix solution lets you deliver high-definition apps and desktops to any device.

cloud-native data types through HyperFlex's open, API-based architecture. Analyze system data to optimize cluster and resource expansions using the HyperFlex HX Data Platform controller.

Manage and protect data more easily

The Citrix and Cisco solution centralizes data and eliminates separately attached storage to better protect your business. You can keep data safe and contained in the data center with a desktop virtualization solution that is secure by design. Centralize backup facilities, streamline storage management, and consolidate storage resources to reduce complexity. The Cisco HyperFlex HX Data Platform includes enterprise-class data management features for complete lifecycle management and enhanced data protection.

Deliver a better user experience

The Cisco HyperFlex VDI for Citrix solution lets you deliver a high-quality experience to both end users and employees. Give your employees the freedom to work from anywhere with universal access to virtual apps, desktops, and data from any device. Provide reliable, instant desktop responsiveness to user interactions using Citrix HDX to adaptively compress and de-duplicate network traffic. Boost application

performance and redundancy with dynamic data placement, which automatically organizes data into server memory, caching, and capacity tiers while optimizing for speed and resiliency. Offer fast and intuitive self-service access to desktop applications and collaborative tools through integration with Citrix StoreFront. Improve user privacy by partitioning work and personal information on end-user devices. Maintain consistent performance—even as demand increases—with dynamically scalable compute, storage, and network resources.

Optimize infrastructure and reduce costs

This solution adjusts resources independently to optimize your infrastructure and trim costs. Increase storage efficiency and resource utilization with inline de-duplication and compression. Use Citrix HDX to raise host server user density by redirecting end-point processing power. Employ thin provisioning to deploy services using less storage. Reduce storage costs by up to 80% with Cisco HyperFlex storage optimization to deliver savings. You can deliver services faster over an integrated low-latency, high-bandwidth network fabric and streamline hyperconverged network management through integration with Citrix ADC.

Secure end points

Citrix Virtual Desktops gives you a single, unified solution for delivering services over any network and cloud. Ensure secure connectivity and compliance for all users with granular access control policies and separation of work and personal information. Further enhance protection and reliability by using Cisco HyperFlex to implement virtual network links with physical cable security.

Make the most of end-user devices

Citrix and Cisco help you take advantage of end-user devices, including BYOD and mobile devices. Deliver reliable desktop and application access to any device over any connection with Citrix Virtual Desktops' Windows Virtual Desktop Infrastructure. Provide end-user choice with support for both application and desktop virtualization. Enable new operating systems and new versions of existing operating systems—without impacting end-user devices.

Scale while maintaining business control

The Cisco HyperFlex VDI for Citrix solution lets you scale incrementally with pay-as-you-grow modularity. Gain immediate functionality from pre-configured Cisco HyperFlex servers that come with pre-installed software. Add compute and storage capacity as needed

with independently scalable purpose-built servers and a flexible, pay-as-you-grow model that enhances business agility.

Prepare your business for the future

Citrix and Cisco help you ready your business for the future through virtual delivery. Deploy new applications and services instantly using space-efficient cloning to provision hundreds of applications from existing templates in seconds. Increase application flexibility by running Citrix ADC with HyperFlex to provision and run services more efficiently. Enable DevOps through integration with third-party provisioning, configuration, and orchestration tools. Prepare for a wide range of future applications with pending HyperFlex support for containerized, virtualized, and bare metal workloads.

Transform your IT infrastructure today

To be successful in fast-paced markets, you need to transform your IT infrastructure. Using industry-leading, proven components, Citrix and Cisco offer complete solutions that deliver the simplicity, efficiency, and flexibility you need to meet fast-changing business needs. Visit www.citrix.com/cisco and www.cisco.com/go/citrix to learn more about Citrix and Cisco's innovative virtual workspace solutions.



About Citrix

Citrix (NASDAQ:CTXS) aims to power a world where people, organizations and things are securely connected and accessible to make the extraordinary possible. Its technology makes the world's apps and data secure and easy to access, empowering people to work anywhere and at any time. Citrix provides a complete and integrated portfolio of Workspace-as-a-Service, application delivery, virtualization, mobility, network delivery and file sharing solutions that enables IT to ensure critical systems are securely available to users via the cloud or on-premise and across any device or platform. With annual revenue in 2015 of \$3.28 billion, Citrix solutions are in use by more than 400,000 organizations and over 100 million users globally. Learn more at www.citrix.com.

About Cisco

Cisco designs and sells broad lines of products, provides services and delivers integrated solutions to develop and connect networks around the world. Over the last 30 years, we have been the world's leader in connecting people, things, and technologies, changing the way the world works, lives, plays, and learns in an increasingly digital world. To find out more, visit www.cisco.com.

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