Succeed with a Flexible and Scalable Desktop Virtualization Solution

Solution Brief
April 2017

With Cisco HyperFlex Systems and Citrix XenDesktop and XenApp



Highlights

Agile

- Move faster to achieve the digital transformation and simplification of your desktop infrastructure.
- Simplify deployment of your desktop virtualization environment.
- Deliver virtual disk (vDisk) and pooled (nonpersistent) virtual desktops, full desktops, and application streaming with Citrix XenDesktop and XenApp.

Efficient

- Scale out linearly as you expand your environment.
- Automatically optimize data through compression and deduplication, aligning with application requirements.
- Achieve end-user response times up to three times faster than with competing solutions.

Adaptable

- Increase virtual desktop density and reduce costs.
- Optimize storage resources with always-on deduplication and compression.
- Reduce initial investment costs with a pay-as-you grow deployment model.

Reduced Risk

- Radically simplify solution deployments.
- Implement end-to-end deployment best practices tested and validated by Cisco.

Imagine quickly and easily deploying desktop virtualization as you need it with an outstanding end-user experience.

Cisco UCS with Intel® Xeon® Processors

The industry is trending toward small, incrementally expandable hyperconverged infrastructure to address data center challenges, especially for virtual desktop deployments. The concept of just-in-time capacity makes business sense. Why pay for capacity before you need it? Unfortunately, traditional hyperconverged solutions tend to require expensive specialized hardware that:

- Creates hardware islands and management silos because it does not easily integrate with your current data center infrastructure, processes, or management software
- Supports a low number of virtual desktops
- Lacks integrated networking and security, which instead has to be configured as an afterthought

Cisco HyperFlex™ systems and Citrix XenDesktop and XenApp together give you a complete hyperconverged desktop virtualization solution. With this solution, you get support for more higher-performing virtual desktops and applications than with other solutions. And you can manage our solution consistently with the rest of your data center.

Excellent Desktop Virtualization End-User Experience

If your staff can't get its work done, your business isn't running efficiently. Cisco HyperFlex systems with Citrix XenDesktop and XenApp solution delivers an excellent virtual desktop end-user experience. Its optimized data platform delivers better performance and lower latency, making it well suited for virtual desktop responsiveness.

Cisco used the Login Virtual Session Indexer (Login VSI) 4.1 knowledge worker workload running in benchmark mode to test the responsiveness of the solution. The test ran Microsoft Windows 10 with Office 2016 on Citrix XenDesktop 7.11 using 1000 pooled desktops, 1000 persistent desktops, and 1200 Citrix XenApp 7.11 hosted server desktop sessions (Windows Server 2012 R2 RDS server-based sessions on vSphere 6.0 U2). As Figure 1 shows, even with the systems being pushed hard, it delivers sub-second response times.

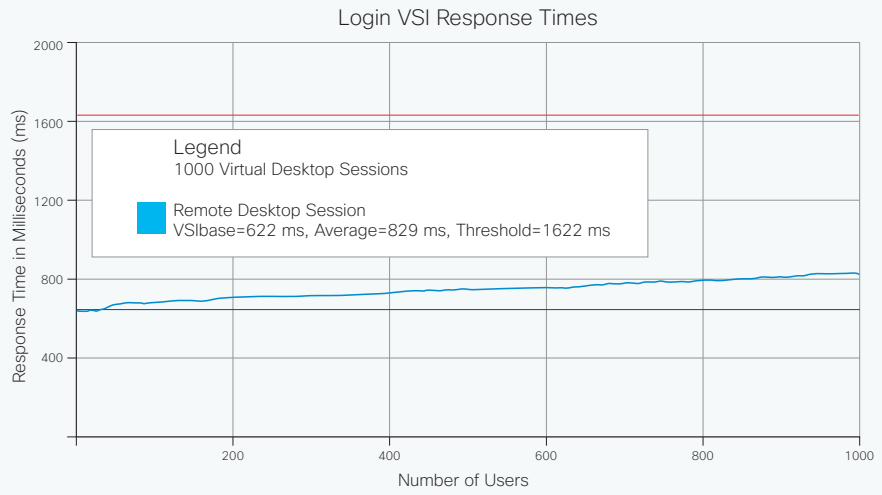

Figure 1 Average Response Time Results of Login VSI 4.1 Knowledge Worker Workload Running in Benchmark Mode

Cisco HyperFlex Systems with Citrix XenDesktop and XenApp

Cisco HyperFlex systems, powered by Intel® Xeon® processors, combine compute, storage, and networking into a simplified, easy-to-use platform. These systems bring the pay-as-you-grow economics of the cloud to on-premises virtual infrastructure so you can gain new levels of agility, efficiency, and adaptability. With an integrated network fabric, powerful data optimization, and unified management, Cisco HyperFlex systems bring the full potential of hyperconvergence to your desktop virtualization deployments. This solution is fast to deploy, simple to manage, secure, and easy to scale. And the systems arrive ready to provide you with a unified pool of infrastructure resources to power virtual desktops and applications as your business needs dictate (Figure 2).

Agile

Unlike other hyperconverged solutions, Cisco HyperFlex systems are end-to-end solutions that include compute, networking, storage, and security settings. This predesigned system is the building block for just-in-time capacity infrastructure that is built with the Cisco Unified Computing System™ (Cisco UCS®) as the foundation. You receive the system with all your service profiles automated and your initial configuration completed and ready to deploy, for most environments, within an hour. You can use the VMware vCenter web client plug-in to manage your physical infrastructure and vSphere hypervisors consistently. Now you can more easily manage the lifespan of your solutions. We're with you, designing radical simplicity into your systems, from your first installation process through the entire lifecycle of your equipment.

Efficient

With Cisco HyperFlex systems, as the number of users increases, you can scale your environment linearly by simply adding resources to the cluster and still maintain excellent user response times. In fact, you can achieve end-user response times of up to three times faster than with competing solutions (Figure 1). Depending on your needs, you can add either a storage node or a computing-only node, giving you exceptional flexibility when you need to scale. And because your data is automatically optimized through compression and deduplication, you achieve outstanding efficiency and utilization of your storage resources.

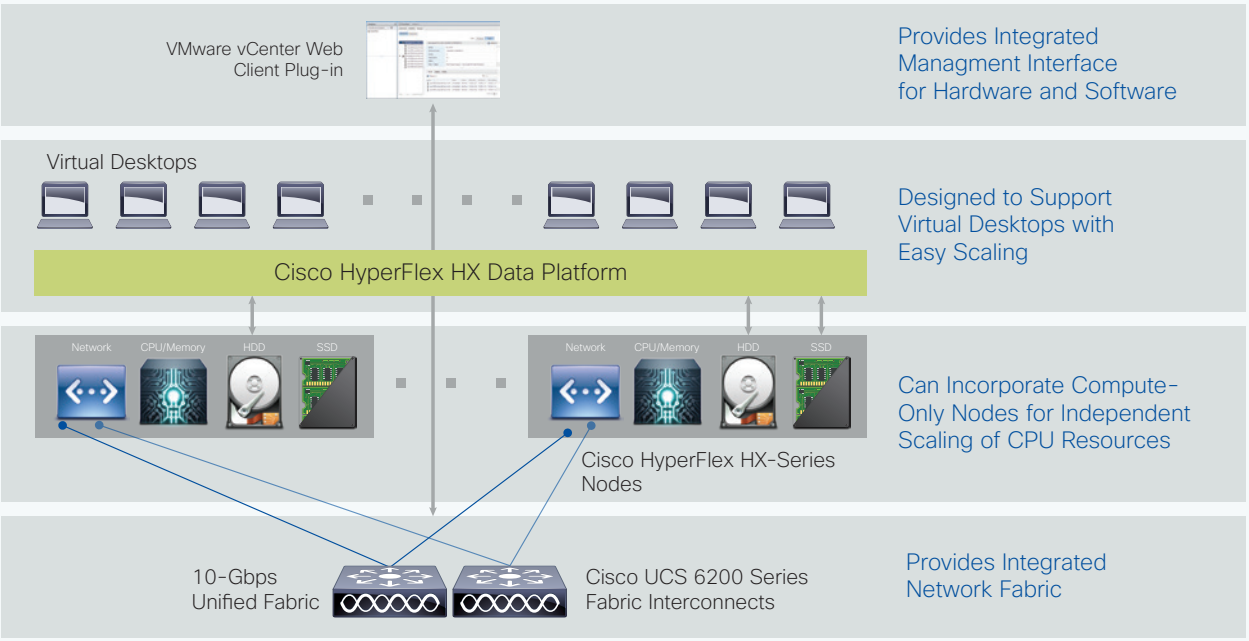

Figure 2 Cisco HyperFlex System Desktop Virtualization Overview

Adaptable

Almost inevitably, your desktop virtualization needs will grow, so a solution must be able to scale, and scale predictably, with that growth. Service profiles enable on-demand server provisioning to support additional desktops and allow you to deploy many servers just as easily as you can deploy one server. This solution supports high virtual-desktop density (desktops per server), with additional servers scaling with near-linear performance. Cisco UCS, with its high-performance, low-latency, unified fabric networking architecture, supports high volumes of virtual desktop traffic, including high-resolution video and communications traffic. In addition, Cisco HyperFlex systems help maintain optimal performance during boot and login storms as part of the solution. Cisco HyperFlex solutions have demonstrated scalability and performance with Citrix XenDesktop and XenApp, with up to 1000 hosted virtual desktops (persistent and nonpersistent) and 1200 hosted shared desktops up and running in less than 15 minutes.

Reduced Risk

This desktop virtualization solution, based on a Cisco® Validated Design, increases the value of your Citrix XenDesktop and XenApp deployments because:

- Cisco's tested, validated, and documented solution is fully supported by the Cisco Technical Assistance Center (TAC)
- Cisco HyperFlex systems are a complete stack of data center technologies designed to operate as a whole to increase your staff's productivity
- The solution design provides fault-tolerance with high availability
- The solution can easily be scaled up (add resources to the Cisco Validated Design unit) and out (add more validated design units)

This virtual desktop solution was extensively tested to allow it to be a

> Traders and researchers immediately noticed the faster performance after we moved our VDI to Cisco HyperFlex. Complex Excel calculations completed twice as fast."
>
> **Holger Schultes**
> Head of IT
> Bellevue Group
> Read the story

certified Cisco Validated Design. Cisco Validated Designs reduce risk and guesswork by giving your architects and administrators a guidebook for implementing solutions. The result is desktop virtualization that you can deploy quickly, easily, and reliably.

Desktop Virtualization Success

This simplified, secure, scalable desktop virtualization solution saves time and money compared to alternative approaches. Cisco UCS enables faster payback and ongoing savings (better ROI and lower total cost of ownership [TCO]). It also provides the industry's highest virtual desktop density per server, reducing both capital expenditures (CapEx) and operating expenses (OpEx). The storage technologies decrease costs by reducing desktop storage needs by up to 50 percent.

An excellent measure of desktop virtualization for any organization is its efficiency and effectiveness in both the short term and the long term. This solution is very efficient, allowing rapid deployment, requiring fewer devices and cables, and reducing costs. This solution is also extremely effective, providing the services that end users need, on devices of their choice, while improving IT operations, control, and data security. Success is bolstered through Cisco's best-in-class partnerships with Citrix and through tested and validated designs to help customers throughout the solution lifecycle. Long-term success is enabled through the use of Cisco's scalable, flexible, and secure architecture as the platform for desktop virtualization.

The ultimate measure of desktop virtualization for any end user is a great experience. Cisco HyperFlex systems deliver excellent performance with baseline response times of less than a second.

For More Information

- Read the Cisco Validated Design document at: http://www.cisco.com/c/en/us/td/docs/unified_computing/ucs/UCS_CVDs/HX18_VDI_1000seat_citrix.html.
- For more information about Cisco HyperFlex systems, visit http://www.cisco.com/go/hyperflex.
- For more information about Cisco desktop and application virtualization solutions with Citrix, visit http://www.cisco.com/go/citrix.

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