Virtualize any workstyle

HP Client Virtualization Gen8 Enterprise Reference Architecture for Citrix XenDesktop on VMware vSphere
The new “work” paradigm

Until recently, most enterprises followed the common practice of tethering Microsoft® Windows® applications to the desktop. This model worked well when workers were tethered to their desks. But today, the workforce is going global and mobile. Workers from evolving demographics have new expectations for data and application delivery. They demand support for next-generation applications that can transform the way they work. And they want the ability to work from any location, at any time, using any device.

Enterprises are trying to meet their workers’ “need-it-now” demands by deploying new solutions, but they are discovering that the return on investment is challenging. Success requires organizations to deploy the right solution the first time, rather than spend unnecessary time and money on multiple iterations.

The bottom line: enterprises need a new way to increase flexibility and mobility without losing IT control and without having to manage the proliferation of devices. Now, HP has the answer: virtualize client infrastructure.

What is client virtualization?

Taking much of what is traditionally managed at the client/user device level, client virtualization centralizes those functions under the security of your data center. This way, you can:

• Better protect your data
• Manage your systems more easily
• Gain greater IT flexibility
• Provide a better overall experience to your workers

Leading the way in providing client virtualization solutions that meet all these objectives is HP, together with Citrix, and VMware.

Why virtualize the client infrastructure?

You’ve probably spent considerable time and effort maximizing the use of your physical office space by providing each worker with exactly what they need to do their job. You balance the use of cubicles, open spaces, private offices, and conference rooms to create a fully functional yet cost-efficient working environment.

You can apply the same theory to virtual client workspaces. Think of IT infrastructure—servers, storage, and network—as your “office space.” You want to ensure that each worker has secure access to their applications, data, and desktops—while also optimizing the efficiency of your IT infrastructure. This is the unique value of HP Client Virtualization Gen8 Reference Architecture (RA) for Citrix XenDesktop on VMware vSphere (HP CV Gen8 RA for XenDesktop on vSphere).

Providing what you need

As you consider deploying client virtualization across your enterprise, reducing cost and complexity are critical concerns. You want a simple, repeatable, validated client virtualization architecture that is proven to scale and operate cost-efficiently.

The HP CV Gen8 RA for XenDesktop on vSphere addresses these needs by providing a validated blueprint for a complete, affordable, simple-to-deploy, ready-to-scale virtual desktop solution.

Unique in the industry, HP CV Gen8 RA for XenDesktop on vSphere integrates Citrix XenDesktop with HP client virtualization and VMware vSphere technologies. The solution supports the server-hosted virtual desktop infrastructure (VDI) model, as well as:

• Hosted-shared desktops
• Client-hosted desktop virtualization (DV)
• Virtualized applications

By tailoring the desktop experience and providing alternative desktop delivery methods, HP CV Gen8 RA for XenDesktop on vSphere intelligently optimizes resource utilization. To further boost efficiency, HP CV Gen8 RA for XenDesktop on vSphere takes advantage of the highly cost-efficient HP Converged Infrastructure—where servers, direct-attached storage, and networking are converged onto one common platform.

Used in concert, the components in the HP CV Gen8 RA for XenDesktop on vSphere create a solution that accelerates virtual desktop deployment.

Cost-efficient delivery options

Citrix XenDesktop supports VDI—a model that allows you to assign an individual virtual machine (VM) for each workers’ virtual desktop. While this delivery model is certainly effective, it is also quite costly.

To overcome this problem, XenDesktop uses the unique and highly advanced FlexCast delivery technology, which supports three cost-efficient delivery alternatives:

• Hosted-shared desktops – Uses one-sixth the resources of VDI. Each user receives a virtual desktop delivered through shared sessions on a VM.
• Client-hosted DV – Runs the desktops on the client, while managing desktops from the server. This method enables secure environments/areas where offline access is required.
• Virtualized applications – Enables workers using tablets and other devices to easily access the apps they need to do their jobs, regardless of their physical location.

Simplicity, optimization, and flexibility

Designed to support up to 1,800 productivity level users in a single enclosure, depending on configuration, HP CV Gen8 RA for XenDesktop on vSphere contains everything you need to support DV:

• Servers
• Storage
• Virtualization software from Citrix and VMware
• Cabling
• End-clients
• PDUs
• HP Insight Control management software
Validated with extensive sizing and performance metrics, the HP solution removes the guesswork from DV, helping to simplify deployment.

The recommended guidelines in the HP CV Gen8 RA for XenDesktop on vSphere explain how to:

- Provide secure access to apps and desktops, while also optimizing the efficiency of the IT infrastructure by using a mix of hosted-shared and VDI desktops.
- Improve simplicity using a single, common, modular, standards-based platform to support all IT workloads.
- Enhance the worker experience and boost productivity by speeding adoption of client virtualization.

Preferred virtualization platform

A key component in your HP CV Gen8 Enterprise RA solution is the virtualization software—including the VMware vSphere hypervisor. Helping you create an agile and dynamic data center, VMware vSphere provides a dynamic, reliable, and scalable virtualization platform, combined with a single set of integrated tools for managing both physical and virtual resources.

Driving the virtual desktop revolution

Enterprises around the world are transforming their desktop environments from device-centric management to user-centric models where desktops and applications are delivered as an on-demand service—and Citrix XenDesktop stands at the forefront of this revolutionary change.

Whether users are task workers, knowledge workers, or mobile workers, XenDesktop will quickly and securely deliver individual applications or complete desktops, on any device. With Citrix FlexCast delivery technology, each desktop can be tailored to meet the performance, security, and flexibility requirements of all users across the enterprise.

The industry-leading high-definition user experience (HDX) rivals that of a local PC, even when using multimedia, real-time collaboration, USB peripherals, and 3D graphics. Integrated wide area network (WAN) optimization capabilities boost network efficiency and performance even over challenging, high-latency links.

Citrix XenDesktop means:

- Supporting any device, anywhere with the Citrix Receiver
- Providing a rich, high-definition HDX user experience over LAN and WAN environments
- Moving beyond VDI with FlexCast delivery technology to tailor the best desktop experience to each user
- Accessing Microsoft Windows, web, and SaaS applications
- Delivering proven, open, scalable solutions

Infrastructure designed to optimize the user experience

Getting the most from your virtualization software means using an infrastructure that is purpose-built for client virtualization. And that means using HP CV Gen8 RA for XenDesktop on vSphere to build a high-performance, cost-efficient solution.

Designed to reduce system complexity while also increasing IT automation and efficiency, HP CV Gen8 RA for XenDesktop on vSphere includes the following best-in-class HP components:

- **HP ProLiant BL460c Gen8 Server Blade** — As the best-selling server blade in the world,1 more IT managers depend on the HP ProLiant BL460c Gen8 Server Blade than any other blade. The reason is simple: the HP ProLiant BL460c Gen8 Server Blade offers the ideal balance of performance, scalability, and expandability for any workload, making it the standard for dense data center computing. An ideal platform for all user types, the HP ProLiant BL460c supports high user counts per host, as well as incredible density—an important feature for optimizing power, boosting management efficiency, and reducing the infrastructure footprint. The HP ProLiant BL460c Gen8 Server Blade also makes no compromises with memory speed, enabling the HP CV Gen8 RA for XenDesktop on vSphere to provide maximum performance.

- **HP BladeSystem** — A complete infrastructure in a box, HP BladeSystem enables the HP CV Gen8 RA for XenDesktop on vSphere to leverage the power and scalability of 2-socket HP ProLiant BL460c server blades, while also minimizing infrastructure maintenance and management. The result is a highly available, power-efficient, easy-to-manage infrastructure that sacrifices nothing, while optimizing costs, converging storage and networking, and simplifying scalability.

- **HP P4800 SAN Solution for BladeSystem** — Offering a highly dense storage solution that dynamically scales as the client infrastructure expands, the HP P4800 SAN is based on tight integration with HP BladeSystem. Because of this, the HP P4800 SAN provides network convergence of the virtual server and SAN using 10 Gig Ethernet and Virtual Connect Flex-10 enabling simplified administration, improved security, greater flexibility, and enhanced performance. By converging the storage and transport layers into a single, easy-to-manage infrastructure, intensive multi-team and multi-skill set involvement is no longer required—which leads to more rapid deployment and faster response to business-driven change requests.

- **HP D2700 Disk Enclosures** — To create a flexible, tiered, external storage system, the D2700 Disk Enclosures deploy with the low-cost next-generation 6 Gb SAS. The 7.5 TB bundle allows for easy growth; simply add more shelves to support more blades.

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1 IDC Worldwide Quarterly Server Tracker, Q212
• **HP Virtual Connect** – An essential building block for any virtualized environment, HP Virtual Connect simplifies change by streamlining the provisioning and maintenance of blade infrastructures. Virtual Connect allows physical servers to be added, moved, or changed in minutes, instead of days or weeks. Server teams can independently manage these changes with just a few mouse clicks. Virtual Connect iSCSI Boot Assistant goes one step further to radically simplify what has typically been a very manual process. This unique HP feature eliminates nearly 90% of a typically complex, error-prone process using innovative technology that simplifies the iSCSI Boot configuration of the HP P4800 SAN Solution. A wire-once, change-ready infrastructure dramatically simplifies your network infrastructure from the server to the core—greatly reducing cabling and making network setup and monitoring a breeze.

• **HP Insight Control for VMware vCenter Server** – This time-smart management software delivers total control, maximum flexibility, and tangible savings for HP ProLiant Gen8 servers operating in VMware environments.

**Thin clients with superior capabilities**

For task workers completing day-to-day operations, government workers accessing top-secret information, or human resource employees accessing personal data, thin client computing is a proven alternative to traditional PC computing.

And for the HP CV Gen8 RA for XenDesktop on vSphere, one line of thin clients stands above the rest—HP’s.

To help your organization remain flexible and secure, HP Thin Clients provide options that enable you to grow and expand, combined with the security you need both now and in the future. In fact, the HP t610 meets National Institute of Standards and Technology (NIST) security recommendations. And it’s all delivered with PC-like performance, powered by advanced Intel® Xeon® dual-core processors.

**Services and support**

To facilitate the installation of your client virtualization solution, HP highly recommends these services:

• **HP Installation and Startup Services** – Provide onsite basic installation and startup services available for a variety of components of this solution.

• **HP Proactive Care Service** – Provides an additional level of support for organizations managing complex IT environments. The services feature remote and onsite support, proactive scans and reports, regular consultations with advanced technical specialists, and rapid problem resolution.

• **HP Consulting Services** – Accelerate the planning, design, and integration of client virtualization systems, with services ranging from strategy, assessment, design, pilot, implementation, and transition to support.

**Take the next step**

Contact your HP representative today to learn more about the HP CV Gen8 Enterprise RA for Citrix XenDesktop on VMware vSphere. Discover how these recommended guidelines will help virtualize any workstyle, while also streamlining management, better protecting your information, and lowering operating costs. For more information on this solution, you can also visit [hp.com/go/cv](http://hp.com/go/cv).

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