



Desktop Virtualization with Citrix XenDesktop

3 Easy Steps to a Better Desktop



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Executive Summary

The complexity and cost of running and maintaining the desktop has reached new heights in today's progressively mobile and global business environment. Traditional desktop lifecycle management just isn't up to the challenge—calling for new and more efficient approaches to meet modern demands.

Fast emerging in its place is virtual desktop infrastructure (VDI) or desktop virtualization which uses virtualization technologies to isolate desktop components—applications, the operating system and user settings—back in the datacenter and virtualizes the desktop experience on the user device. VDI delivers a centrally managed virtual desktop, simplifying IT support and serving every worker on any device from any location.

By essentially removing the PC from the equation, IT can radically improve desktop security and manageability as well as reduce overall desktop TCO—by as much as 40%. Meanwhile, desktop users—working in different capacities on a variety of devices in any number of locations—log onto the same personalized desktop environment every time and desktop data never leaves the datacenter.

In this paper, we'll take a look at the factors that are changing the world of the desktop and rendering traditional desktop lifecycle management obsolete. Then we'll lay out—**in just three easy steps**—how desktop delivery powered by Citrix XenDesktop™ quickly provides a pristine, on-demand desktop experience to users wherever, whenever and on whatever device they choose while dramatically cutting IT complexity and costs.

Introduction

The world of the desktop is changing.

In a recent study, Forrester® Consulting found that surveyed IT managers spent over 20% of their time on reactive tasks, such as troubleshooting and re-imaging PCs, and more than 40% supporting user applications.¹

As business becomes increasingly mobile and global, so does its workforce and their desktops. These workers, more often than not, are spread out across the world and on the road far out of reach of their respective IT nerve centers. Gone are the days of one user, one computing device. Today's Web-savvy workers rely on any number of machines, in any number of locations.

The proliferation of laptops, smart phones, PDAs and thin clients are unshackling the chains of the office and redefining what it means to be a desktop. As these devices explode—in number, type and location—managing their lifecycle, from deployment through retirement, has become an enormous job for IT, accounting for the bulk of IT mindshare and budget. The following drivers are compelling IT toward better solutions for the desktop:

Desktop Refresh and Growth

Every desktop in your organization demands its unique share of IT resources. Each machine needs the right applications, operating system (OS) and security measures installed and configured, which can take weeks to get up and running. A major refresh, say from Microsoft XP to Vista for example, may mean individually updating and patching tens of thousands of computers. In such cases, incompatible hardware and software may need to be replaced or reconfigured—difficult to do when business demands quick provisioning with little to no downtime.

Security and Compliance

This new mobility makes it more important than ever for IT to ensure security and compliance. The Sarbanes-Oxley Act (SOX), HIPAA and EU directives are just some of the compliance mandates demanding increased corporate tracking and accountability. More than 70% of desktop managers consider data and system security their highest priority, according to a 2007 Forrester study.² Yet, standard security and firewall measures aren't enough to secure mobile corporate data at large across campuses, companies and countries.

Demand for Lower Cost of Ownership

The Gartner Group estimates that it costs as much as \$5,867 per year, to maintain a PC, resulting in over \$10,000 to procure, maintain and retire a desktop over its limited lifetime spanning about two to three years.³ IT must find ways to bring down the cost of desktop ownership to make room for the growing number of devices as well as other IT initiatives elbowing for their part of the IT budget.

User Need for Anytime, Anywhere Access

Today's diverse workforce has to be productive no matter where they are or what they are working on. IT must deliver anytime, anywhere desktop capabilities without impediments to performance, access, speed or reliability. Not easy to do when you stop to consider the plethora of devices outside of corporate perimeters.

It's time to move beyond traditional desktop lifecycle management.

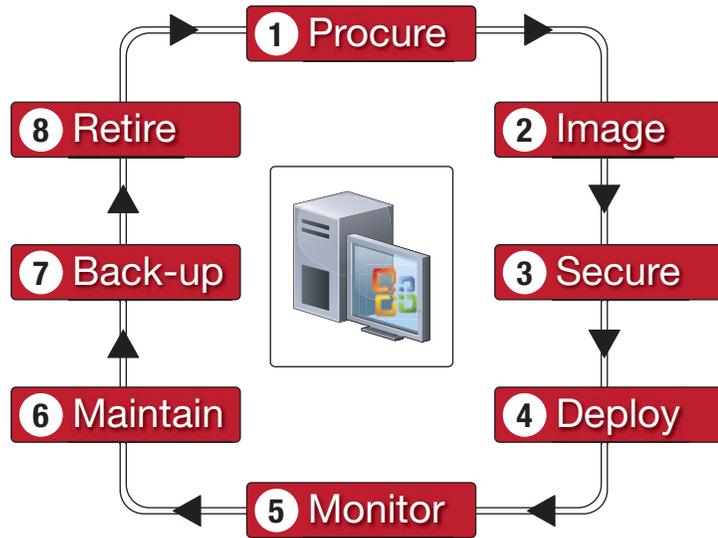
Traditional desktop lifecycle management no longer fulfills the needs of the desktop and its users. Instead of deploying and installing desktop components directly onto a PC over the network, IT must look beyond its long-established practices to new, more efficient ways to meet today's cost, security and efficiency demands. Let's consider how traditional desktop lifecycle management stacks up against IT's current desktop challenges:

Slow Rollout and Upkeep

Under the traditional model, eight time-consuming, labor-intensive steps are involved in managing the desktop, as each and every device must be individually deployed, secured, maintained, monitored, backed up and retired. Getting an operational unit into the hands of the end user may take weeks, after the machine is purchased and all the necessary software and security is configured, tested and deployed. Meanwhile, the end user waits while productivity languishes. An update or new software rollout starts the process all over again.

^{1, 2} Forrester, Moving to App Delivery – A Guide for Desktop Operations Managers, July 2007.

³ Gartner Press Release, Gartner Says Effective Management Can Cut Total Cost of Ownership for Desktop PCs by 42 Percent, February 2008.



Traditional Desktop Deployment. Once considered tried and true, the traditional lengthy, labor-intensive method of desktop deployment no longer meets the needs of the modern enterprise. From procurement through retirement, IT must find new ways to reduce desktop management complexity and costs.

Unnecessarily High Desktop TCO

Over and above hardware costs, just going through traditional desktop deployment drives up desktop TCO. Once again, as each device must be managed independently, a dedicated IT resource must address every refresh or patch. And thanks to ongoing innovations in technology and applications, obsolescence makes it necessary to retire, and then procure replacement machines on a regular basis. A five-person department alone can rack up over \$100,000 in desktop expenses in just five years (see Gartner citation above).

Complex and Inadequate Security

Any gap in the process can put company information at risk. When company data travels, it's nearly impossible to ensure security across corporate boundaries and meet compliance mandates. Firewalls, disk encryption and other security measures are difficult to keep up to date and, even then, aren't enough to ward off the fiercest of intruders. Additionally, IT must extend security beyond the OS to USB keys, scanners and other peripherals, making security directives difficult to reach.

Unhappy End Users

Last but not least, today's remote worker really feels the pain of traditional desktop deployment, especially when it comes to access, delivery and performance. Precious time, and money, is lost getting up to speed on a new system or software, waiting on support or the latest version—not to mention security roadblocks and problematic updates. Remote users need to be provided with a familiar, high performance desktop experience as they move from office, to home and to corporate locations worldwide.

3 Steps to a Better Desktop

Desktop delivery with Citrix XenDesktop transforms the desktop into a high-speed, low cost, on-demand service.

XenDesktop sets a new standard in desktop lifecycle management with our desktop delivery approach. Desktop delivery goes beyond virtualization to dynamically assemble virtual desktops over a high-speed ICA protocol, providing users a new and pristine, yet personalized, desktop experience every time they log on.



What is Desktop Delivery? Desktop delivery decouples desktop applications, operating systems, user settings and data from the underlying PC infrastructure and creates a single OS image separated from application virtualization and user settings on servers back in the datacenter. The OS image, user settings, and applications are then reassembled to user specifications and quickly delivered on-demand over the network to any computing device.

With desktop delivery, the focus shifts away from siloed management of individual PCs and the endless cycle of patches, updates and security fixes. Instead, attention turns toward establishing a rich, yet economical, centralized repository of desktop component images that are mixed and matched to meet individualized user profiles while also being much easier for IT to manage and control. Delivery is fast, easy and cost effective. In just three easy steps, any organization can meet its efficiency, cost and compliance mandates.

Step 1 – Segment your user base.

Bridge the Gap Between Users and Their Desktops

Desktop delivery breaks down the desktop into its elemental components to make it easy to address the unique needs of today's diverse workforce. Naturally, the first step is to identify and segment your user base in order to serve the individual needs of each worker to determine the optimal method of delivering the desktop and applications.

Standardize for Task Workers

Let's consider the makeup of a modern organization: It can be said that task workers comprise

about 30% of the workforce. Task workers can be loosely defined as those workers who require only standardized desktops and perform fairly repetitive, structured tasks on a small number of applications with uniform user settings. Hospital staff nurses and call center personnel are typical examples.

Individualize for Office Workers

However, most of today's workforce, some 60%, are office workers requiring personalized desktops with diverse applications and user settings suited to their unique jobs. While highly individualized, there's a certain amount of segmentation by department, function and/or job that can, and should, take place to optimize virtualization across the organization.



Fitting Desktops to User Needs. Citrix XenDesktop will easily match the requirements of office workers, using the desktop delivery approach. A shared desktop or simply delivered applications via Citrix XenApp will suit task workers who do not require personalization.

Step 2 – Separate desktop applications and components into golden images.

Deploy a Single OS Image

Once your user profiles are in place, you are ready to separate the desktop into its unique components—OS, applications and user settings. A single desktop OS image can automatically provision to hundreds of virtual desktops, or even the entire organization.

Extract Applications Once

Working in concert with XenDesktop, Citrix XenApp™ extracts all applications from the desktop OS, allowing for use of a standard, or golden, desktop image across large groups of the user population. XenDesktop virtual desktop provisioning technologies then enable hundreds of virtual desktops to boot over the network from that single desktop image, dramatically reducing complexity and the storage needed to house application images.

Personalize User Settings

It's easy to isolate and store user preferences independently to provide a personalized user experience, even while using a standard base OS image and virtualized applications. All desktop components are hosted in the datacenter where they are centrally managed, updated and controlled. Install once and push out to the entire organization without having to deploy and test for different desktop scenarios, versions or hardware configurations.

Step 3 – Rollout to desktops and clients as needed.

Deliver a New, Pristine Desktop Every Time

“Through Citrix XenDesktop we are able to provide our partners with virtual desktops and key business applications while keeping our data safe and secure within our data centers. The solution, implemented by BT Basilica, also ensures a high performance desktop experience while contributing to green programs by reducing energy requirements by 50 percent.”

Richard May, Senior IT Infrastructure Manager, BT Media and Broadcast

Now, each time a user logs on, XenDesktop dynamically assembles these components into virtual desktops on-demand. Users get a new, pristine and personalized rendition of his/her unique virtual desktop—complete with their personal user settings such as browsers, screen savers and photos.

Work Anywhere

With the computing device removed from the equation, the user is free to move about. A casual business traveler, who only travels once a year, for example, can use a laptop from a company pool and still enjoy his/her unique desktop experience. Less expensive thin client devices can replace more costly PCs.

Stay Easy on IT

Single point management makes for easy maintenance and control of desktop components back in the datacenter while delivering the latest version running at the highest level of performance at the lowest cost, with these added features:

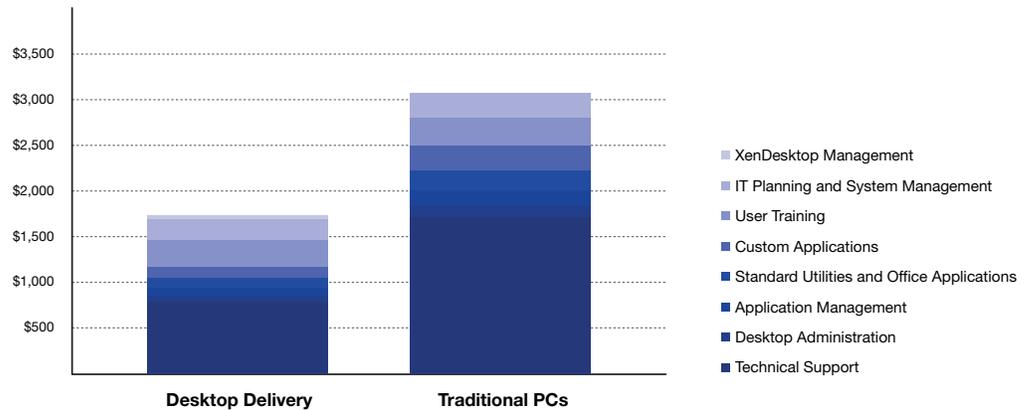
Instant On provides fast, reliable access to virtual desktops in 10 seconds and eliminates waiting for lengthy boot times

SpeedScreen™ delivers the fastest desktop performance over any network—up to two times faster than other virtual desktop offerings

Universal Printer Driver enables quick, consistent printing with advanced features like stapling and double-sided printing

USB Mass Storage dynamically recognizes a mass storage device for easy data portability or storage disabling

Citrix EasyCall™ provides simple, click-to-call voice communications from any phone number displayed on the screen



TCO Comparison. Achieve up to 40% lower total cost of ownership with Citrix XenDesktop vs traditional PC deployment.

Conclusion

VDI is the new wave, but not just any solution will do.

Modern business is compelling the desktop to undergo a radical conversion. Citrix desktop delivery with XenDesktop transforms the traditional desktop PC to an efficient, cost-effective service by dynamically assembling virtual desktops on-demand, providing users a new and pristine, yet personalized, desktop each time they log on, regardless of device.

However, not all desktop virtualization solutions are alike; some fall short or exacerbate, instead of help, the situation. Look for these attributes when evaluating a solution:

Separate the Desktop and Applications

Desktop virtualization that doesn't break out desktop components, but creates a single virtual image for the entire desktop and simply replicates the PC experience back at the datacenter. PC sprawl is replaced with image sprawl. XenDesktop optimizes virtual desktops by maintaining a single image for the operating system and providing a separate application virtualization infrastructure. This ensures best performance, easiest support, minimal application incompatibility, and lowest TCO.

Enables Economical and Efficient Storage

Using XenDesktop's desktop delivery approach, a single desktop image and virtualized applications can be delivered for different user segments, minimizing the storage impact at the datacenter.

Fast, Reliable Delivery and Performance

XenDesktop's proprietary ICA protocol ensures that desktop components are quickly delivered and reassembled wherever and whenever a desktop is in demand. Try doing that over just any already-overworked enterprise network!

Pristine, Personalized Desktop Every Time

With desktop delivery, users can enjoy their very unique desktop experience, whether at the office or at any other location. And, every time they login, it's like getting a brand new PC.

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Find out how Citrix can improve the management of your desktop. Visit www.citrix.com/XenDesktop.

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