

# White Paper

---

## **Citrix XenDesktop Eases Windows 7/8.1 Migration**

*By Mark Bowker, Senior Analyst*

**October 2013**

---

This ESG White Paper was commissioned by Citrix and is distributed under license from ESG.

## Contents\_Toc369780706

User Desktops: A Delicate Balance .....	3
Desktop Virtualization Can Help .....	3
Windows Migration Helps Drive Desktop Virtualization Investments .....	3
Top Four Windows 7/8.1 Upgrade Challenges .....	4
A Winning Combination: Desktop Virtualization and Windows 7/8.1 .....	4
Mitigating Windows 7/8.1 Migration Concerns with a Robust Desktop Virtualization Strategy .....	5
The Bigger Truth .....	7
Appendix: Customer Case Studies .....	8

All trademark names are property of their respective companies. Information contained in this publication has been obtained by sources The Enterprise Strategy Group (ESG) considers to be reliable but is not warranted by ESG. This publication may contain opinions of ESG, which are subject to change from time to time. This publication is copyrighted by The Enterprise Strategy Group, Inc. Any reproduction or redistribution of this publication, in whole or in part, whether in hard-copy format, electronically, or otherwise to persons not authorized to receive it, without the express consent of the Enterprise Strategy Group, Inc., is in violation of U.S. copyright law and will be subject to an action for civil damages and, if applicable, criminal prosecution. Should you have any questions, please contact ESG Client Relations at (508) 482-0188.

## User Desktops: A Delicate Balance

With the support for Windows XP ending April 8<sup>th</sup>, 2014, businesses that have not started a migration plan are going to quickly find themselves in the hot seat to accelerate their end-users away from Windows XP. IT organizations want to avoid discovering that they have security breaches, compliance violations, and unplanned customer support costs. At the same time, they must still address application compatibility testing with limited IT resources as they balance the shrinking migration window. The sense of urgency has been heightened as businesses look for seamless transition strategies for Windows 7/8.1 that provide a high-quality, predictable, productive, and secure computing environment while controlling operational costs and hardware expenses.

### Desktop Virtualization Can Help

Desktop virtualization can be the answer to reducing complexity for desktops, improving IT's control, and enhancing end-user flexibility in terms of device usage and workspace location. Planning for the future application delivery and access environment is only getting more complex. The desktop is no longer the only asset to manage and maintain

due to the influx of mobile devices. With desktop virtualization, IT organizations can ease the Windows migration process today, and have a solution to help support the variety of devices in the future. Companies can use desktop virtualization to transition to Windows 7/8.1 gradually. It can keep Windows XP running in parallel with Windows 7/8.1 migration and uncover additional time to resolve and test application compatibility issues, ease users into the transition from the old to the new desktop operating system, and streamline help desk calls.

Desktop virtualization can enable employees to access applications from any location and any device and extend the useful life of hardware by eliminating the need to upgrade devices for the latest and greatest features. Instead, users can simply run desktop or application services over the network to legacy devices or devices traditionally not supported by IT. Applications and desktops can be combined into a single service, making it easy for IT to deliver and maintain. Additionally, it makes it easy to recover from an endpoint device failure. Instead of re-installing operating systems and multiple patches, plus applications and their upgrades, users simply boot up another device with the service on it. End-users can take care of some of their own needs, freeing up IT staff time. Virtualization can also help stop users from creating additional problems for IT by gumming up the works with downloaded browser plug-ins and other improper software. Desktop virtualization can balance user personalization with IT control, creating an environment that suits both the user and IT. Users can access applications from multiple devices and locations, improving both productivity and flexibility. This gives organizations much more freedom to let users work remotely or on the device of their choosing while maintaining corporate standards.

"Our plan is to move nearly entirely to a XenDesktop desktop and application delivery model. With a growing population of remote users, it becomes costly to support them if their hardware dies. With XenDesktop, they can open a web browser on their home PC and access the applications they need."

—IT Manager, Large Financial and Insurance Institution

## Windows Migration Helps Drive Desktop Virtualization Investments

Desktop virtualization helps resolve migration challenges. Windows XP is getting long in the tooth, and with most companies choosing to skip Vista altogether, Windows 7/8.1 is poised for success. Windows XP is now nine years old, and Microsoft will discontinue supporting it April 8<sup>th</sup>, 2014, so migrating is becoming a priority. Any company

upgrading to Windows 7/8.1 is an ideal candidate for desktop virtualization because it can help them accelerate Windows 7/8.1 adoption by delivering legacy and incompatible applications to the new OS, preventing desktop hardware upgrades, and turning what would be two projects into one. Businesses may also choose to run XP and

"We started our Windows 7 migration two years ago, since we never migrated to Vista, and XP support was a growing concern. Citrix XenDesktop is a slick piece of software that enables our social workers to use any application on Windows 7 in the field to collect and enter data on smartphones and then access the data again from their personal home PCs."

—CIO, Social Services Organization

Windows 7/8.1 in parallel to help ease the transition. For those organizations that need to accelerate the adoption of Windows 7/8.1 or that are considering purchasing new laptops and desktops, it is an ideal opportunity to upgrade to Windows 7/8.1 and change their desktop paradigm at the same time. Now is the time to rethink the desktop and consider adopting BYOD (bring your own device) policies or lower-cost thin clients.

## Top Four Windows 7/8.1 Upgrade Challenges

Upgrading to Windows 7/8.1 is not without its challenges and they have kept some organizations from migrating at all. Among them are:

- **Application compatibility with the 32-bit or 64-bit operations required to run on Windows 7/8.1.** Third-party and custom applications built on a 16-bit architecture will not work on the new operating system. This can be detrimental to an OS migration because many legacy applications, which can be business critical, will no longer run. Quickly determining which applications can immediately be moved to Windows 7/8.1, migrating them, and then addressing the remaining compatibility issues will help organize the best approach.
- **IE6 and custom applications.** Applications that were built and designed for IE6 or for older operating system versions still need to function with Windows 7/8.1. Not all companies can afford the time or investment to re-platform these applications.
- **The significant labor costs of upgrading to Windows 7/8.1.** This encompasses not just staffing time, but the loss of productivity that this time-consuming effort creates as well. Windows 7/8.1 rollouts are often completed in phases throughout large organizations, consuming months of IT staff time and creating rolling downtime for users.
- **The need to upgrade endpoint devices because of Windows 7/8.1's increased hardware demands.** Inventorying hardware requires looking at all device capabilities, matching them to the requirements of Windows 7/8.1, identifying those that need replacement, purchasing new hardware, and installing the corporate-approved operating environment and applications needed for productivity. This can be a very costly exercise, especially for those that have upgraded PCs in the past few years.

The number one problem a large financial services and insurance company had with Windows 7 was application compatibility. It leveraged Citrix to help resolve these issues and better manage local drivers and DLLs.

## A Winning Combination: Desktop Virtualization and Windows 7/8.1

The Windows 7/8.1 upgrade process can be greatly simplified using desktop virtualization. Citrix XenDesktop and Citrix AppDNA address the problem of *application compatibility and application migration* by providing application insight and on-demand application delivery of any Windows application across a variety of device types. In addition, it is simple for an organization to continue running Windows XP side by side with Windows 7/8.1 for a period of time to ease the transition.

- With XenDesktop on-demand applications, IT can virtualize Internet Explorer (IE) 6 and deliver it from the data center onto the new OS—the end-user experiences no difference. In addition, applications that have not been updated for Windows 7/8.1 can be delivered in the same way, virtually, with a great experience, to any device. These applications are delivered according to custom requirements for performance, security, and mobility for each user. Applications that are not compatible with Windows 7/8.1 are now useable, and

Citrix XenDesktop enabled a large financial and insurance institution to package and deploy applications quickly and consistently, and simplifies the cumbersome task of maintaining locally installed applications on each endpoint. The company also uses XenDesktop to support IE 6 applications.

centralizing applications in the data center reduces costs and ensures that IT can control and encrypt access to both applications and data for enhanced security, while delivering the application as a service instantly to users in any location.

- Organizations can continue to use the same *endpoint hardware* they used with Windows XP. Instead of having to identify hardware that cannot support Windows 7/8.1's requirements and spend the money (and time) purchasing and deploying new devices, organizations can delay or eliminate those costs by delivering virtual desktops and applications from the data center to existing hardware.
- Desktop virtualization can accelerate Windows 7/8.1 deployments by *simplifying the migration*. After Windows 7/8.1 has been deployed centrally in the data center, users simply log out, and when they log back in on XenDesktop, they are up and running on Windows 7/8.1. Virtualization handles the migration within the data center all at once, streamlining the process and preventing rolling outages across the organization.
- AppDNA can help accelerate XenDesktop implementations with a high degree of confidence. AppDNA profiles a company's application environment, tests application compatibility, suggests remediation steps, and provides the intelligence to accelerate a successful XenDesktop deployment. Companies can save time, reduce costs, and remove risks with their Windows 7/8.1 migrations and virtualization projects when they utilize AppDNA.
- Citrix enables companies to track and monitor their desktop virtualization progress and success with Desktop Transformation Accelerator. IT can utilize this free tool to guide and assist with their XenDesktop strategy. Desktop Transformation Accelerator provides step-by-step details, suggested next steps, and key criteria that remove any guess work as IT races ahead with Windows 7/8.1 and XenDesktop.

Desktop and application virtualization can take an event that would normally create downtime and turn it into a brief interruption. Companies that adopt XenDesktop as part of their Windows 7/8.1 migration strategy can benefit from the ability to turn any user device into a

"Having Citrix really did make a huge difference when it came to our Windows 7 migration. A lot of our users were already familiar with accessing the corporate resources through XenApp."

— *Systems Administrator, Commercial Real Estate*

productivity device, to turn any application into a service delivered to any OS or device, and to turn a large migration effort into a significantly streamlined process. Since virtualization offers users a choice of devices for running Windows 7/8.1, organizations can run virtual applications and desktops on portable Windows or Apple and Android devices, including laptops, smartphones, tablets, and many more. Employees can bring their own devices without causing IT to spend hours managing them for compatibility and security. They can also transfer from their office desktop to a laptop while travelling and to a tablet at home, with little difference in their experience. Users can personalize their own desktops while IT maintains corporate standards. IT can create a central corporate "gold" image that can be run on any of these devices, without worrying about specific device drivers and DLLs for each hardware unit.

## Mitigating Windows 7/8.1 Migration Concerns with a Robust Desktop Virtualization Strategy

As demonstrated in the ESG qualitative research outlined in the Appendix, businesses are finding a perfect match with Windows 7/8.1 migration and a desktop virtualization strategy. The two strategies should not be thought of as mutually exclusive projects. Rather, companies that unite the projects are seeing tremendous benefits for both short-term tactical gains and long-term desktop and application delivery strategy. Common Windows 7/8.1 migrations can be easily overcome when combined with robust desktop virtualization strategies. These include:

- **Application compatibility.** Using a desktop virtualization solution, organizations don't have to wait for application compatibility before migrating. They can continue running Windows XP side by side with

Windows 7/8.1 for a period of time to ease the transition. Using technologies like AppDNA, an organization can further accelerate the transition from XP to Windows 7/8.1 by getting a quick view of the applications that will work on Windows 7/8.1 and those that will require some form of remediation to get them working natively on Windows 7/8.1.

- **Support for Windows 7/8.1 across multiple endpoint devices.** According to the businesses ESG interviewed, supporting Windows 7/8.1 across multiple device types, including smartphones and tablets, was a key part of their strategies. Pent up end-user demand and lost productivity were overcome by leveraging desktop virtualization to deploy Windows 7/8.1 across these various endpoint device types resulting in productivity gains and satisfied users. These companies neither had to blanket the entire organization with a new OS in one fell swoop nor carry the additional cost burden often linked to OS migration.
- **Support for personal assets.** Companies are starting to aggressively explore desktop deployment models that they can securely and confidently install on a personal endpoint device. This includes personally owned laptops, smartphones, and tablets. Including desktop virtualization as part of a Windows 7/8.1 migration has helped companies overcome the challenge of assigning a company asset to all employees. A good example of this is when companies maintain and deploy a Windows 7/8.1 image to contract workers on their personal devices.

Solutions like XenDesktop and AppDNA provide multiple tools and approaches to architecting a viable desktop virtualization and Windows 7/8.1 migration strategy. While the VDI deployment model may work in some specific use cases, IT needs to also consider how application delivery becomes part of the overall architecture. Companies that migrated to Windows 7/8.1 using multiple desktop virtualization delivery models with on-demand application delivery are already seeing great benefits and are able to scale the success across more employees and endpoints.

## The Bigger Truth

The challenges IT organizations face managing employee desktops are growing and becoming more complex. Multiple device types and work locations complicate IT's ability to maintain corporate standards while delivering a positive, productive end-user experience. In addition, employees download software and plug-ins that have not been approved by IT. These ad hoc implementations can disrupt functionality, requiring IT to spend time identifying and fixing problems. As a result, IT spends more time and money while losing some measure of control over their environments.

Desktop virtualization capabilities are converging with the need to migrate to Windows 7/8.1, creating an ideal opportunity for organizations to enhance their application and desktop delivery, improve security, and embrace the consumerization of IT. Virtualization speeds and simplifies the Windows 7/8.1 deployment process, saving time and money. It also enables IT to build centralized images with corporate-approved policies and security in place and then share those images throughout the organization. Users can enjoy the same desktop experience while taking advantage of multiple endpoint devices, including smartphones and tablets. In addition, employees are prevented from making changes or additions to desktops and applications, simplifying IT's job.

Companies migrating to Windows 7/8.1 should:

- Immediately research how desktop virtualization can help accelerate the success of Windows 7/8.1 migration.
- Learn about the different models of desktop virtualization delivery. This includes application virtualization, client side hypervisors, and VDI.
- Include desktop virtualization and Windows 7/8.1 in their overall endpoint device support plans. Companies that have done this are already reaping the benefits.
- Consider BYOD and how their environments may benefit from this new policy.
- Consider decoupling users from devices and applications from desktops. Both of these strategies have proven successful as a key part of long-term desktop delivery goals.
- Profile their applications with technologies like AppDNA to determine which applications will work, which can be modified, and which will be best suited to be virtualized in the new environment.

OS migrations always present their challenges, but ESG is witnessing companies experience great success when migrations are combined with a desktop virtualization strategy. Companies considering desktop virtualization should think about the long term and also consider the short-term gains that can be realized. Windows 7/8.1 migration provides an ideal opportunity to discover and invest in a desktop virtualization strategy that helps accelerate your company to the next level of desktop and application delivery while increasing user productivity.



## Appendix: Customer Case Studies

### Organization Profile

#### Industry

Social Services

#### Desktop Profile

550 Regional endpoints

400 migrated to Win 7

200 XenDesktop licenses

60 smart phones accessing  
XenDesktop

#### Challenges

Social workers needed access to  
applications in the field

Multiple remote single PC  
locations are difficult to  
support

Windows 7 created the need to  
upgrade endpoint hardware

Windows XP support was a  
growing concern

#### Solution

Citrix XenDesktop

Segmented users to determine  
who would benefit from  
XenDesktop

All XenDesktop images run  
Windows 7

XenDesktop is hosted with a  
system integrator

#### Benefits

Social workers can input data in  
the field

Desktop support and  
management have been  
simplified

“We started our Windows 7 migration 2 years ago, since we never migrated to Vista and XP support was a growing concern. Citrix XenDesktop is a slick piece of software that enables our social workers to use any application on Windows 7 in the field to collect and enter data on smart phones and then access the data again from their personal home PCs.”

--CIO

#### About the Organization

This social services organization has more than 20,000 employees nationwide with 550 regionally in the Washington, DC metro area. The CIO is

responsible for delivering social worker access to case management software, as well as maintaining single desktop systems located throughout the DC metro area at various housing facilities. Supporting the mobile social workers and the distributed PC deployments has proven challenging from both the IT and end-user perspective.

The migration to Windows 7 coupled with Citrix XenDesktop has enabled social workers to collect real time data and enter it immediately into the case management system while on the road, saving a significant amount of time.

#### Solution

As this organization rolled out Microsoft Windows 7, it also invested in Citrix XenDesktop to help improve the productivity of its social workers in the field and to extend the useful life of existing endpoint hardware investments. XenDesktop helped the organization to run the new OS in the data center with the aging PCs used only as connection devices. The XenDesktop environment is hosted and managed offsite with a system integrator. The CIO indicated that they are seeing an 8-9 month ROI due to the time saved simplifying desktop and application management.

#### Deployment

Currently this organization has 200 instances of XenDesktop running, primarily deployed to its social workers in the field. Not only did XenDesktop with Windows 7 improve flexibility, the CIO also commented that the implementation of XenDesktop provides network redundancy by enabling social workers to access the case management system on a smart phone over a mobile network, locally from the regional office over the WAN, and from home offices via cable internet connections.

#### Plans for the Future

The CIO has plans to migrate 80-90% of its endpoints and to invest in 100 more licenses of XenDesktop. The CIO acknowledged he would like to do more, but must operate within budgetary constraints. There are also some social workers who must log onto different desktops in order to gain access to applications they need. The CIO's goal is to try to limit the number of desktops users need to sign on to and consolidate more applications into fewer desktop images.



## Organization Profile

### Industry

Financial and Insurance

### Desktop Profile

10,000 endpoints

2,500 migrated to Win 7

100 XenDesktop clients

### Challenges

Application compatibility with Windows 7

Large population of remote employees

Security and compliance

### Solution

Citrix XenDesktop and NetScaler

### Benefits

Simplified deployment of Windows 7

Improved access options for remote employees

Streamlined desktop management and support

Enhanced security

“Our plan is to move nearly entirely to a XenDesktop desktop and application delivery model. With a growing population of remote users, it becomes costly to support them if their hardware dies. With XenDesktop, they can open a web browser on their home PC and access the applications they need. ”

--IT Manager

### About the Organization

An IT executive from this global insurance company describes the organization as typically slow to adopt new technology and very risk-averse. The company also has country-specific compliance mandates that have made desktop management a challenge in more restrictive countries.

The number one problem this company had with Windows 7 was application compatibility. They leveraged Citrix to help resolve these issues and better manage local drivers and DLLs.

### Solution

This company replaces an average of 280 laptops and desktops a month. All new hardware purchases are deployed with Microsoft Windows 7. The company also turned to Citrix XenDesktop to achieve its strategic desktop and application deployment goals as a key part of its desktop management strategy. By combining Windows 7 migration and desktop virtualization into a common project, this company was able to accelerate its strategy at a quicker pace than if they were to keep the projects separate. The synergy between Windows 7 and desktop virtualization transformed the way this company designs, delivers, and maintains a stable and productive computing environment for its employees.

### Deployment

This IT executive said that Windows 7 made it easier to adopt desktop virtualization and transition from XP. They currently have a 100-user pilot program in place that has been very successful. Any application that is client-server based is deployed using on-demand application capabilities from XenDesktop. This enables IT to package and deploy applications quickly and consistently, and simplifies the cumbersome task of maintaining locally installed applications on each endpoint. The company also uses XenDesktop to support IE 6 applications being delivered to Windows 7.

### Plans for the Future

The company goal is 1,000 users running virtual desktops. This company has some trouble in the morning when everyone logs in at once, in what is commonly referred to as a “boot storm.” They recognize that the current stack of IT infrastructure needs further investment based on architectural considerations and plans to address this prior to scaling the environment. The company is also considering a program that enables employees to use their own PCs and XenDesktop as the delivery solution for corporate owned and managed desktops and applications. XenDesktop has also enabled the company to recognize the potential of creating new policies to support tablets and new smartphones.

## Organization Profile

### Industry

Commercial property  
development

### Desktop Profile

Field office workers  
XP migrating to Windows 7

### Challenges

Remote workers spread over  
geographic distances  
Still on Windows XP  
Concerned about XP end of life  
Graphic intensive applications

### Solution

Citrix XenDesktop & XenApp

### Benefits

Remote field site connectivity  
Employee productivity during  
poor weather conditions  
Enhanced architectural team  
support

“When we were testing Windows 7, we were testing it alongside XenDesktop. It was a total reinvention of the end-user’s desktop experience. There’s only one local installation of Windows 7 in the entire company now.”

-- *Systems Administrator, Commercial Real Estate*

### About the Organization

This commercial real estate company initially started looking at Windows 7 and recognized that it was going to be a pretty daunting task. The IT team was dreading the upgrade and not looking forward to doing a full desktop refresh. This company had a corporate office and remote offices throughout New England. A desktop refresh would require a drive up to Maine, out to Connecticut, and up and down the east coast of New England.

Having Citrix really did make a huge difference when it came to our Windows 7 migration. A lot of our users were already familiar with accessing the corporate resources through XenApp.

### Solution

This company decided that it would make more sense to deploy XenDesktop and Windows 7 since a lot of the users were already familiar with using XenApp to access the corporate applications. HDX 3D Pro is a very interesting sub-component that the company uses in XenDesktop. HDX 3D Pro was leveraged for people who have architect use cases. That GPU deep compression gave the end-user access to graphics intense applications like AutoCAD.

### Deployment

Deployment was greatly simplified since end-users already had familiarity with XenApp and were accustomed to accessing applications remotely. The initial migration was virtually instantaneous, since it was just a matter of giving them a Wyse Xenith device, plugging it in and walking away. Citrix enabled the company to have more flexible work styles, which is critical for a company that has to weather this New England climate. November to February is a risky time that can produce weather that results in total white out conditions, forcing employees to stay at home. Citrix has enabled users to be 100 percent productive when the corporate office is not physically available to them, which was a significant achievement for a company that has operations 24/7.

### Plans for the Future

The goal is to reach 100% of its end-user community and also allow the use of iPads as an access point.



Enterprise Strategy Group | **Getting to the bigger truth.**

20 Asylum Street | Milford, MA 01757 | Tel:508.482.0188 Fax: 508.482.0218 | [www.esg-global.com](http://www.esg-global.com)