

A New Beginning: The Most Efficient Path to Leaving Windows XP and PCs behind

Abstract:

The end of support for Windows XP has come and gone. Schools that stayed on XP leave serious security attack paths open and are stuck with a limited environment that cannot meet the requirements to access modern online resources, software, or user experience. Further, remaining with the traditional PC-based computing approach will only re-start the cycle of continuous PC upgrade and repair.

End of support for XP provides schools with the opportunity to migrate away from both Windows XP and cumbersome PC-based computing and to a much more efficient computing model, session-based desktop virtualization. The newer Windows desktop experience provides a better platform to meet organizational needs for productivity, flexibility, personalization, and connectivity. Session-based desktop virtualization allows schools to simplify their entire IT approach while improving their computing capability and lowering both acquisition and maintenance costs significantly. It's time to leave Windows XP and PCs behind.

Even with aggressive marketing by Microsoft encouraging upgrades to new versions of Windows®, a remarkable 29% of PCs still used Windows XP as their operating system¹ at the end of 2013. Customers delayed conversion from the 10-year old operating system simply because they didn't have to. Windows XP had been a very stable computing platform and users had become comfortable with its functionality. Unfortunately, IT managers had also become complacent to the complexity that comes with managing PC's. The end of XP support provides the opportunity to choose a computing approach that simplifies your OS migration now and in the future, but also simplifies your IT system entirely.

The Future Awaits

Most industry analysts agree that organizations must migrate for two main reasons: new content and security. New Windows versions are designed to provide a very rich user experience drawing from constant internet connectivity and new versions of software designed to take advantage of the operating system. This connectivity comes at a price: Security measures have advanced considerably to meet the challenge and this level of personal protection is simply no longer available for Windows XP. The Microsoft Security blog states that "The very first month that Microsoft releases security updates for supported versions of Windows, attackers will reverse engineer those updates, find the vulnerabilities and test Windows XP to see if it shares those vulnerabilities."²

The Criteria

The execution of a Windows upgrade requires a concentrated planning effort, a clear understanding of the associated expenses, and an approach for implementation challenges, such as application compatibility, managing personal data and incorporating new requirements, including the use of web and cloud resources.

When evaluating options for an OS upgrade, there are three key questions that define the challenge:

- **Complexity:** How hard is it to perform from a technical point of view?
- **Maintenance:** How easy is the new solution to maintain?
- **Cost:** What is the hard dollar cost for hardware, software -- and the recurring soft-dollar costs for IT support?

	PC-BASED COMPUTING		SERVER-BASED COMPUTING	
	REPLACE PCS	UPGRADE OS	VIRTUAL DESKTOP INFRASTRUCTURE	SESSION-BASED DESKTOP VIRTUALIZATION
COMPLEXITY	Simple	Difficult	Difficult	Simple
OPERATING SYSTEMS	One per PC	One per PC	One per user	One per group
APPLICATIONS	One set per PC	One set per PC	One set per user	One set per group
HARDWARE MAINTENANCE	High	Higher	Low	Low
SOFTWARE MAINTENANCE	High	High	Medium	Low
ACQUISITION COST	Very High	High	High	Low
ENERGY COST	High	High	Medium	Low
MANAGEMENT COST	High	High	High	Low
TCO	High	High	High	Low

¹ Source: NetMarketShare, 2 Jan 14

² Source: Tim Rains, "The Risk of Running Windows XP After Support Ends April 2014, Microsoft Blog 15 Aug 2013

The Options

There are several core approaches for managing an OS upgrade:

1. **Purchase new PCs:** This is the recommended approach from Microsoft because it gives users a fresh start with new hardware and a new operating system. It reduces the complexity of the migration but raises the acquisition costs per user, and requires that IT managers stay in the PC support and replacement business now and forever.
2. **Install the new OS onto each existing PC:** This approach provides a lot of direct control over the upgrade process, but often at a prohibitive cost. Each machine has to be individually backed up, re-imaged, tested and then put back into the user's hands. This becomes an increasingly expensive and time-consuming process for the IT administrator when multiple classrooms and campuses are concerned. Against all three of the key criteria (complexity, cost, maintenance), this approach only really presents itself as feasible for schools with massive IT support capabilities to physically manage every PC.
3. **Move to one of two server-based computing architectures:** In this approach, the user's desktop environment runs on a central server instead of a PC. Students use a thin client device connected to their monitor and peripherals to access a personalized desktop experience on the server over a network. OS and software upgrades are applied to the server once for all users and not to individual PCs. Replacing end user PCs with thin client devices lowers the cost of acquiring and maintaining hardware components. This model simplifies the upgrade and maintenance process tremendously.

Within the server-based computing model, there are two distinct approaches to make desktops available to users: Virtual Desktop Infrastructure (VDI) and Session-based Desktop Virtualization.

- **Virtual Desktop Infrastructure:** VDI provides a virtual machine to each user. Each virtual desktop runs in a dedicated virtual machine stacked on top of hypervisor software. Each virtual machine has its own copy of a desktop OS and applications. Thus an entire OS environment must still be managed for each user, and the organization must provide all the computing, storage and network resources needed to support the virtual machine infrastructure.
- **Session-based Desktop Virtualization:** Session Virtualization provides a virtual environment for each user. A single version of both the OS and applications used by the group are installed on the server. Specialized software then creates virtual desktop sessions, which are personal desktop environments that allow each user to access the shared software, but not the desktops of other users. Session virtualization does not require machine virtualization infrastructure and is inherently more resource efficient and simpler to deploy and maintain. This model can support the same number of users as a comparable VDI implementation while using as little as $\frac{1}{4}$ the computing resources.

After comparing these approaches, market analyst firm IDC concluded, "For most organizations that are considering virtualized client solutions, the possible benefits are compelling. ...In particular, solutions leveraging virtual user session software can offer the most compelling cost advantages."³

The Choice

Now that Microsoft has pulled the plug on Windows XP you must choose an alternative computing environment. Choose now or later, but choose wisely. In a Microsoft Windows environment, no solution does more to maximize the benefits of session virtualization than **vSpace** by NComputing. A fully integrated, end-to-end desktop virtualization platform, **vSpace** includes server software, **vSpace Server**, which communicates with our purpose-built thin clients via our proprietary

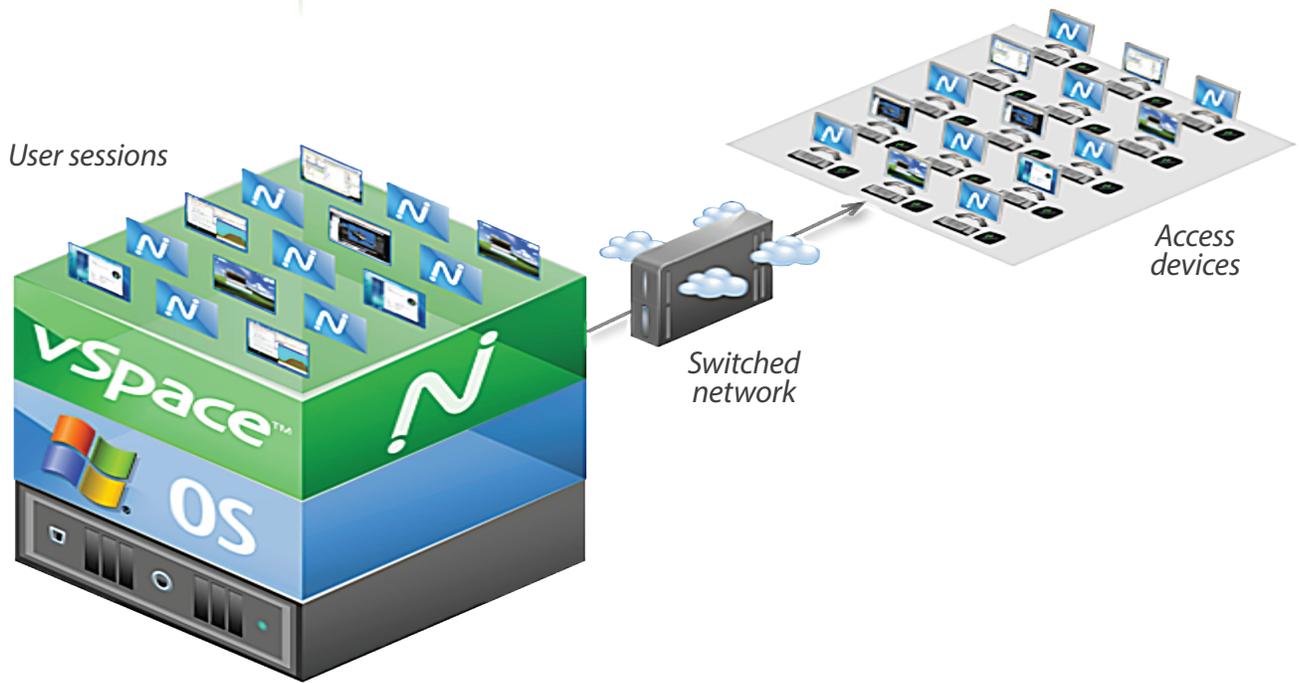


Figure 1: vSpace is a type of Session-based Desktop Virtualization

multimedia protocol, User eXperience Protocol (UXP). **vSpace Server** allows remote and centralized management of thin client devices and user sessions. **vSpace Client** allows you to extend the life of Windows XP PCs by enabling them to connect to a virtual desktop on **vSpace Server**.

vSpace runs on Windows Server OS configured to provide a seamless Windows 7 or Windows 8 desktop experience for users. Broad education application compatibility, better integration of server-based applications with the user's desktop, improved personalization, and powerful management tools are just a few of the features Microsoft Server software has to offer.

Using the **vSpace** platform with Microsoft Server can result in significantly lower per-seat acquisition costs, lower long-term maintenance and support costs, the ability to do a one-time application deployment for all users, improved support, centralized security and centralized data backup. Before undertaking any OS upgrade, it is important to do full compatibility and network stress testing to assure the session-based virtual desktop environment can deliver the performance and benefits designed by the administrator. But for those who have been contemplating both a move to Windows 7 or 8 and a move to virtual desktops, it is highly beneficial to combine these rollouts into one effort.

The benefits of a new Windows OS in performance, rich functionality, security and ease of use are all powerful reasons to conduct an upgrade. By switching to a session virtualization model in tandem, such as **vSpace** from *NComputing* for desktop virtualization, schools can not only adopt a new OS, but simplify their overall hardware deployment at the same time. With this model, schools can more easily achieve all the critical migration criteria by reducing acquisition and ongoing costs, the complexity of the migration, and simplify ongoing maintenance demands. The time to migrate is now.