Windows XP has been hailed as one of the best operating systems till date. However, with Microsoft declaring the deadline for the end of extended support for Windows XP in 2014, enterprises that are still using this version need to plan their migration to a newer version of Windows right away. The process of migration itself is time consuming and enterprises run the risk of missing the deadline if they do not act soon.

Further, with its launch in 2012, Windows 8 is the latest operating system from Microsoft in the market. In contrast to the more stable Windows 7, Windows 8 is a big leap forward for enterprises looking to establish mobility and an enhanced interface for its users. However, the version also comes with large-scale changes that organizations need to evaluate while making their migration plans.

Migrating away from Windows XP to either Windows 7 or Windows 8 will require careful consideration of the business and technology factors that are likely to influence the success of the migration.

This paper analyzes the key factors that enterprises must consider when planning their migration and deployment strategy, along with the implications of adopting either Windows 7 or Windows 8.

Windows XP is dead; Long live Windows XP!

As the deadline for the end of extended support for Windows XP approaches (April 2014), it presents a huge challenge for enterprises still on Windows XP. Migrating from one platform to another is an exhaustive process involving testing, deployment and training – and organizations risk running out of time if they do not make the move right away.

Windows XP has been a phenomenal operating system that has ruled the desktop computing landscape for close to 10 years now. It is no wonder that organizations are reluctant to move away from this operating system (OS) in spite of changes in technology. Nevertheless, they will have no choice but to do so, since support costs are all set to sky rocket after April 8, 2014. In fact, according to Microsoft, it may be 5 times less expensive to migrate to Windows 7 than stick with Windows XP after the deadline.

Windows 7, released in 2009, is a stable alternative for migration. But the launch of Windows 8 in 2012 and the rapid ‘consumerization of IT’ present a dilemma for organizations - Which operating system to choose - Windows 7 or Windows 8?
Choosing the successor – Windows 7 or Windows 8

Before taking a call on the version of Windows to consider, let us explore the pros and cons of both these versions.

The Windows 8 platform comes packed with features. As the first operating system (OS) version that incorporates touch capabilities, Windows 8 is an ideal platform to manage mobile devices. However, owing to the extent of changes incorporated in this version, enterprises need to evaluate the impact of Windows 8 adoption on their current legacy applications and desktop infrastructure.

On the other hand, Windows 7 is a stable operating system with the ability to support most commercial applications. This platform has been around for close to 4 years now and will be supported by Microsoft till 2020. Besides key productivity improvements, Windows 7 enables enterprises to run their legacy XP-based applications effortlessly. However, the proliferation of mobile and tablet users at the workplace will require security and standardization improvements.

So how should organizations approach this migration? To evaluate a platform rollout, four parameters need to be assessed:

- Productivity
- Impact on data security
- Manageability of resources
- Ease of use
Organizations will do well to conduct a comparative and comprehensive analysis of features of Windows 7 and Windows 8 for each of these parameters, as shown below:

<table>
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<tr>
<th>Parameter</th>
<th>Windows 7</th>
<th>Windows 8</th>
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| **Productivity Gains**     | 1) DirectAccess allows connectivity to the corporate network without the need of a VPN Solution, but it requires the implementation of IPv6  
2) BranchCache – Cache content is downloaded from the web or file servers on a branch server  
3) Stable and faster boot-up | 1) Easier implementation of DirectAccess as compared to Windows 7 as it can be implemented on IPv4 as well  
2) BranchCache – Enhancements in Windows 8 include reduction in bandwidth usage, better management using single group policy and data de-duplication  
3) In addition, new Features have been incorporated in Windows 8  
• Significantly faster boot time as compared to Windows 7  
• Improved Search Function  
• Feasibility of Bring-your-own-Device (BYOD) policy by supporting a wide range of hardware  
• Touch based user interface  
• Similar Windows user interface(UI) on Windows Phone/Tablet (RT) and PC (Desktop) |
| **Impact on Data Security** | 1) BitLocker, BitLocker To Go – This feature protects data, simplifies encryption & key management for removable drives  
2) App Locker – This controls what application can be run on the user machine using group policies | 1) Enhanced BitLocker usability by including pre-provisioning, faster encryption by addressing ‘only’ used space and support for Trusted Platform Module (TPM)  
2) New Features added in Windows 8:  
• Windows Defender now includes anti-virus capability apart from the anti-malware feature.  
• SmartScreen included in PowerShell to protect from potentially harmful downloads (all browsers)  
• Secure Boot and Trusted Boot introduction to verify OS integrity  
• Secure sign-in - new sign in options include PIN and picture password alternatives, also support for virtual smart cards for multi-factor authentication  
• Credential Locker to store user id and password for websites and Windows 8 apps |
| **Manageability of Resources** | 1) Richer Graphics for virtual desktop, voice & microphone support, local printing, reuse of Virtual Hard Disk (VHD) images for deployment to PC’s  
2) XP-Mode to support non-compatible Windows XP apps  
3) Graphical Editor in PowerShell that is easy to use | 1) Windows 8 along with Windows 2012 and RemoteFX provides the ability to provision Virtual desktop infrastructure (VDI) that can now support graphics as well  
2) New Features added in Windows 8 include:  
• Windows-To-Go allows users to access the enterprise image from a USB drive image thereby allowing mixed ownership and flexibility to support BYOD and access-on-the-move  
• Windows Store for distributing both Metro-style and traditional applications for enterprise  
• Client Hyper-V built on non-server platform for IT Pros and developers |
| **Ease of Use**             | 1) Windows 7 includes features like jump list, enhanced taskbar, Aero effects/shake, desktop gadgets, Windows flip etc. | 1) Windows 8 user interface is optimized for support across desktop, laptop, touch and mobile based devices. The start screen is now a one-stop for all apps or information the user needs. The start screen consists of tiles (‘Metro’ user interface) and each tile can be grouped for easier management.  
2) All features of Windows 7 such as jump list, taskbar, Windows flip, explorer have been enhanced to support multi-touch screens |
| **Our take**                | - Windows 8 brings in a whole new user experience along with productivity, security and manageability features as compared to Windows 7  
- Leveraging many of the Windows 8 enhancements may result in a need to upgrade the back-end infrastructure from Windows 2008 to 2012  
- Enterprises that do not require all the new Features of Windows 8, seeking faster cycle time to upgrade and reduced risk can adopt Windows 7 instead | 1) The Trusted Platform Module offers facilities for the secure generation of cryptographic keys –  
Application Readiness

Ensuring application compatibility forms the foundation of migrating to a new operating system. To ensure compatibility, applications should be assessed for compatibility, prepared and packaged for the migration. Typically, this involves application compatibility testing, remediation for non-compatible applications (code based, Shim based, virtualization), packaging/ virtualization, certification and publishing.

Since Windows 7 has been in the market for nearly four years, almost all independent software vendors (ISVs) have compatible applications available for this OS. This platform also leverages an ‘XP Mode’ to extend non-compatible application access for users until compatible versions are available. Windows 8 will require several months before ISVs can certify their applications. Further, the XP Mode option is not available for Windows 8.

Typically, 60% of XP-based applications are directly compatible with Windows 7. The remaining 40% can be remediated with newer application releases or by using a shim or virtualization based remediation strategy while less than 10-15% requires actual code based remediation.

64 bit vs 32 bit versions

A 32-bit version OS can support up to 4 GB memory while a 64-bit version can support up to 192 GB. Enterprises can plan their hardware configuration according to their application requirements to maximize benefits from the 64-bit operating system. Such a system can run multiple programs at the same time along resulting in faster response from the multitasking capabilities. However, applications that are not resource intensive may not derive any value by using the 64-bit version.

Windows 7 allows enterprises currently running 64-bit operating systems to use 32-bit applications as well. In cases where the 32-bit application does not work on a 64-bit OS, Windows 7 offers the XP Mode or Med-V to run such applications. Similarly, Windows 8 supports both 32-bit and 64-bit operating systems and can run 32-bit applications. However, it does not support XP Mode or Med-V, thereby requiring virtualization or remediation of the application.

Impact of hardware upgrades

Large-scale operating system migrations within the enterprise will invariably impact hardware such as communication devices, scanners, displays, storage etc. With multiple form factors available for operating systems, it is essential to ensure that hardware is compatible and duly supported before new OS deployment.

While a comparison of the product features is a key consideration, organizations also need to evaluate technical factors such as application readiness and hardware upgrades. The success of any platform migration is invariably determined by the extent to which productivity losses are managed.

These factors have been described below:

Web compatibility

Web application compatibility is another key area to evaluate as organizations may have legacy web applications that need to be migrated to the new OS.

Windows 7 uses Internet Explorer (IE) 8 as its default browser and has mandated IE upgrades unlike earlier versions. So, before migrating to Windows 7, enterprises that continue to leverage websites or applications based on the legacy IE 6/7 versions would need a comprehensive compatibility assessment, migration and remediation approach.

In contrast, Windows 8 leverages IE 10 in Metro and desktop application mode. Since Metro style restricts the addition of plug-ins, it is recommended to check the need for plug-ins when deciding the Metro style interface. Alternatively, organizations can switch to the desktop mode for IE after validating the compatibility of IE 6/7 based web pages before migration.

User enablement and deployment support

The key to the success of migration lies in the satisfaction of the end users. The longer presence of Windows 7 in the market minimizes the number of training and enablement sessions required when compared to Windows 8. This is because as compared to Windows 7, the user-interface (UI) for Windows 8 has undergone several drastic changes. The new Metro UI provides a unified experience across desktop, laptops and touch-enabled devices. However, the lack of the ‘Start’ button and the need for additional clicks to shutdown presents a significant shift for users.

Windows 8 is likely to be the first OS that requires formal training for its users. This means enterprises would need to allocate time and budgets for training and communication activities on the new Windows 8 features as part of the migration effort.
Given the extent of disparity in the two versions, how do organizations decide on their choice?

Enterprises on Windows XP will definitely need to move fast as the end of support in April 2014 closes in. They need to migrate to either Windows 7 or Windows 8, else the cost and complexity of support of Windows XP is clearly going to increase.

According to market estimates, enterprises will incur higher costs when supporting older Windows XP installations compared to the modern Windows 7–based solutions. The annual cost for a Personal Computer (PC) per year for Windows 7 can decrease by as much as 70-80% as compared to a similar Windows XP installation.

Windows 7 is definitely a stable alternative and can be a choice for enterprises that seek to standardize their computing environments. The availability of compatible applications on Windows 7 by several ISVs, ample support by hardware manufacturers and vast knowledge base of Windows 7 implementation can help accelerate the overall migration process.

Given the depth of mobility and touch oriented features that have been incorporated in Windows 8, migration from Windows XP to Windows 8 directly may be a tough act to follow. Enterprises that are planning to migrate to Windows 8 would then need to consider the timelines required for the migration process, since they would need to consider the complexities involved in upgrading the back-end infrastructure. The fact that Windows 8 currently does not have the same level of support from ISVs as Windows 7 may complicate this process.

Whether the choice is Windows 7 or Windows 8, organizations need to base their decision on their computing requirements derived from their overall business strategy. This requires organizations to focus on the precise set of business and technology factors that are likely to impact the migration process in order to ensure a smooth and successful OS migration.
About the Author

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