A Survival Guide to Windows 7 Migration

An ENTERPRISE MANAGEMENT ASSOCIATES® (EMA™) White Paper
Prepared for Kaseya

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Executive Summary

As enterprises of all sizes gear up for the challenge of migrating from their principally Windows XP environments to the rapidly adopted Windows 7 platform, they need to consider the most effective processes and tools to achieve a smooth transition with minimal impact on business performance and profitability. Fortunately, automated solutions and best practices are available to provide critical assistance in ensuring reliable deployments, reducing compatibility issues, and maintaining end-user productivity.

Introduction: Drivers for Rapid Adoption

Never before in history has an operating system (OS) release achieved such rapid adoption as Microsoft has seen with their introduction of Windows 7. By February of 2010, just four months after its initial release, Windows 7 had been deployed on greater than 10% of the more than one billion PCs in use worldwide – a milestone it took Vista 16 months to achieve. According to a study performed by InformationWeek magazine,[1] four out of every five businesses have reported plans to migrate to Windows 7 within the next two years, indicating the sharp upward curve of adoption will continue into the foreseeable future. The same research also indicated half of the survey respondents rated Windows 7 as "excellent" in performance, dismissing much of the initial concerns that the new OS might repeat the dismal reception that occurred with Vista.

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So, why the rush? Businesses are traditionally cautious when introducing new technologies, but far less than the usual measure of caution is evident with Windows 7 migration. Although there are a number of critical drivers, none is more prevalent than the need to move off of XP and beyond Vista. With Vista, Microsoft completely reengineered the architecture of Windows from the ground up, intending it to lay the foundation for the future development direction of the platform. Due to these dramatic changes, however, the operating system was not regarded as very stable, with many driver and application incompatibilities discovered following its initial release. Because of this and the significant migration challenges inherent in transitioning to the new architecture, Vista never achieved greater than 20% of usage share, leaving roughly 80% of all desktops on the now quickly aging XP. Although Microsoft has extended XP support in recognition of this issue, the platform is scheduled for end-of-life in April 2014, when Microsoft will discontinue maintenance support and the release of security updates.

Certainly, the purchase of new PCs will result in the deployment of Windows 7 (since older versions of Windows are no longer shipped with new systems), but the improved feature set for the new OS provides additional motivations for adoption. For instance, security has been improved with the inclusion of tools such as BitLocker Drive Encryption for protection both at the network layer, to block hackers and spyware, and at the system layer to prevent data loss in the event a workstation is stolen. Since Windows 7 was built on top of the new architecture introduced with Vista, the majority of compatibility and stability issues had already been vetted by Vista adopters, delivering a much more reliable platform right from the start. Similarly, Microsoft improved usability and productivity features of the platform based on feedback received from Vista users. This led to the introduction of

[1] Practical Migration: How to Master Your Win 7 Rollout: http://analytics.informationweek.com/abstract/7/2794/Enterprise-Software/research-windows-7-migrations.html

new interfaces, such as simplified power management options that make it even easier to minimize workstation energy consumption and reduce operational costs. 64-bit OS Support is also a motivator for moving to Windows 7 as is ensuring systems stay on a platform that is supported by critical applications. Regardless of the reasons for moving to Windows 7, however, there are a number of obstacles that need to be overcome in the migration process itself, particularly if moving from XP.

Challenges with Windows 7 Migration

The process of migrating a workstation to a new platform is not as straightforward as the non-initiated might expect. There are a number of key steps that need to be achieved with any system migration in order to minimize productivity impacts to the end users and to the business. As with any significant environment change, the process starts with a full backup of critical files to ensure prompt data recoverability. Next, the operating system itself is deployed followed by any required hardware drivers and applications. User data is then restored and all user setting reconfigured, and, finally, the end users are trained to function in the new environment. With an upgrade from Vista to Windows 7, these processes are relatively simple, since the core environment is essentially the same. A backup of critical data should still be performed to be safe, but drivers, applications, and users' settings should all map directly to the new OS platform. Migration from XP to Windows 7, however, is fraught with difficulties at every step of the deployment process.

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Among the most commonly experienced pitfalls in moving to Windows 7 involves compatibility issues. For instance, Windows 7 has some very specific system requirements and may not be compatible with some older workstation architectures. Also, many obsolete hardware components do not have compatible drives available for Windows 7, and some older application may not install or function properly in the new environment. Even applications that are compatible with Windows 7 sometimes rely on other software prerequisites to function, and these in turn need to be suitable for the platform. In many organizations, in-house scripts which are relied on for performing business specific activates need to be updated to ensure they work with the new libraries and system file locations. All of these compatibility issues should be identified and addressed before initiating the migration process to reduce business disruption.

One other common mistake organizations have made with Windows 7 migration is creating a deployment image that includes the operating system, drivers, and applications all in one gigantic package. Administrators of those environments quickly realized their mistake as overlaying an all-inclusive image often results in DLL or registry conflicts since some components were not loaded via a proper installation process. This practice is also extremely inefficient as extensive time is spent building complete environments for every required endpoint configuration and the storage of these various huge image sets consumes a great deal of deployment server resources. If all deployed configurations are kept exactly the same, then waste is likely introduced as application licenses are purchased for endpoints where they may not be required. Also, some applications need to be uniquely configured, so administrators will need to readdress these systems following the installation. By decoupling the operating system, driver, and application installations into different components, administrators can pick and choose which elements are most appropriate for each endpoint.

The goal of any migration strategy should be to ensure user productivity, but that can be very difficult when users are moved from their familiar XP environments to Windows 7. Configuration files have moved, many setting options are completely different, and there are new interface features to which they will be totally unfamiliar. To ensure consistency in user experience, user configurations – or the "user state" – should be mapped directly to equivalent configuration setting in the new environment, reducing the instances of "culture shock."

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Best Practices in Windows 7 Migration

Industry established best practices, such as those included in the Information Technology Infrastructure Library (ITIL), along with lessons learned from early Windows 7 adopters provide guidance on which processes achieve the most effective transition to the new platform. ENTERPRISE MANAGEMENT ASSOCIATES® (EMA™) analysts have leveraged these resources to identify five key practices for improved service in a Windows 7 migration process:

Asset Inventory

Preparation for migration begins with a deep understanding of enterprise resources and requirements, so a full inventory of the support stack is essential and should include both hardware assets (e.g., system model, CPU, memory, devices, peripherals, etc.) and software assets (e.g., applications, drivers, and system tools). This information will be used to establish a baseline for what issues will need to be addressed during the migration and helps prioritize which systems, services and tasks should be performed first. When inventorying applications, be sure to track the software usage so that software packages that are not being used can be identified. Not only does this reduce the cost of licenses that will need to be purchased and maintained, this also reduces the number of installations that will need to be performed during the migration.

Standardize Configurations

Wherever possible, develop standard configurations for groups of like systems. The more consistent environments are, the less work needs to be performed for implementation, on-going support and migration. This will actually reduce on-going operational expenses by minimizing staffing requirements and decreasing back-end services such as for backup and disaster recovery (BDR) systems. A good starting point for this process is to group configurations based on end-user business roles. For instance, all accountants will likely require one common configuration and all salesmen another. If possible, be sure to extend standardization on to the desktop policies. If a group of users have essentially the same user experience, it is easier for them assist each other on operating in the new environment, rather than needing to request assistance from operational support.

Identify Compatibility Issues

A great deal of compatibility concerns can be identified from the previously collected asset inventory, but this evaluation process should be performed prior to deployment of the Windows 7 environment. Begin by checking to ensure each target system meets minimum operating requirements for Window

7 as identified by Microsoft. Check that all critical drivers and applications are compatible by installing them on a test system prior to enterprise-wide deployment. Remember, just because a software package claims to be Window 7 compatible does not guarantee it will run error free. The testing process will also help identify any dependency issues that may need to be addressed.

Monitor the Migration Process

It is not sufficient to simply automate the installation and migration processes, during the implementation all activities need to be monitored for success. This is particularly true with large migration projects. With a broad number of deployments happening simultaneously, it's easy to overlook critical installation and configuration failures. The quicker migration difficulties are identified, the faster they can be remediated, reducing the number of occurrences of similar problems on other end points in the migration schedule.

Ensure End-User Productivity

Although data is typically restored in the final step of a Windows 7 migration, often overlooked is the need to transfer user profiles and individual settings. Since the desktop interface and configuration tools are vastly different between XP and Windows 7, end users can literally spend days of unproductive time setting up their environments to be optimally configured for their work requirements. To minimize this wasted time, their previous user configurations should be mapped to equivalent settings in Windows 7 to create as consistent a user experience as possible.

Migration Success with Automation

To ensure success with these best practices as well as with the actual Windows 7 deployment, automation tools are absolutely essential. It is simply not practical or reliable to use manual processes to initiate all of the required steps for migration on all targeted endpoints in an enterprise deployment. In fact, the more manual steps performed, the greater the likelihood of introducing configuration mistakes due to human error. An automated migration solution, however, should not be confused with an automated deployment tool. Certainly they both provide the resources for provisioning the necessary software components, but a full migration solution provides additional services to meet best practices for ensuring a smooth transition.

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When evaluating automated migration solutions, EMA recommends selecting an integrated suite that provides a single interface for achieving all migration steps. This will simplify the administrative steps and allow for the prompt identification of problems and an integrated platform for remediation. The solution should be able to extend to all targeted system in the support stack – many of which may be located at remote locations – and should be flexible enough to customize endpoints to meet specific business requirements. Additionally, the automated solution should be repeatable so that the same processes can be reused for a group of workstations with the same standardized configurations, and recoverability features should be included to enable rollback of the environment in the event of an unforeseen compatibility issue or environment failure.

As an example, the Kaseya K2 suite of automated systems management solutions provides a comprehensive approach to Windows 7 migration. The agent-based solution simplifies IT management with a variety of automated tasks including software deployment, patching, asset management, service desk, monitoring, and remote access. The audit and inventory functionality provides the complete hardware, software, and driver identification necessary for prioritizing target systems and performing Windows 7 compatibility assessments. The solution suite also provides backup features for critical data protection and restoration as well as disk imaging and bare metal restore capabilities for OS deployment. Applications and drivers can also be deployed independently to ensure flexibility in endpoint configurations.

Kaseya offers add-on modules that will ease the transition to Windows 7. Most prominently, the Desktop Migration module can backup and migrate documents and folders, system files, account information, user settings, Microsoft Outlook PST and Exchange configurations, as well as Web browser and other desktop settings for all target workstations in a support stack on a scheduled per user or per machine basis. The Desktop Migration Readiness component adds a reporting capability for identifying the expected cost of a migration initiative across the entire system (Figure 1). Also offered is a module for Desktop Policy Management that can automatically configure system elements such as desktop settings, drive and printer mappings, and power management plans. With the Live Connect remote access package, administrators can quickly resolve any unforeseen complications and can more effectively train remote users to most effectively utilize the new environment.

Automated management suites can easily provide justifiable returns on investment with the inclusion of resources for simplifying migration processes. Faced with the necessity for enterprise-wide Windows 7 migration, IT managers will significantly reduce the financial costs and business risks associated with staffing and productivity impacts of transitioning to the new environment with an automated solution that simplifies established best practices.

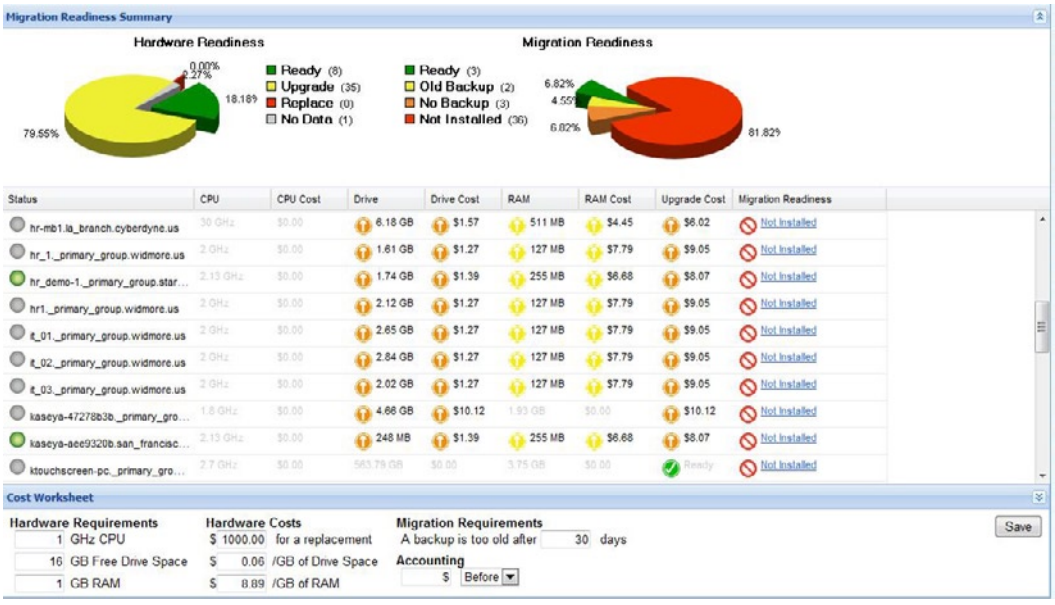

Figure 1. Kaseya's Desktop Migration Dashboard

EMA Perspective

Talk to an average IT manager about Windows 7 migration and they are likely to cringe at the notion of dealing with all the challenges inherent in transitioning their environment. But Windows 7 migration does not need to be painful. With careful planning and the introduction of automated tools, a stress-free enterprise-wide upgrade can be achieved. The most common barriers to success with a migration plan occur when organizations wait until they are confronted with the deployment to achieve specific business goals and then are pressured to quickly implement a process without fully considering the impacts.

Although many organizations were relieved when Microsoft moved the end-of-life for XP out to 2014, it is not good business sense to simply ignore the issue for a few months or years. EMA recommends that preparations for migration should begin now, even if the actual OS deployment will not occur for some time. With the introduction of automation solutions, such as those provided with Kaseya K2, hardware and software assets can be tracked, configurations can be standardized, and potential compatibility issues can be identified and remediated before being pressured to do so to meet a business timetable. This preparation process enables a phased-in approach to migration, where transition challenges are systematically addressed at a rate consistent with personnel and budget availability. For instance, new hardware and software components may be necessary for compatibility. With an automated asset monitoring solution in place, these can be identified early and introduced as the business is able to support their adoption rather than all at once at the time of migration. A centralized automation suite, such as Kaseya K2, provides the holistic view of the entire endpoint support stack, providing the intelligence for making informed decisions about the most critical elements in a migration strategy as well as enabling a simple and reliable Windows 7 transition process.

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About Kaseya

Kaseya is a leading global provider of IT Systems Management software. Kaseya's solutions empower everyone – from individual consumers to large corporations and IT service providers – to proactively manage and control IT assets remotely, easily and efficiently from one integrated Web-based platform. Kaseya's solutions are trusted by IT service providers and a wide variety of industries including: banking, consumer packaged goods, education, financial services, government, healthcare, military, real estate, retail and transportation. The company is privately held and based in Lausanne, Switzerland with 32 offices in 18 countries. To learn more, please visit http://www.kaseya.com.

About Enterprise Management Associates, Inc.

Founded in 1996, Enterprise Management Associates (EMA) is a leading industry analyst firm that specializes in going "beyond the surface" to provide deep insight across the full spectrum of IT management technologies. EMA analysts leverage a unique combination of practical experience, insight into industry best practices, and in-depth knowledge of current and planned vendor solutions to help its clients achieve their goals. Learn more about EMA research, analysis, and consulting services for enterprise IT professionals and IT vendors at www.enterprisemanagement.com or follow EMA on Twitter.

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