Avoiding the 7 common mistakes of Windows 7 migration

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Introduction

Many organizations delayed client refresh initiatives to conserve resources during the economic recession. Organizations also delayed migration to the Windows 7 operating system for the same reason, and because OS migrations can be risky and time-consuming.

Now many of those same organizations are dusting off their refresh and migration plans because they see they know they can't avoid it any longer. Windows 7 has proven to be a solid operating system, and adoption is increasing.

IT groups planning to coordinate Windows 7 migration with their organization's PC refresh schedules may realize that they are running out of time for deployment prerequisites such as performing application discovery and compatibility testing, deciding on 32-bit or 64-bit deployment, and selecting a deployment method, including possible automation.

Organizations can simply order laptops with Windows 7 factory-installed. However, organizations must still migrate their legacy business applications to the new platform. All of these applications require compatibility testing, and some will require remediation before they can be moved into the new environment. There are seven common mistakes to avoid during migration projects—mistakes ranging from performing incomplete application compatibility testing to relying on the "usual" deployment strategy and tools; avoiding these mistakes is key to deploying Windows 7 quickly.

This paper offers suggestions for making those tasks more efficient and effective.

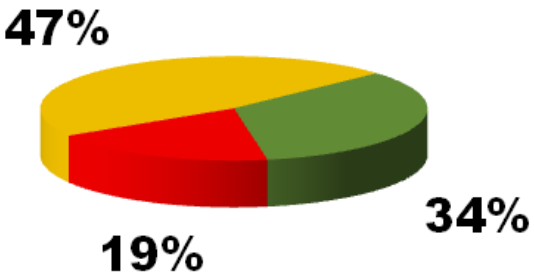
Mistake 1: Overlooking the peripherals' drivers

Peripherals compatibility is an important aspect of evaluating migration readiness. It is easy to overlook drivers, but they are essential to ensure that printers and other peripherals function smoothly following migration. Updating them should be part of planning a move to Windows 7. Relevant drivers include print drivers on the organization's print servers, third-party cards such as proprietary graphics and video cards, and legacy model drivers.

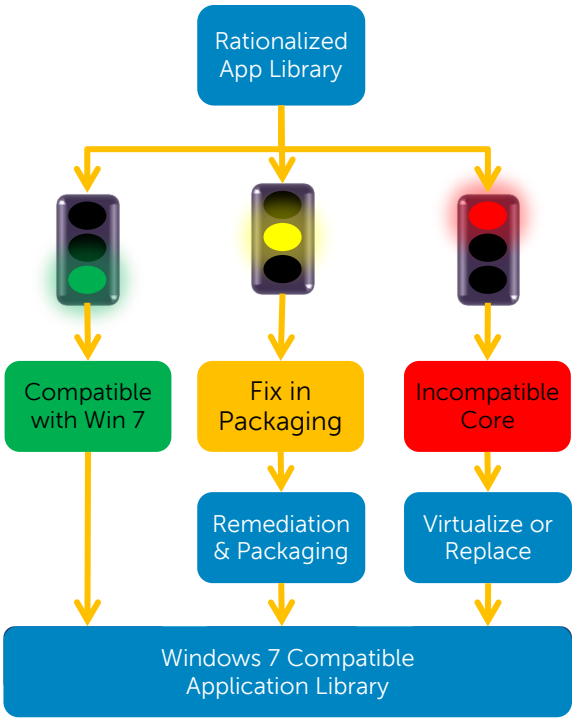
Mistake 2: Using the wrong tools for testing and remediation

One of the biggest challenges faced by organizations during a migration is ensuring that their applications work in the new operating environment. Most large enterprises use a wide variety of applications, including legacy applications not optimized for Windows 7, which will require some remediation through the packaging layer for a successful migration. Organizations deploying newer laptops certainly do not want to buy the computers with a downgrade to Microsoft Windows XP in order to run existing applications.

In Dell's real-world testing, over half of the software packages that worked on Windows XP needed to be remediated so that they would work on Windows 7. About 34 percent were already compatible with Windows 7, another 47 percent could be fixed in packaging, and 19 percent with incompatible cores needed to be virtualized or replaced.



In Dell's real-world testing, over half of packages that work on XP need to be addressed



Several compatibility testing and remediation tools are available, and should be matched to the right applications and requirements.

Tools	Benefits	Limitations
ACT	• Free • Quick	• Requires agent on each PC • Testing is extremely limited • Does not test your custom MSI
AppDNA	• Fast • Includes 32/64, XenApp, AppV and IE8	• Licensing cost • Not as accurate as a manual expert test • Automated remediation
ChangeBase	• Fast • Includes 32/64, XenApp, AppV, ThinApp and IE8	• Licensing cost • Not as accurate as a manual expert test
Converter Technologies	• Office 2007/2010	• No Windows 7 testing

For maximum efficiency, we recommend a tiered approach to application testing and remediation:

Tier 1—Trained engineer testing and remediation recommended

- Top 10–25 percent of applications
- Critical to business functioning
- Failures impact project budget, timeline, and reputation

Tier 2—AppDNA or ChangeBase testing and expert remediation recommended

- Middle 50 percent of applications
- Not critical to the business
- Some may not historically be IT supported

Tier 3—AppDNA or ChangeBase testing recommended

- Bottom 30 percent of applications
- Fewer than 50 users
- Not IT supported

Mistake 3: Performing incomplete application compatibility testing

When testing for compatibility, it is not unusual for organizations to test only the applications that are known and managed. But the fact is that many applications in a large enterprise environment are unknown. An organization's Y2K initiative in 2000 may have been the last time IT searched out every application used for business activities. Other applications may be known but unmanaged—these are often rare applications that reside only on a handful of computers, or software requiring extensive manual installation efforts.

According to Gartner, organizations running IE6 report that up to 40% of homegrown browser applications fail to run properly with IE8. Gartner also believes that IE8 compatibility problems will cause at least 20% of organizations to run overtime or over budget on their Windows 7 migration projects.[1] It is critical for organizations of all sizes to perform complete application compatibility testing.

The ultimate goal of testing and remediation is to build an application library that is packaged and automatically distributable. The completeness of an organization's application testing will not only help determine Windows 7 migration success but can also continue to pay dividends following migration by reducing PC support costs.

To ensure completeness, we recommend the following steps:

- **Inventory**—Include all applications: custom, browser-based, user-installed, and commercial off-the-shelf (COTS) software. Don't forget macros in Microsoft Excel®.
- **Rationalize**—Review legacy applications to determine which are still required, and eliminate any that are no longer needed. Dell reduced its own inventory from over 10,000 applications to fewer than 3,000 during this step.

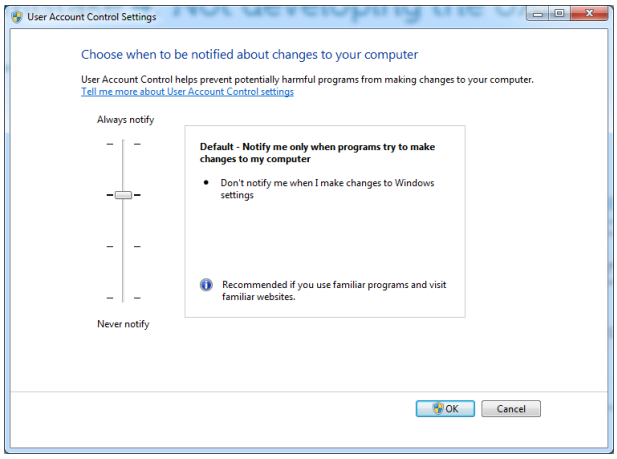
[1] "Solving the IE6 Dilemma for Windows 7"; Gartner: October 26, 2010

- **Test and package**—Plan the application packaging strategy and identify the resources needed for testing and remediation, whether those resources are available internally or at a third party such as Dell. Steps should include install/run/uninstall/repair.
- **Virtualize**—Virtualization can be a temporary solution for business-critical applications with incompatible cores, enabling these applications to be used in the new environment until they can be replaced.

Mistake 4: Not developing a user account control (UAC) strategy

The user account control feature in Microsoft operating systems is designed to help defend PCs against hackers and malicious software, but many Windows XP users found the feature inflexible and intrusive. Any time a program is about to make a major change to the PC, user account control lets the user know about the pending change and requests permission for it.

In Windows 7, user account control is now more flexible and has more granular settings than in Windows XP. Four levels are available: Never prompt, Application change prompt, Application and Windows change prompt, or Always prompt.



Mistake 5: Using Microsoft Key Management Service (KMS) on the client

The Microsoft Key Management Service (KMS) allows easy activation of Windows 7. However, to reduce user-based administration in favor of centralized PC management and efficiency, activation should be handled by the IT group via server and not by the end user at the client level. We recommend the following best practices:

- Use KMS Host keys only on the server (can be a virtual server).
- Configure for initial activation within 30 days.
- Publish the required service record (SRV record) in the Domain Name Server (DNS) defining the location—that is, the hostname and port number—of the server.

Mistake 6: Using virtualization technologies that do not meet desired business goals

Application and profile virtualization can provide major business value and help streamline Windows 7 migration and management. To help ensure success and meet the organization's business goals, however, it is critical to match the technology to the challenge (see Figure 4). We recommend the following guidance for using virtualization technologies:

- XPMode and MedV tools should be considered short-term fixes.
- XPMode should generally be used only for small business and consumers.
- AppV is not designed for OS compatibility.
- If OS compatibility is the only benefit that will be gained from virtualizing an application, it is better to remediate the application instead.

Technology	Good Short Term	Good Long Term	Managed	Resolves OS Compatibility
XP Mode	Yes	No	No	Yes
MedV	Yes	No	Yes	Yes
XenApp	Yes	Yes	Yes	Yes
ThinApp	Yes	Yes	Yes	Yes
AppV	Yes	Yes	Yes	No

Mistake 7: Relying on the "usual" deployment strategy and tools

Many organizations are accustomed to using a particular application deployment method that has become familiar to the IT group over time, such as:

- System Center Configuration Manager with OSD
- Microsoft Deployment Toolkit 2010 Update 1
- User State Migration Tool
- Windows Administrative Installation Kit

But for a major OS migration and client refresh, it may be advantageous to go beyond the usual strategy and tools. Planning a Windows 7 migration is an ideal time to review and reassess the "usual" approach.

Organizations can streamline Windows 7 migration with the right planning, tools, and processes, and the rewards are well worth the effort. Reviewing and reevaluating deployment methods as part of Windows 7 migration can result in significant savings—as much as US$337,000 savings per 1,000 PCs

through retooling of the deployment process.[2] In addition, moving from a manual to an automated deployment model can result in 76% reduction in IT time.[3]

Make sure you take the time to verify that your systems management tool will provide support for each of these critical aspects of your migration. This might mean obtaining the right tool and may even mean acquiring a new tool. It's true that you can obtain and work with several free tools for the deployment—from Microsoft and others—but you may also discover that obtaining the right commercial tool will save you a lot in the end because it streamlines the entire deployment operation and provides ongoing administrative support once the migration is complete.

For example, if you use free tools such as Microsoft's Deployment Toolkit, you'll find that you will need to get up to speed to learn and understand how they work. Many rely on the command line only and because of this, may require extensive preparation for you to generate the right command structures to obtain exactly what you want in terms of results. In addition, the Microsoft Deployment Toolkit only supports the deployment operation.

Conclusion

Systems provisioning does not need to be a complex and time consuming task. Automation tools and best practices can dramatically simplify system deployment and provide benefits such as:

- Reduced costs for creating and maintaining gold master images
- More reliable deployments
- Less user down-time
- Less time required for provisioning
- Reduced travel time and expense

Dell KACE™ Systems Management Appliances provide the capabilities necessary to fully automate provisioning, and include support for all the deployment best practices discussed including:

- Thin images
- Automating gold master creation
- Centralized deployment and recover
- Automating non-standard systems

Dell KACE Appliances are comprehensive, secure and make it easy and affordable for IT professionals to deploy and manage networked computers. Utilizing an appliance-based software delivery architecture, KACE Appliances deliver a complete, pre-integrated bundle of operating environment and application software via a dedicated server appliance. KACE Appliances provide support for a wide range of laptop, desktop and server platforms including Windows and Mac.

The Dell KACE K2000 Deployment Appliance lets you set up in days, not months, train in hours, not weeks, and begin your Windows 7 deployment before time runs out. The KACE K2000 Appliance allows IT admins to focus on rapidly deploying Windows 7 rather than wasting time learning and implementing other deployment tools. With features such as Native Imaging Toolkit support and extended storage, the K2000 allows IT admins to use tools you already know how to use, eliminating the need to write proprietary custom scripts that take endless hours of testing and rewriting, and easily store and manage the ever growing portfolio of OS images.

[2] Alinean calculator, Dell Deployment Optimization calculator, 2010
[3] "Dell PC Optimized Deployment Model"; IDC, June 2010

Dell KACE Corporate Background

Dell (NASDAQ: DELL) creates, enhances and integrates technology and services customers count on to provide them reliable, long term value. Dell provides systems management solutions for customers of all sizes and system complexity. The award-winning Dell KACE family of appliances delivers easy-to-use, comprehensive, and affordable systems management capabilities.

Dell KACE is headquartered in Mountain View, California. To learn more about Dell KACE and its product offerings, please visit www.dell.com/kace or call 1-877-MGMT-DONE.

Helpful Links:

- KACE Systems Management Appliances
- KACE Systems Deployment Appliances

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