WHITE PAPER

A Smart Strategy for Streamlining and Accelerating Windows 7 Migration

FLEXERA® SOFTWARE

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A Necessary but Overwhelming Project

In August of 2012, Microsoft Windows 7 unseated Windows XP as the world's most popular desktop operating system[1]. If you're still using XP (or Vista) it may be time to consider your options. The place to start is to develop a business case around operating system migration. A migration project requires many resources. It will also take time and planning.

Some common concerns will reverberate through the organization. For example:

End users will be concerned about the user interface changes:

- Where did my favorites go?
- Where's my printer?
- And so on…..

IT will be concerned about the process:

- Do I need to touch every computer in the company?
- How do we handle computers in the branch office?
- And more…..

At the top of the company, the CIO/CFO will be concerned about time and cost:

- Do we have to migrate now?
- How much hardware will we need to replace or upgrade?
- How do we keep end users productive during and after the migration?
- And so on…..

As you can imagine there will be lots of questions. And, indeed, a migration project contains pain points and, in its entirety, is a challenge across the whole organization.

In the end, the decision to upgrade rests on one question: How will Windows 7 improve productivity and positively impact your company's bottom line? Changes to the user interface, from reworked versions of traditional Windows programs such as Calculator, Paint and WordPad to new UI features such as Snap, Peek and Shake, as well as Taskbar 'Jump Lists', many more keyboard shortcuts, and a new way to navigate the file system with libraries, can help end users get their work done faster, more enjoyably and with less reliance on third party applications.

Better performance means less time waiting for the system to respond, resulting in more output in a given amount of time. Better reliability means less downtime due to problems and crashes, both increasing productivity and reducing administrative and tech support overhead.

The key to making the business case for switching to Windows 7 lies in:

- Assessing how your users use their computers and showing how Windows 7 can make their day-to-day work easier
- Illustrating how the increased productivity that comes with a better operating system can increase revenues
- Demonstrating how the new OS can be more easily managed and thus make IT's job easier and reduce operating expenses
- Showing how new OS reliability and security features can result in less downtime and save the company money

[1] "Windows 7 overtakes XP as Mac OS X passes Vista ", Zack Whittaker, c/net News, September 3, 2012

Once that is done, you can take a closer look to the technical aspects of the updated operating system. Windows 7 has a number of advantages over XP and Vista including productivity features *(Libraries and Federated Search)*, security enhancements *(BitLocker and AppLocker)* and connectivity improvements *(DirectAccess and BranchCache)*.

In addition to the improved operating system, Microsoft has put considerable effort to improving migration and deployment issues passed on past experiences. Windows 7 runs well on most Vista-capable hardware. For those legacy applications that may not make the transition easily, Windows 7 offers XP Mode—a virtual instance of Windows XP that runs on top of Windows 7. There is an additional reason to migrate to Windows 7: Microsoft will terminate support for Windows XP in April 2014.

Migrating to Windows 7 is the kind of project that keeps IT managers awake at night. Why? It requires migrating hundreds and maybe even thousands of desktop applications. With so many applications and so much diversity, there's no doubt that compatibility issues will arise. It may be necessary to make changes to either the installer or even the application for it to work properly on Windows 7.

Identifying and fixing compatibility issues for your application portfolio is a huge undertaking. Compatibility issues crop up in a number of different areas. Here are but a few examples:

- Windows 7 folder locations are different than XP
- Windows 7 User Account Control (UAC) causes applications that require administrator rights or check for administrator privileges to behave differently in Windows 7
- Windows 7 Resources Protection (WRP) can cause installation problems for custom installations that were not set up by Windows 7
- Many applications check the version of the operating system and behave differently or fail to run when they detect an unrecognized version number such as Windows 7
- Windows 7 requires Internet Explorer 8 or later and these newer browsers may cause problems with both your browser-based and Web applications

Next to technical issues, organizational or business subjects need to be taken under consideration. Will we change by departments to minimize impact on the organization in cases of failures, or will we change by client type or what else? What is the best timing? What server changes come along with Windows 7? What training do we have to do before we can start? What internal documentation needs to be adjusted for users and for administrators? Does the change imply changes in your internal standards as well, such as packaging guidelines? Are you combining the change of the operating system with a switch to virtualization or even a paradigm shift towards a cloud architecture?

The list may seem endless. Just determining all the issues to look for is in itself a daunting task, let alone testing the applications and fixing the issues. And that's not all. You may have legacy applications that have to be first converted to Windows Installer (MSI) packages before migrating them to Windows 7.

Another factor to consider is virtualization. Many organizations look at a Windows 7 migration project as an opportunity to also take advantage of application virtualization. While virtualization won't solve application to operating system incompatibilities, it does solve problems between applications. The benefits are compelling and include cost savings through higher resource utilization and greater agility in meeting the demands of the business. Virtualization also paves the way for cloud computing.

But virtualization brings even more tasks. You have to test applications for suitability to virtualization. Then you have to virtualize them. That means converting the MSIs and legacy installers to whatever virtual formats you're using, whether it's Microsoft App-V, VMware® Thin App™ and Citrix® XenApp™.

Performing all the migration and virtualization tasks manually can take thousands of man-hours to complete. What's more, it could introduce errors that expose your organization to considerable risk. To master this part of the migration you need an industrially designed process capable of packaging and virtualizing your software to the highest automated degree possible while keeping control about the progress and quality of your work, since it will directly impact the quality of the overall migration project.

Microsoft provides some degree of migration assistance with the free Microsoft Application Compatibility Toolkit (ACT). The toolkit includes an agent that runs on current PCs and detects potential Windows 7 compatibility issues as the applications execute. While providing valuable insight into compatibility issues, ACT does not offer comprehensive testing and remediation nor does it offer the industrial strength that larger organizations need to tackle Windows 7 migration.

Formulating a Strategy

You need to develop and implement a smart strategy for Windows 7 migration, one that simplifies and speeds the migration process without exposing your organization to risk. This strategy must encompass the entire migration process:

- **Identify** – First, you have to discover what applications are out there, that is, understand what your inventory is. This includes browsers, browser add-ins, and web applications.

- **Rationalize** – Next, you identify and eliminate duplicate applications.
- **Assess Compatibility** – In this step, you ferret out the compatibility issues and determine the suitability of applications for migration.
- **Plan** – Next, you lay out a migration plan based on the information you have obtained about your application portfolio.
- **Fix and Package** – Here, you remediate the compatibility issues for the applications you have decided to migrate.
- **Deploy** – In this last step, you roll out the applications that you have fixed and packaged.

Two of the steps, assess compatibility and fix and package, are especially challenging. First you have to rigorously test each and every application for all potential issues. That includes testing for incompatibilities in the application as well as in the installer package associated with the application. Once you have uncovered the incompatibilities, you then have to fix them in all the applications that you decide to migrate and then package the fixed applications.

Testing, fixing, and packaging thousands of applications present a monumental task. Doing it manually is out of the question. So in creating a smart strategy, it's essential to automate the testing, fixing, and packaging processes wherever possible.

It's important that you keep your organization's business objectives in mind in developing and implementing the strategy. For example, you need to decide which applications you move and which you don't based on the business value of the applications. Some applications will require major fixes, such as changes to the application code. In these problem cases, you have to determine whether the cost of fixing the application outweighs the resulting business benefits.

The Solution: AdminStudio with Application Compatibility Pack

AdminStudio with Application Compatibility Pack automates compatibility testing, fixing, and packaging, so you can fast-track your Windows 7 migration. With this advanced solution, you can execute a broad range of compatibility, validation, and conflict tests, manage and remediate issues, and monitor overall status. And you can do it all with a single, integrated toolset and from a single management console.

With the extensive automation provided by AdminStudio, you'll slash the time and effort required, and dramatically reduce migration costs. Moreover, AdminStudio not only helps you migrate to Windows 7 but also helps you maintain application readiness for future change, such as operating system updates, once the new operating system is in place.

Automates Testing

AdminStudio automates application testing, quickly detecting compatibility issues. You select the applications you want to test from the AdminStudio Application Catalog and AdminStudio tests them automatically. You can specify testing of applications individually or in groups, or you can test the entire catalog at once. Bulk application testing enables you to run tests on every application in your portfolio in minutes instead of weeks.

Application Compatibility Pack performs thousands of rigorous tests on each application, including tests for:

- Windows 7 Operating System (32-bit and 64-bit) compatibility
- Windows Installer best practices
- Windows Installer Internal Consistency Evaluators (ICE)
- Remote desktop services
- Interapplication conflicts
- Internet Explorer 8, 9, and 10 compatibility

You can also test web applications for browser compatibility both statically and dynamically:

- **Static Analysis** – AdminStudio crawls the web site and runs the selected browser compatibility tests on each page, up to the maximum number of links specified.
- **Dynamic Analysis** – AdminStudio launches the web application in your browser. Then, as you perform tasks and navigate around the web application, it records any warnings or errors that are encountered while using that version of the browser.

Application Compatibility Pack uses sophisticated analytic techniques to test for compatibility. It analyzes the application package configuration and binary file data contained in the AdminStudio Application Catalog to rapidly assess potential compatibility issues both at the application level and at the installation package level. If you are new to AdminStudio, you can automatically import application and associated data files from System Center Configuration Manager 2007 or 2012 to the AdminStudio Application Catalog.

With Application Compatibility Pack, you don't have to configure, install, or run applications to test them. That saves many hours of staff time.

Automates Fixing and Packaging

Once you have tested your applications, Application Compatibility Pack goes to work remediating incompatibilities. It can automatically fix about 95 percent of the applications in your portfolio in minutes. Table 1 shows the success of Application Compatibility Pack in automatically remediating five of the most prevalent compatibility issues.

Windows 7 Compatibility Issue	% Applications Affected	% Fixable
Legacy Help Files	36%	100%
Windows Resource File and Registry Issues	35%	100%
UAC File Header Issues	24%	100%
Custom Action Security Issues	19%	100%
Panel Applet Security Issues	13%	100%

Table 1. Automatic compatibility fixing success

Application Compatibility Pack employs MSI transforms to remediate incompatibilities. So you don't have to deploy shims on every computer that will run the applications, greatly simplifying application deployment and management.

Automates Deployment
AdminStudio supports the leading software deployment tools – including Raynet's RayManageSoft, Microsoft® System Center Configuration Manager, Novell® ZENworks, LANDesk® Management Suite, BMC® Configuration Management (Marimba), Citrix XenApp, and IBM® Tivoli®. So you can easily export packages to any of these tools for automated deployment.

Centralizes and Simplifies Migration Management
With AdminStudio, you can manage the entire testing and fixing process from a single, unified interface called Test Center. Test Center eliminates the need to grapple with multiple tools and databases, thereby simplifying and streamlining all phases the migration process.

AdminStudio tracks all pertinent compatibility testing activities and generates an audit trail report that shows testing and remediation progress over time. This report provides valuable insight to your project team.
Test Center displays application testing results in meaningful views. You can view a summary of testing results categorized by application group or by package. Results are indicated using easy to understand icons, so you can tell at a glance the extent and implications of the compatibility issues identified.

You can drill down into summary views for more detail on individual applications. You can also choose to suppress any errors or warnings that you feel are not important to your organization. Application Compatibility Pack then ignores these issues when fixing the applications.

You can suspend testing at any time and then resume testing later at the point which you left off. AdminStudio remembers which tests have already been performed. So you don't have to unnecessarily repeat any tests.

AdminStudio also provides a centralized interface—Report Center—in which you can create and view a variety of meaningful dashboards and reports on the application compatibility status of the packages in the AdminStudio Application Catalog. For example, you can generate a dashboard that shows a summary of application compatibility by operating system.

Because Report Center is a web application, geographically dispersed users can access reports easily without any additional software or data transfer. Managers, for example, can monitor migration progress.

Integrates with Microsoft ACT
Application Compatibility Pack integrates with Microsoft ACT. So you can use Application Compatibility Pack and ACT in concert to perform rigorous compatibility testing. In addition, you can leverage the ACT inventory database of installed applications, computers, and devices. You can import applications and compatibility testing data into the AdminStudio Application Catalog, and you can view ACT testing results right in AdminStudio Report Center.

Beyond Windows 7 Migration

The capabilities of AdminStudio go well beyond support for Windows 7 migrations; you can also fast track migrations to the new Windows 8. Application Compatibility Pack can also perform compatibility testing and fixing for the following platforms:

- Windows Server 2008 R2
- Windows Server 2012
- Windows 8 (32-bit and 64-bit)
- Windows Internet Explorer 8
- Windows Internet Explorer 9
- Windows Internet Explorer 10

And that's not all. Adding the AdminStudio Virtualization Pack to the AdminStudio Suite brings a complete set of virtualization suitability testing, automated conversion, validation, editing, and management reporting capabilities. Virtualization Pack automates the conversion of MSIs and legacy installers to the leading virtual application formats, including Microsoft App-V, VMware Thin App, and Citrix XenApp.

Virtualization Pack operates from the same Test Center and Report Center interfaces as Application Compatibility Pack, maximizing staff efficiency and minimizing training requirements. So if you're planning to virtualize at the same time as you migrate to Windows 7, AdminStudio Virtualization Pack can save you a substantial amount of time and money.

If you're planning to take advantage of desktop virtualization, AdminStudio Virtual Desktop Assessment can be of significant assistance. It monitors the behavior

of the desktop computers, users, and applications in your current environment, giving you full visibility into that environment. You can leverage the meaningful data it aggregates for better-informed decisions regarding your move to desktop virtualization.

With AdminStudio, you can ensure continuing application readiness, all from a single, centralized mangement console.

Position for the Future

The specter of migrating thousands of desktop and web applications to Windows 7 or 8, finding and fixing their compatibility issues, and then packaging and deploying them is overwhelming. Adding to the pressure is that mistakes made during migration can have serious business consequences.

AdminStudio with Application Compatibility Pack offers everything you need for a fast and successful migration. With this combination, you can streamline and automate application compatibility testing and fixing across your entire application portfolio. Testing is fast yet rigorous, so you can have confidence in the results. And you can manage the entire migration process, from project scoping and planning through deployment, all from a single console. With this advanced combination, you'll shrink the time, effort, cost, and risk typically associated with Windows 7 or 8 migrations. What's more, with the comprehensive capabilities of AdminStudio, you can also take advantage of the benefits of virtualization.

Most important, you'll future proof your application portfolio, keeping all your applications in a state of readiness to absorb the changes that will most certainly occur in the future.

THAT'S A SMART STRATEGY.

About Flexera Software

Flexera Software is the leading provider of strategic solutions for Application Usage Management; solutions delivering continuous license compliance, optimized usage and maximized value to application producers and enterprises. Flexera Software is trusted by more than 80,000 customers that depend on our comprehensive solutions- from installation and licensing, entitlement and compliance management to application readiness and software license optimization - to strategically manage application usage and achieve breakthrough results realized only through the systems-level approach we provide. For more information, please go to: **www.flexerasoftware.com**

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