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The Essentials Series: Automation Tools for Windows 7 Migration

Ensuring Windows 7 Migration Success with Integrated Solutions

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by Greg Shields

Ensuring Windows 7 Migration Success with Integrated Solutions 1
The Success Is in the Data 2
Using Agents to Gather & Analyze Inventory 2
Cross-Checking Inventory with Hardware & Application Compatibility 2
Hardware Agnosticism Extends the Value of OS Instances 3
Migrating User Personality, During and Beyond the Upgrade 3
Fully Automating OS Distribution 3
Regularly Distributing Applications and Updates 4
Ongoing Project and Status Reporting 4
Desktop Management Solutions *Are* the Best Practice 4

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Ensuring Windows 7 Migration Success with Integrated Solutions

When you plan your migration project, its top priority must be in minimizing the inconvenience to your users. That inconvenience can occur in any number of different ways: Users can't work while their machines are upgraded. Computers are returned with incorrect or missing applications. User data gets lost or accidentally deleted. Any of these or a hundred other minor mistakes can quickly turn a migration project into an IT nightmare.

It is for this reason that this series keeps repeating the assertion that the *most important parts of a migration project have nothing to do with the operating system (OS) installation itself.* Correctly planning your migration project reduces the opportunity for mistakes, with good data being the key to good planning.

Integrated deployment solutions use by definition a centralized set of data throughout the project's life cycle. Data collected during the initial inventory is used to validate hardware and application compatibility. That same data drives the targeting of upgrades as well as the post-upgrade installation of applications. By using automation to eliminate a set of very specific labor costs, *most project managers find this class of integrated software to quickly pay for its initial cost.*

What's interesting is that the same class of software that can manage your deployment and upgrade activities is perfectly suited for ongoing administrative activities as well. As you probably noticed in the first article of this series, the activities that are necessary for an upgrade look very similar to the everyday activities of IT administration: inventory, application deployment, user management, update and hotfix installation, reporting, and so on. All these are activities that are commonly available in today's desktop management solutions. As a result, those same solutions are often a very good fit for OS migrations.

In short, *by investing in a desktop management solution to facilitate an upgrade, you also gain a very effective platform for ongoing maintenance.*

The Success Is in the Data

Such a solution's real value proposition lies in its centralization of data. Whether through the use of on-system agents or through agentless remote actions, these solutions start by creating a database of your entire environment. Inside that database are all the data points you need to manage and maintain that environment in addition to merely upgrading it.

With this in mind, let's explore how such a system might use this data in the course of a migration and during those all-important ongoing operations. Unlike the first article, this discussion will focus on the tasks that need to be accomplished, as well as how those actions make use of an integrated solution's central data repository.

Using Agents to Gather & Analyze Inventory

Inventory data is the backbone of a successful migration. This data is commonly collected through one of two mechanisms. The first involves the use of onboard agents, which must be first installed to each computer. Each individual agent scans its computer and typically delivers the results to a central server for database storage.

An alternative is the agentless approach, where the central server interrogates computers over the network through common APIs. The agentless approach has the obvious benefit of not requiring an agent on every endpoint; however, the lack of installed agents limits the actions that can be done by the central server.

A common tactic in today's desktop management solutions involves the use of both approaches. Initial discovery of systems is accomplished using the agentless approach. This first sweep gathers the necessary topology and structure of the environment that enables agents to be properly configured and automatically installed. Once installed, agents complete the inventory to fill out the platform's picture of the environment.

Cross-Checking Inventory with Hardware & Application Compatibility

Onboard agents collect hardware, software, and configuration information from each targeted computer. In the Windows environment, this configuration data is stored within each computer's Windows Management Instrumentation (WMI) repository. The WMI repository's detailed information provides the necessary specifics about the computer's hardware, making a piecewise comparison possible against OS recommendations. Computers that lack the appropriate hardware can be immediately identified along with the necessary pre-migration recommendations (such as upgrade versus replace).

Third-party platforms also benefit from their capacity to inventory the entire range of installed applications. Each computer in an environment stores information about its installed applications, making possible the creation of reports about applications and their compatibility. Comparing your inventoried list of applications with known databases of incompatibilities assists you with recognizing where additional testing is required.

Hardware Agnosticism Extends the Value of OS Instances

The creation of OS instances for later deployment is a non-trivial task, especially when multiple types of hardware are present in an environment. Heterogeneous environments require a variety of devices and their drivers that must be managed during the upgrade.

Third-party platforms benefit here through the incorporation of driver lists. The Windows OS includes the built-in plug-and-play support for automatically installing the correct driver if it is available. An integrated migration solution will typically arrive with an extensive set of drivers for known hardware. This enables the creation of a hardware-agnostic installation that automatically customizes itself at the point of install for each hardware class.

Hardware-agnostic installations become particularly useful as time progresses. With a hardware-agnostic installation, the same installation can be used over and over again as new hardware is purchased. The only necessary step is to ensure that new drivers are already contained or added to the solution's database prior to deploying additional OSs.

Migrating User Personality, During and Beyond the Upgrade

The process of gathering, storing, and restoring user personality information is also enhanced through an integrated migration platform. Here, user personality information can be deployed directly alongside an OS installation or disk image. This enables user personality to be reliably and efficiently deployed to the appropriate target systems.

By collecting user personality on a regular basis, users gain the ability to refresh their computer at any time as opposed to the one-time use during a migration project. Users in such an environment can choose to have their computer seamlessly rebuilt when a problem cannot be solved. The same holds true after a computer crash, enabling a computer to be quickly provisioned with little to no loss of user data.

All of these capabilities enhance the core need for user personality migration during an upgrade. All are also possible when the platform for migration also serves as a desktop management solution.

Fully Automating OS Distribution

Exceptionally critical during any migration project—particularly as the size of the project scales upward—is the ability to fully automate OS distribution. In the previous article, it was mentioned that many solutions, such as Microsoft's LTI installation option, still require an action to occur at the computer for the upgrade to begin. This action requires administrators to be present for the upgrade and can significantly slow the entire process.

Fully automating the distribution of OSs generally requires the use of an onboard agent or Wake-on-LAN. These two solutions allow the target machine to reboot into WinPE and automatically begin the installation after receiving the appropriate signal from the centralized platform.

Regularly Distributing Applications and Updates

An onboard agent can be further instructed to download and install the correct set of applications after the installation is complete. Along with the return of user personality data, this automated distribution of applications completes the entire process of rebuilding the computer. The needed data for this automation is assuredly available because each of these actions occurs as a part of the greater desktop management solution.

Applications and updates are always in need of installation. Whether new applications require deployment, monthly patches need installation, or application updates force a quick reinstall, a desktop management solution enables IT to extend the same automation into ongoing-maintenance activities.

Ongoing Project and Status Reporting

Lastly is the never-ending requirement for status reporting. Both during the migration project as well as after its completion, IT requires metrics on computer characteristics for internal consumption as well as reporting to business leadership. Leveraging a desktop management solution as the platform for an OS migration automatically creates a database of just these metrics. That same platform can be used in ongoing activities for real-time license compliance, configuration reporting and baselining, and constant monitoring of the environment.

Desktop Management Solutions *Are* the Best Practice

Ensuring Windows 7 migration success requires effective planning, good data, and the support of an automation platform. The right platform integrates the seven key activities with the data that ensures their success. Furthermore, an effective Windows 7 migration platform can also be used as your solution for ongoing administration and maintenance.

Windows 7 is here, and it's ready for deployment to your enterprise. *Do you have what it takes to be successful in planning and executing your Windows 7 migrations?*