



Ultimate Tech Challenge: OS Migration

Winning solutions from IT Pros who know

“ Always look at migrations from the mindset of how things will look in 12/24/36 months. ”

Donald Rowland
Page 4

We challenged IT Pros. Now see the winning results.

IT professionals face interesting and complex challenges on a daily basis, and often need to come up with creative, on-the-fly solutions to fix problems and keep a business running. Operating system migrations are no different, and can present a handful of situational complexities to overcome.

We asked industry professionals to tell us about their real-world solutions for challenges they've faced with Windows OS migrations. Donald Rowland had a winning response, so read on as we delve deeper into his experience. In addition, look for more helpful links and resources about OS Migration from Dell on the final page of this e-guide.

Q&A with our winner: Donald Rowland



Donald Rowland lives in Western New York and is a Senior Systems Engineer and Software Release Manager. Over the last 20 years he has been involved with many technologies, contributing to migration, design, implementation, administration and management. He has been the Tech Lead for two OS Migration projects, each involving up to 30,000 workstations worldwide and has contributed to projects with up to 400,000 workstations. A father of three, Donald is a sports coach and volunteer firefighter in his free time.

How did you get your first experience with OS Migration?

My first Windows OS migration was migrating 2600 NT4 SP5 x86 Workstations to Windows XP SP1 x86.

My second was migrating 30,000 workstations from Windows XP SP3 x86 to Windows 7 SP1 x64.

What were some of the concerns or worries when kicking off ambitious projects like these?

At the outset of these projects, the big worry to most of the team was hardware. Can our current hardware run the new OS? Will the user experience be reasonable on the older hardware? Thanks to solution providers like Dell, the hardware turned out to be the least of the challenges. Dell's portfolio of products and deployment options made migration seamless.

What proved to be the biggest challenge in both cases is achieving the business acceptance that their applications would install and work as needed on the new OS. There are several great tools available for packaging and deploying the OS and the software. However, when it comes to managing the work effort of what apps exist, packaging them, testing them and executing the mitigation of them, there are fewer options available.

How did you overcome this obstacle?

To process applications for readiness we had to first determine what those apps were, then who the SME was for each one, followed by creating the automated install package/repackage or the upgrade/replacement.

After that, we created a manageable LAB to test in the install as well as allow a SME and/or Business user to test



to ensure the software was working as designed. This testing often led to adjustments to the automated install or the security tweaks to the local workstation in order to get it working as desired. In some cases, we had to work with the vendor support to resolve issues, get hotfixes, etc. In a small number of cases, we could not find a suitable technical solution and had to raise these issues to the Technology and Business leadership so that they could entertain alternate solutions.

This process had a lot of logistical parts as well as many roles and team members involved. Therefore, to manage it in each migration, we built a central SQL database in which we could store the data. Then, we created a front-end GUI to interact with the data. For the Windows XP Migration, the front-end was a Microsoft Access database; and for the Windows 7 migration, I created an IIS/ASP website. Yes, a lot of design work and forethought of data flow and history tracking, in addition to the ability to report, all went into the design of each. But all in all, this plan came together within a week or two.

Then there is also the execution of the 'application certification' process:

- 1. Collecting data:** If you have a systems management tool already in place, most of this can be harvested or read directly from it. If not (as in our Windows XP migration), you can use VBScripting and AMI to collect and then load this data into your database.
- 2. Preparing a LAB environment:** Your LAB is going to take a beating and expect to be constantly rebuilding it.

3. SME and Business Testing: The technical work must be reviewed and approved by experts.

4. Mitigating issues: In many cases, you have to add permissions to files/folders/registry keys and such so that an application will work. Then, you have to work with Information Security/Risk Management to address those in such a way that the final result is still on regulatory compliance. Active Directory Group Policy Object (AD GPO) is wonderful for this part of the process. Some issues are software bugs, or the lack of support for features of the new OS (Profile location, x86 vs x64, etc.) and you have to work with the vendor to resolve those issues.

5. Signing off: The official 'green light' from the company that the app works to their satisfaction on the new OS.

6. Deploying strategy: Many apps are independent of any other requirements, but some require the supporting infrastructure to be updated (like backend servers, database schemes, system security scheme changes, etc.). Therefore, how and when each app can be deployed to the new OS can be very tricky.

7. Applying to your overall Migration Plan: The application certification process is just one element of a migration plan. Make sure this process aligns with your overall strategy.

Many other Microsoft technologies have been used in these migrations, but these are the ones that were instrumental in helping us to overcome these key challenges.



What else did you learn during the process?

While there are many tools and technologies that do some cool stuff to help IT find application compatibility, until your users are able to use the application in a real environment and see it work to their satisfaction, it's not ready for migration.

Finally, the one challenge I have yet to figure out – and would really be excited to see a solution for – is how to get the 'decision makers' to buy into and stay committed to a technical strategy, that when allowed to play out,

provides the more stable, efficient and cost-effective solution. In my opinion, that's also the solution that is using the technologies in the manner for which they were designed and not 'making the square peg fit into the round hole.' ■

Donald's three key takeaways when it comes to OS Migration:

1. Plan ahead

- Look at migrations from the mindset of how things are going to appear in 12/24/36 months
- Avoid quick fixes because they won't help in the long term
- Don't treat the project as a workaround or short-term endeavor
- Don't rewrap repackaged vendor software as it can be the biggest pitfall

2. Be open-minded in your approach

- Address issues using the scientific method
- Gather your team, identify the problem, let each member offer their solution and work through it together
- Group involvement will foster ownership and help your team grow

3. Commit to a migration strategy

- Do things in a reliable and sustainable way so your team can move on to the next thing
- Automation isn't always the answer



Additional thoughts and advice on migration we heard from IT pros.

Many of the other IT pros had important tips to share with us via social media channels. Here are their nuggets of wisdom.

“ The end of Windows XP support is coming, and there are **inherent security risks** in not taking the time to migrate. ”

“ Applications are the **critical path items** to successful migrations while the business and end users will be more focused around the hardware/devices. 10-20% of the applications will either require a significant amount of rewrite/re-engineering or have to be virtualized in a VDI environment. ”

“ The more home grown apps, job apps, etc., the more challenges one will face during a migration. It's good to look into these areas and **know what you're up against.** ”

“ Having hardware that can support is as critical as having software to support OS Migration (i.e. common graphic cards, common storage drivers); **when hardware isn't common, you'll have problems.** ”

“ Systems management before, during and after the migration will contribute toward your **overall ROI.** ”



Choose Dell as your partner through your migration journey

Challenges faced by IT pros may vary depending on their technical savvy, budget requirements, IT team resources, etc. As Microsoft's U.S. Window Deployment Partner of the Year in 2012 and 2013, Dell's holistic approach to migration can help at any stage of your journey from planning, to migration and education services. Having worked with various types and sizes of IT departments and having experienced a spectrum of migration challenges, Dell has developed unique tools and proven practices to ensure readiness and a cost-effective migration.

At Dell, we believe that the secret of an efficient Windows migration is application, hardware, and deployment readiness.

- **Prepare** for Windows 7 or Windows 8 by collecting an application inventory identifying all of the hardware. Determine what must be replaced and what can be upgraded. Dell Services uses tools such as Dell KACE and Quest Asset Manager to help with both inventory and ongoing asset management. Application compatibility testing does not have to be a manual burden on your IT and business staff. Dell's global application packaging factories process over 500 customer applications per week using automated tools like Quest ChangeBase. This provides the scale and speed to accelerate your migration. Where are you in the journey?

- **Automate** the migration process including the base image, OS settings, applications, user data migration, domain join, encryption and all other steps in the PC build process. The goal is to reduce, or eliminate, the need for hands-on technicians, and even enable users to migrate themselves. Dell Services leverages a mix of Microsoft tools, like SCCM, MDT and USMT and Dell tools, like KACE and Dell Automated Deployment (DAD) to fully automate the migration process. With experience deploying over one million computers each year, Dell has experience in almost any deployment scenario imaginable.

- **Implement** track device readiness, application readiness and user change management throughout the migration schedule. Dell's cloud-based Client Deployment Manager helps track and manage the migration.

- **Educate** your workforce to thrive on the new system. Dell Education Services provides classroom, online and on-demand training for both IT professionals and end users. Dell's performance support tools can even embed Microsoft Office training right into the application.

Fast Forward

If you're looking to jump-start a new migration or fast-forward one already in progress, Dell can help with our modular Windows Migration Fast Forward Service. Smoothly and quickly transition up to 5,000 client systems and five sites by choosing from all of our available modules — including inventory, application rationalization, compatibility testing, remediation, packaging and deployment. The typical Windows Migration Fast Forward Service takes only sixteen weeks.

Now is the time to move to Windows 7 or Windows 8

Whether you need help getting started or you discover roadblocks during the migration process like Donald did, we can help you move your workforce to a modern operating system with Dell Services. Windows XP support officially ends on April 8, 2014. Any Windows XP machines left on your network can expose you to tremendous security risk and escalating costs. Switching your end users to Windows 7 or Windows 8 is the only way to continue receiving the latest security updates and support from Microsoft. Dell experts can help make your transition rapid, easy and hassle-free.

For additional process-centric guides, videos, research-based whitepapers, technical datasheets, and other resources, visit the Migration Expert Zone from Dell.

migrationexpertzone.com/

