

Migrating XP Pro 32bit to Windows 7 Pro 64 Bit

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This post is about the ins and outs of moving from XP Pro 32 bit to Windows 7 64 Bit. I just completed such a move and I have some tips for you that might save you hours of frustration. But before we begin let's get a couple things straight. First, this is not a post about the assets or shortcomings of Microsoft or it's products. Nor is this a forum for you Apple users to tell us all how superior you are because your box is shinier than ours. I actually love Apple products, but Apple users have been known to turn red and swell up like giant angry strawberries if you say anything positive about Microsoft. So if you are one of those folks who is going to have a stroke reading about someone actually *choosing* a Microsoft product, please stop reading now - or at least have emergency personnel standing by. On a side note, my next hardware project is building an Apple from an Intel box and off the shelf parts - same OS, less than half the cost. I'll write an article on that and hopefully sooth my Apple readers ruffled feathers (it probably won't be shiny though).

Meanwhile, let me first say that I was sad to see my XP pro box go. A computer is more than an OS to those of us in IT. We spend a lot of time and effort making it do things that "regular users" don't have to think about. My desktop XP Pro PC had more than 100 programs installed on it. Many of them I used regularly. I fully expected to have to reinstall numerous programs to insure full functionality. I also expected to have to abandon some items that would no longer work in my new environment. A year and a half ago I moved from one XP box to another using LapLink's **PC Mover** and it worked splendidly. This time, however, I was nervous about using PC Mover for 3 reasons:

- I was moving from XP Pro 32 bit up 2 *versions* to Windows 7 64 bit (skipping Vista altogether).
- My XP box had Office 2003 on it and I was putting Office 2007 in the new OS without an upgrade, yet I still wanted my outlook settings and email to migrate properly.
- I was moving my login profile from a local account to a domain account.

I naturally assumed that I would have a great deal of work to do just to get the machine back to the functional state from which it started. Even with my reservations the LapLink docs seemed to indicate it was possible and could be successful so I decided to use the product anyway. Here is my story.

Preparation: Prepare Your Roll Back Plan

When moving to a new OS, don't make the mistake of "learning as you go". This is always a productivity killer. I needed to know how to do a number of things right off the bat and I did not have the time to scratch my head trying to figure out how to get to the hosts file or alter the domain suffix. So before I began I spent some time nosing around an existing Windows 7 installation to figure out where everything was located. I had just finished the book "Mastering Windows 2008 Server R2" by my good friend **Mark Minasi** - actually he's not a friend per se, but he did respond to a couple of my emails once, so I'm going to call him a professional acquaintance and stick with that. Anyway, Win 2008 Server is the server version of Win 7 (confusing I know) so there was some good cross-pollination going on that helped me as well.

Forearmed (with my apologies to Popeye) with this academic knowledge I started planning out my migration. First, I wanted to make sure that no matter what I did I would be able to roll back to my XP Pro installation if my little Windows 7 production closed on opening day for some reason. Using "Disk Image", another utility from Laplink, I created a cloned, bootable image of my disk on a separate SATA drive. I did this using my favorite hardware device of all time - a SATA Docking station. Here's the little beauty sitting on the edge of my desk.



This little device allows me to make use of all those extra SATA drives I have floating around. You simply plug an "internal" SATA Drive into it and viola! extra drive space. I cloned my drive to a spare 160GB drive I had lurking in a drawer and then moved to the next part of my clever plan.

Clean Up XP

Before moving I wanted to simply *get rid* of all the stuff I did not need on the new system. To do this I used a great little widget called **CCleaner**. I cleaned up temp files, internet cache files, cookies, pre-fetch files, and left over installers. For good measure I let CCleaner clean up my registry as well (it removes things like unused file extension mappings left over from previously installed programs). Finally, CCleaner lists all your programs and allows you to launch the uninstall routine from it's interface. I de-installed about 15 programs leaving me with just over 90 to move.

PC Mover: Pack the Van

Now it was on to the PC Mover interface. If you are using 2 different computer's PC

Mover allows you to transfer files over a USB cable or the network. Since I was upgrading my PC "in place" I needed to use the "file storage" method. This method packs all your data and applications into a file on a disk. The plan is to "pack the moving van" and then, after installing Windows 7, "unpack it" - automatically migrating your files and applications.

While packing the van I made some further choices about what to migrate. For example, my XP box had Office 2003 on it, but I knew I was moving to 2007 on the new OS, so I chose to *not* migrate office (a clean install is *always* better than an upgrade). I also took the time to exclude a host of folders that I knew were of no use to Windows 7 (why would it need my temp directory, or the directory with all my hardware drivers for example). I also had the choice of which "profiles" (local SAM accounts on my XP machine) to migrate. I chose only my main login profile. Still, the packing process took about 2 hours and resulted in a 60 gigabyte file. I stored the file on my handy SATA dock using another spare drive. So I had my clone boot drive (for roll back) and my packed moving van file on another drive, and of course the internal drive of the PC on which I was doing the upgrade. I was now ready to launch the good ship Muse away from XP and into the cool blue waters of Windows 7. But first, a trip through the hardware.

Preparing the hardware

You might have noticed that I was planning on running Windows 7 *64 bit* on the *same PC that was currently running 32 bit*. In order to satisfy myself that this was possible I had to do a bit of good old fashioned hardware research. Was my machine even capable of 64bit Windows 7? I needed to find out before I proceeded (now understand some of this was done prior to my work above - but it makes sense to talk about it here). Using a little widget called **CPU-Z** I figured out my CPU was dual core AMD 64 x2 +4000 with an 800 MHz front side bus. So yes, it could run a 64bit OS quite handily. My memory however was PC53000 DDR2 running at a clock speed of 533MHz and I only had 2 gigs.

If you are switching to 64bit you should always think about faster memory and a larger memory bank. I purchased and installed some PC6400 DDR2 RAM to take full advantage of my 800Mhz FSB, and moved from 2 Gigs to 4 Gigs. I flashed the BIOS (might as well since there was a new BIOS version and I had the machine down). Then I went into the mainboard BIOS program and optimized some clock settings there so that my RAM and bus speeds were maxed out and I was getting the most out of the on-die memory controller, Hyperthreading and the L2 cache. I took a look at all my hardware cards and made sure I had 64bit Windows 7 drivers (or 64bit Vista drivers) for all of them - or that they were supported by Windows update drivers. I found one - my StarTech4-lan PCIe external eSATA card - that needed a tweak and I handled that in advance.

At Last - Time to Install

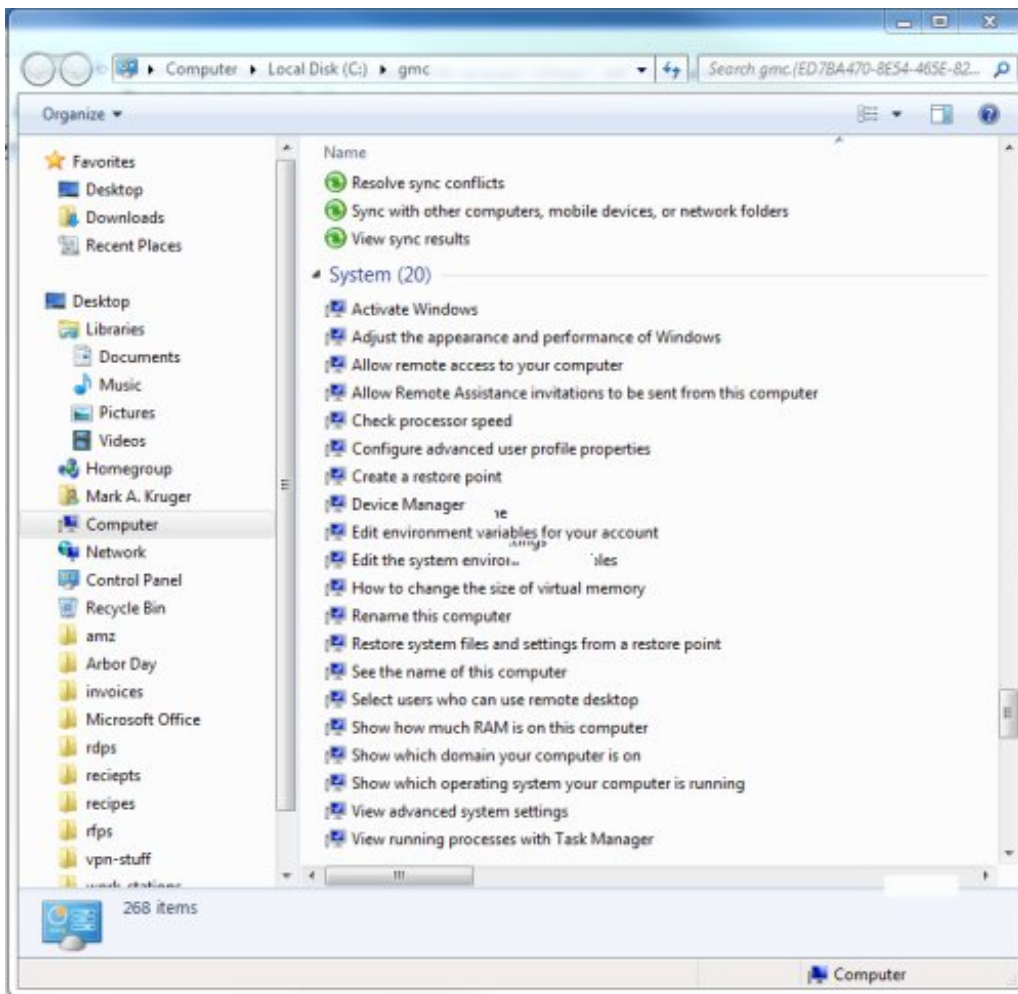
Now I know there are those of you who are thinking "Hmmm.... that's a lot of work to upgrade a PC." But consider how much time it took to get all these programs installed and running properly. I put blood sweat and tears into getting my XP machine to perform exactly like I wanted. I needed the new OS to reflect at least some of that hard work without having to rebuild it from scratch.

So, having cloned and prepped and archived and tweaked my hardware - I was ready. I popped my Windows 7 64bit disk into the CD drive and rebooted. During the install the

only thing I *really* had to do was to delete the existing partition and reformat a new one (again - a clean start is important). My cloned XP drive made that a much less gut-wrenching choice that it might have been. I found the install for Windows 7 to be short and sweet with no issues to speak of. Once installed and booted up I did the following:

- **Updated Drivers** - on each of my devices I made sure the drivers were up to date. That does not always mean simply taking the driver that Windows Update provide. Often it means snooping around the manufacturer site for the latest version.
- **Windows Update** - I manually used Windows Update to insure the system was fully patched.
- **Virus Protection** - I installed a virus scanner and a spyware scanner.
- **Clean Up** - I reran my CCleaner tool and defragged my hard drive.
- **Log in** - I logged in under my new domain account (The one I intend to use for this PC).

Finally, I did something you should all do if you have a Vista or Windows 7 (or Win2008 server). I installed the "God-mode" console. This is a "super" control panel that is hidden within the OS. It can only be brought to life using the following instructions (I'm serious here Muse readers). Open Windows Explorer and click on the C drive. Right click and choose "new folder". Name the new folder **`gmc.{ED7BA470-8E54-465E-825C-99712043E01C}`**, but before you hit enter on the name change you must carefully spell out "Bill Gates" with your mouse cursor over the same screen as the new folder. When you hit enter you will see a new control panel with all the configuration tools (most of them anyway) that Windows 7 provides. Here's a screenshot of the fancy pants "god mode" console containing no less than 286 separate tools and utilities.



Unpacking

Now I was ready to "unpack the van" (that's PC Mover's cutesy lingo for migrating to the new system). I installed PC Mover and started the migration process. Recall that I had stored the profile information for the *local* XP user I was using in the PC Mover archive file. The first thing that PC Mover asks is how to map the user profile. I was able to choose to map my old "local" windows XP profile directly into my new "domain" Windows 7 profile. In particular this allows my documents to show up in the right place and be integrated into the nifty search features of the new OS (and I have a few thousand documents I can tell you). More on this later.

After choosing the profile mapping I followed the rest of the instructions through and let PC Mover Work for a while. When it was finished I had all the icons from my original XP profile on my desktop, all my programs installed and all my documents in their usual place. Next stop - test my programs.

Testing Programs

If you recall I now had about 90 programs on XP that were now migrated and installed on my new OS. I had no idea if they were able to run correctly or not. So I started by simply opening each program and checking to see. Here are some interesting notes.

- **Macromedia or Adobe** - I use Fireworks 8, Dreamweaver 8, Flash 8, Freehand 10 and Captivate 4 - plus several utilities that ship with these programs (like scorm packaging and the extension manager). Each of these programs migrated without

incident.

- **Database Software** - third party tools like Navicat or Toad migrated fine. MS tools that depend on specific .NET stuff did not. I had to reinstall SQL studio and associated libraries. I also had a head scratcher with MS SQL 2000 tools. More on that later.
- **Air Apss** - I use Balsamic and Tweetdeck and a few others, all of them which seemed to come over to the new OS with no problem.
- **Browsers** - IE 64bit ships with Win 7 64bit so obviously it was fine. But Firefox and Chrome (which I use as my default) would no longer work. I had to de-install and re-install each of them.
- **Quickbooks** - This important application failed to load with a compatibility error. After reinstall it had a license error. I called Intuit and they provided a new registration code for me (thanks Intuit!), but when I began using it I had errors on printing. This was solved by deleting an old config file that contained the old printer definitions.
- **Charles** - This is my favorite HTTP Proxy tool. I use it to examine raw HTTP request and debug difficult issues related to things like Ajax and AMA. I had to remove Charles and re-install a 64 bit version *plus* the 64 bit Java JRE.

Surprisingly about 80 percent of the stuff worked and I just had to jump through a few hoops to get back to an environment very close to my old XP environment. One thing to note, the "quick-launch" tool bar is not longer defaulted in the toolbars of Win 7. I had to create my own. I like quick launch with a double sized task bar so my programs can spread out and I can see them all.

SQL 2000 Tools

I'll mention the SQL tools as one additional issue I was forced to solve. I prefer Enterprise Manager to the integrated manager tools in SQL studio when dealing with an SQL 2000 environment. I'm also used to SQL Query Analyzer and the Profiler tools - all separate for the MS SQL 2000 environment. So I wanted to get those tools installed (along with 2000 help files and the "client network utility"). If you have ever done this you know that the procedure is to run the base MS SQL 2000 server install - as if you were installing the "server" component. When you do this on a desktop OS it warns you that only the client tools will be installed and you don't have the option of installing a server.

When I tried this approach the setup complained that I had the wrong version of windows to accomplish the install (due to the 64bit no doubt). Still, I know that it *was* possible to run these tools. EM is just a snap in after all and there was no hardware issue or even File I/O issue. Digging into the MS SQL server disk a little further I stumbled on a file called *msetup.exe* located in /x86/setup. This is actually the launcher for the "install shield". Clicking on it will cause it to ask for a setup file with a DBD extension. In the same directory there is a file called *sqlservr.dbd*. I pointed to that file and I was presented with the initial install splash screen. From here I was able to follow through and install the client tools. Win 7 complains throughout the process of compatibility errors, but it presents you with a button to "run the program" anyway. If you keep clicking "run program" you will get through and have your SQL 2000 tools intact.

Incompatible "Uninstall" Programs

There was the issue of 32 bit programs that had been migrated to the new OS but were not compatible. Using CCleaner I began de-installing these programs and then reinstalling or finding suitable replacements. Occasionally this was a problem. For example, I use an MS "comfort 3000" mouse with the "intellipoint" driver set. Obviously I should probably have not migrated the driver set which was now failing in the new environment (which only meant that the extra buttons didn't work as programmed). I downloaded the new 64 bit software from MS and went to "de-install" the 32 bit version. Uh-oh.... when I opened the intellipoint "uninstall" program guess what - Win 7 complained that the "uninstall" is not compatible. How was I supposed to uninstall a program whose uninstall routine won't work? Fortunately I've had this problem before when an uninstall file has been deleted or corrupted. The solution was a little program called the **Windows Install Cleanup Utility** that does a "manual" uninstall of the program - basically removing it from the list and registry. I used this utility to remove the old intellipoint software and then I was able to install the new software (all of this so my "back" button would work :). I repeated this process a few times for various programs. In the end I had about 11 programs that I can no longer run in my new OS. Fortunately I can live without or find replacements for all of them - so I'm good to go.

Office 2007

You might recall that I was moving from Office 2003 to Office 2007 within the new OS. I expected to have to install or abandon my old office templates. When it came to Outlook I expected to have to wrangle with the new environment for days till all my stuff was in place (4 or 5 PST files, auto-archive settings and a few dozen rules). Here is where PC Mover gave me a shockingly pleasant surprise. I installed Office 2007 and opened it for the first time. Instead of presenting me with the configuration wizard to set up new accounts, Outlook displayed a message saying "importing" or "updating" for about 3 or 4 minutes and then suddenly opened to my default view with all my friendly old folders in place. Email started pouring in and my rules started churning away sorting into my various folders. The only thing I had to do was reconfigure SpamBayes (my favorite Junk Mail filter).

To summarize, you can export the user profile information but *exclude* the actual Outlook program. Yet, as soon as you *install* Outlook, the old profile hooks automatically configure your Outlook environment the way you had left it. I suddenly had Outlook configured on my domain account virtually the same as it was on my local account, yet I was now running Outlook 2007! Wrangling with Outlook was really my biggest fear in the whole process - and it turned out to be automatic.

Summary and Review

I've been in my new Windows environment for 4 days now. So far I have to say it is excellent. In fact, I have no complaints at all. My environment is familiar since I went through the process of insuring that it would be as close as possible. My programs perform well - better in fact since I have a faster bus and more RAM. I'm still learning a few things but overall I give it an "A". Getting Remote desktop working required some configuration of the power options, but even that seems to be pretty smooth. I'd be interested to know my readers thoughts on Win 7 compared to XP or Vista. We skipped Vista after a close look due to the many issues with drivers and the quirky behavior of UAC and the UI. At this point we are glad we did - but it looks like Win 7 might be our next hop.

(Now, if you made it this far I'll tell you a secret. You don't actually have to spell out

Bill Gates with your mouse to get the God Mode console to work. In fact the folder name can be " ****anything*. {ED7BA470-8E54-465E-825C-99712043E01C}*** and you will still be able to run the GMC. If you actually spelled out Bill Gates on your screen - thanks for taking me seriously. :)