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## Windows 7

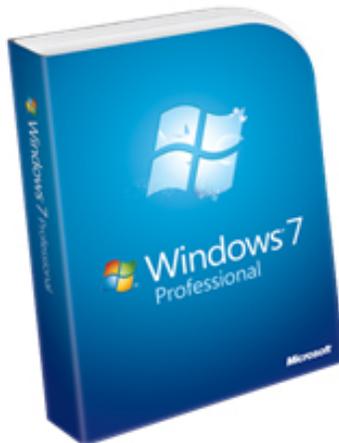
### What's in it for you?

By Robert Green, *Cadalyst* Contributing Expert



Unless you've been in isolation without a TV for the past few months, you've probably seen the commercials for the new Microsoft Windows 7 operating system. Or perhaps you've been reading about Windows 7 in blogs? No matter how you've heard about Windows 7 chances are you'll either implement Windows 7 as an IT professional, support CAD users adjusting to Windows 7, or use Windows 7 on your desktop sooner or later. And if you're going to be affected by this new operating system, it makes sense to learn all you can about it.

In this newsletter, I'll look at some interesting new features in Windows 7 and give you some ideas about the benefits and changes you'll experience while using it.



Windows 7 Professional, which I used for testing, is available in 32- and 64-bit versions on DVD media in a single package.

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In many ways, Windows 7 doesn't seem much different from Windows Vista. In upgrade testing on my 32-bit dual-core laptop and 64-bit quad-core desktop machines (both of which were using Vista operating systems), I've had no learning curve to follow. I also found the upgrade from Vista to Windows 7 ported over my programs and settings with only a few minor issues.

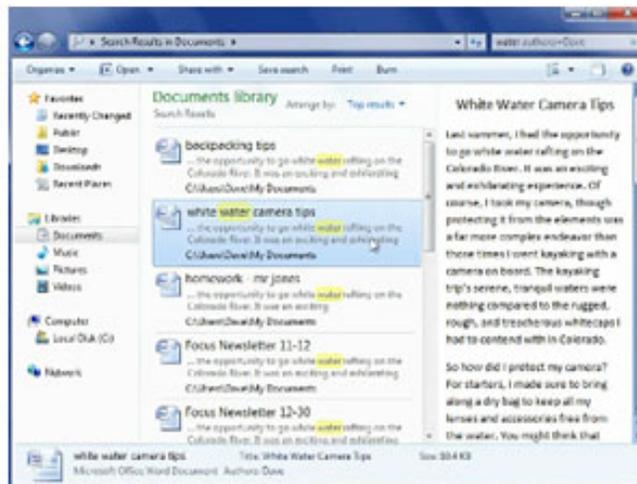
In terms of upgrading or ease of use, those who update from Windows XP to Windows 7 won't have it as easy as Vista users. In fact, most XP users will need to back up all user data and reinstall most programs to get everything running, so be sure to have all your master disks, product keys, and solid backups ready before proceeding. In all fairness, though, I remember my switch from XP to Vista as a clunky and time-consuming process followed by a roughly one-week period of acclimation to the new Vista interface -- about the same as an XP to Windows 7 transition.

Bottom line: If you're already used to Vista, you'll adjust to Windows 7 very quickly. If you're still using XP, you'll have a bit of a transition and a somewhat more involved upgrade process on existing machines.

**Cool New Stuff**

Windows 7 must have a few cool new features, right? Taken separately, these cool features probably don't seem to be much of a difference, but when combined with other benefits they add up to some nice productivity enhancements. Here are a few features that I've come to enjoy using already in alphabetical order:

**Search.** The new search results screen is organized more along the lines of file types, and searches now assume that you want to look on not only local hard drives but attached devices as well. Searches now return more global results, along with content viewing for each search result (see below), but allow you to focus the search on all file parameters to get more granular results faster. The new search results aren't an earth-shattering improvement over Vista, but I do find that I've grown to like them.



Search results categorized at left, document summary in middle, and document contents at right.

A shortcut for Search is located directly above the Start button that accesses Instant Search, which is a highly indexed search based on the contents of your desktop. The search proceeds at warp speed due to the indexing -- you'll get results back before you've finished typing the keyword (or keywords) in many cases.

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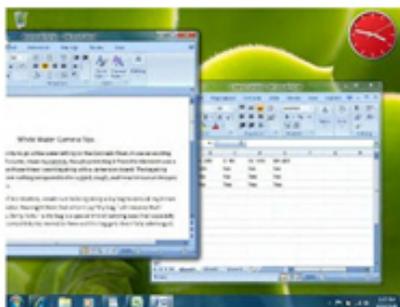
delivering timely, thorough, unbiased reviews of software and hardware for CAD professionals. Cadalyst's Highly Recommended rating is an indication that a product meets Cadalyst's highest standards and is an excellent choice for CAD professionals.

*No matter how you look at it, this workstation is impressive. It is compact, quiet, speedy, and highly configurable. It has innovative design and superb engineering and is forward looking in terms of expansion. The attention to detail in this system is remarkable, as is the design philosophy. It isn't often that I would consider an A+ grade for a workstation, but the HP Z600 deserves it.*

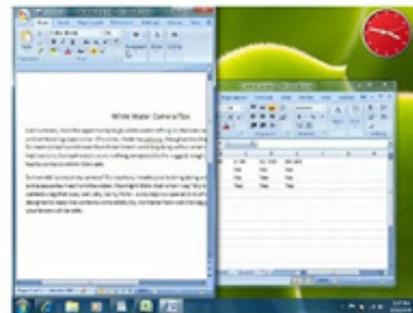
Ron LaFon, "HP Z600 Workstation," Cadalyst.com, March 30, 2009.

**Shake.** Shake allows you to click on a window and then, while keeping your left mouse button depressed, shake the window back and forth to minimize all other processes. This results in a clean screen with only the current window open. To bring the desktop back to its prior state, simply execute Shake again, and everything comes back. Easy.

**Snap.** Snap simply allows you to drag a process window to the left or right side or top of your screen, and Windows 7 then will scale the process to take maximum advantage of available screen space. In the before and after examples below, you can see the results of snapping a process to the left hand side of the screen. Although this feature may seem like a simple thing, I've found I already use it a lot to paste text between Word and Excel sessions (snap one process to the right and another to the left) or to place multiple documents on one screen while running CAD applications on the other screen. *Note: AutoCAD users will find snapping to be almost exactly like dragging toolbars.*



Before snapping.



After snapping.

**Taskbar.** The new taskbar (located in the lower-left corner in the figures above) now sports larger graphical previews of running processes to make browsing and jumping between processes easier. Pausing your mouse over any of the icons in the taskbar now will result in a previewing window (see figure below) that can display multiple previews for a single application so you can actually see which file to open visually instead of trudging through file names. (No more Alt-Tab required!) As I mentioned in the Snap example above the new taskbar isn't a huge technological development, but it does make the everyday drudgery of juggling multiple programs easier than in XP or Vista.



Graphical taskbar previewing.

**Touch.** Although I don't personally own a touch-screen-enabled monitor, I've had the chance to play with one, and I have to admit that I want one. The new multi-touch capability allows you to scale process windows using two fingers to define the window boundary very much as you would on an iPod browsing screen. Ultimately, widespread adoption of touch screens will be driven by lower costs, but with Windows 7 you'll be ready for the change if you can justify it.

## Critical Mass for 64-Bit

Many companies, perhaps yours included, have resisted the move to 64-bit operating system platforms by sticking to the venerable 32-bit Windows XP for years, even though 64-bit operating systems can take advantage of the higher amounts of memory that new multicore processors and modern CAD programs crave. It seems that many companies haven't been willing to make a lateral move into 64-bit XP or Vista for reasons ranging from legacy application support to network issues.

Because standard RAM configurations for most desktop machines can easily surpass 4 GB, it seems reasonable to assume that Windows 7 will be the operating system that brings 64-bit computing to masses.

## Speed and Stability

Any new operating system should operate faster and crash less to be worth its upgrade fee, right? In the case of Windows 7, I've found that, at least for me, Microsoft has met both goals. On both test machines, performance seemed somewhat quicker than under Vista. Tasks that have caused problems in the past (such as repeated USB device swapping and frequent sleep or hibernation on my laptop) haven't caused problems for me under Windows 7. In fact, I've always experienced problems in some AutoCAD functions after hibernation in XP and Vista, but I haven't experienced a single problem under Windows 7 so far.

Another speed gain you'll notice is that wireless network connections are restored in a matter of seconds when bringing a system back from sleep or hibernation modes. In general, I've noticed faster startup and wake up times in all configurations I've tried. Excellent news for road warriors with laptops!

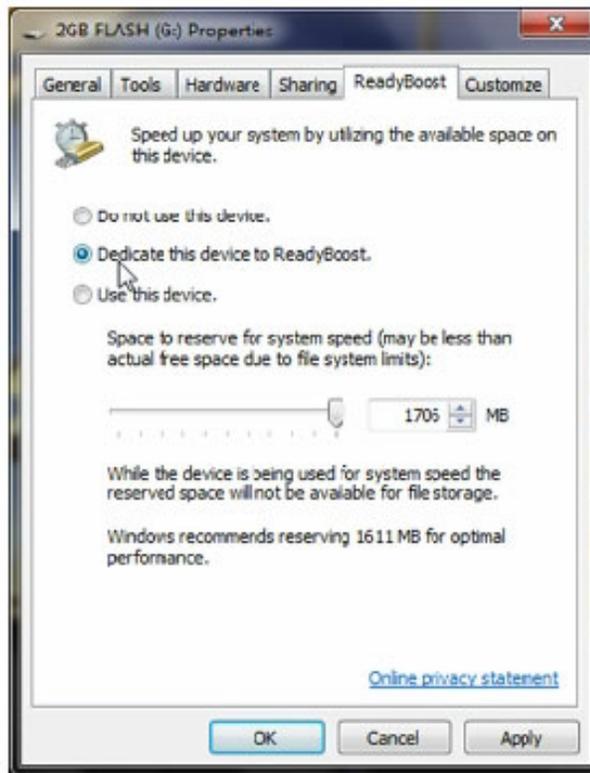
I can't report a night-and-day difference in performance due to my Windows 7 upgrade, but I certainly can attest to marginally better speed and much better results on device swapping and sleep or hibernate modes (I've observed faster wake up and no memory management problems). It's always good when things get faster and work better -- and Windows 7 has delivered on both counts in my testing.

## ReadyBoost

In addition to the performance- and memory-management increases described above, Windows 7 ReadyBoost is another way to accelerate the performance of existing machines. The premise behind ReadyBoost is that any operating system has a fundamental limitation from having to store information on a hard disk. And, of course, storing and recalling information from a mechanical hard disk takes time -- far more time than accessing memory.

ReadyBoost used solid-state memory devices such as USB 2.0 memory sticks or SD memory cards to replace mechanical disk access with much faster memory access. Although ReadyBoost isn't as fast as solid-state disk (SSD) technology (available in HP's Z series workstations), I noticed a considerable difference when working with large CAD files in my tests.

ReadyBoost-capable devices can be configured simply by right-clicking on the device's Properties tab (such as for the G drive shown below) and then using the ReadyBoost tab to allocate all or part of the device memory to ReadyBoost. I tested ReadyBoost using a SD 4-GB memory card in my 64-bit machine and noticed far less disk access along with a slightly reduced CPU load while running my typical CAD applications.



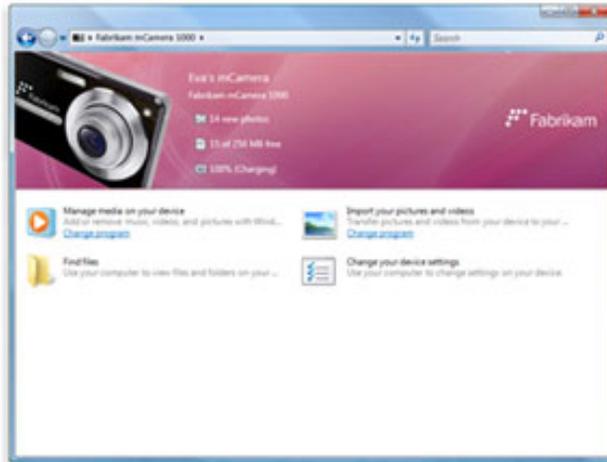
If a device supports ReadyBoost, you'll see it in the device's Properties tab.

CAD power users looking for ways to speed their applications should start first with ReadyBoost.

## Device Management

If you are a road warrior with portable drives, have to sync your desktop e-mail to a smart phone, or want to perform backups to an external device, then you've likely experienced the relative hassle of device management. Windows 7 makes the process somewhat easier to manage with its new Device Management feature set.

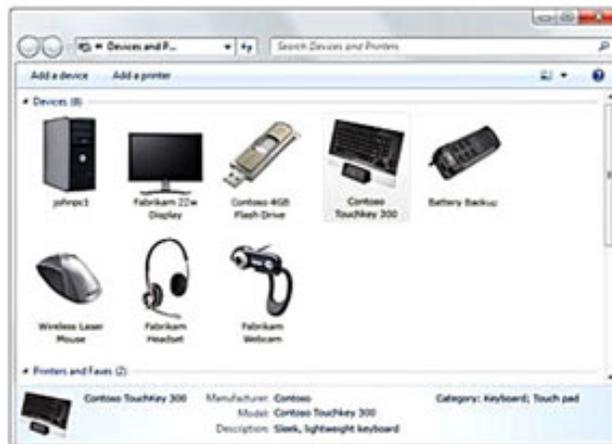
Device Management begins with the Device Stage screen (see below) for each attached device. The Device Stage essentially is a customized device driver provided by device manufacturers that enable extended configuration. Plugging in a new device is very similar to installing a USB memory stick in Windows XP but with the added step of receiving the Device Stage screen upon successful device installation. The Device Stage may be used to customize the device configuration in any way supported by the driver.



The Device Stage screen displays automatically after plugging in a new hardware device.

I was particularly interested in the Device Stage installation for my Samsung smart phone. When I first obtained my phone, it had only XP drivers, so I had to download the Windows Sync Center for Vista to be able to sync with my laptop-based Outlook application. Windows 7 found the phone immediately and even downloaded the new Device Stage for me. Windows 7's automatic update is supposed to keep track of new Device Stages automatically, but I haven't been able to verify the functionality since I recently completed my Windows 7 upgrade.

As your hardware devices accumulate, you'll be able to track them all in the new Devices and Printers folder (as shown below). This folder consolidates all the Device Stages required for managing your hardware in one easy to find location -- as opposed to trudging through a control panel to find various hardware devices and printers in separate locations.



The Devices and Printers folder aggregates all your configurable devices into a single easy-to-manage location.

OK, I know that many will say, "I'm not going to upgrade my operating system just because it makes syncing my devices easier." I completely agree with that line of thinking. However, Windows 7 Device Management is a really nice bonus that you'll enjoy when you do move to Windows 7. Aside from Windows 7's increased performance, I've found Device Management to be the most useful feature.

## Taking the Plunge

I admit that I almost always adopt new operating systems quicker than most users and that I try very hard to be open to changing my ways. With Windows 7 I've actually enjoyed the upgrade and have found the new productivity features handy and the performance gains worthy of the upgrade price.

Whether you become an early adopter of Windows 7, like me, or whether you wait for your company to standardize on it, you'll almost certainly be affected by Windows 7 sooner or later. I hope you've found this report on making the switch to Windows 7 to be a useful guide and that it will help you determine when you'll be ready to make the switch.

### About the Author

#### Robert Green

Robert provides CAD implementation, consulting, and programming services for a variety of companies throughout the United States and Canada. He holds a degree in mechanical engineering from the Georgia Institute of Technology and is the author of *Expert CAD Management: The Complete Guide*. Reach him via his web site at [www.cad-manager.com](http://www.cad-manager.com).

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