

OPERATING SYSTEMS

Channel Checklist: Top four features to ease Vista deployment

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***Service provider takeaway:** Service providers can ease the pain of Windows Vista deployment by learning how to take advantage of improvements to these features.*

I often say that three things are certain in the life of a technology professional: death, taxes and deployment. Windows Vista presents some interesting opportunities in the life of a service provider, including improvements to the tools and services behind deployment. In this checklist, I've highlighted a few of the secrets behind Windows Vista deployment and what you need to know about them.

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	Top four features to ease Vista deployment
✓	Discover the new Windows Imaging Format
	One of Microsoft's big wins during Vista's development was to make Windows more modular, so that all the parts of the system are, in essence, separately contained. Because of this, drivers, service packs, updates and localization (languages) are all much easier to incorporate into Vista installations. Part of the benefit of the modular improvements to Windows components is the introduction of the new Windows Imaging Format (WIM), a hardware-independent format that stores images of the operating system. The premise of WIM is to make images many-to-one in nature, meaning multiple images can be contained within one WIM file. Since Windows Vista is so modular, 95% of the base OS can simply be copied among images, allowing Microsoft to ship a single binary image for each processor architecture -- x86 and x64 -- to everyone in the channel. Additionally, the sizes of each of the

	<p>image files are reduced using single-instance storage techniques and enhanced compression. Perhaps the best usability improvement of the WIM format is the ability to edit the image offline using standard file management tools such as Windows Explorer, which enables you to add files and folders to an image. Instead of the painful driver addition process in Remote Installation Services (RIS), you can simply drop drivers directly into a WIM-based image, making them automatically available. Best of all, you don't need to create independent images for each edit you make -- the additions, modifications and deletions you make can co-exist without conflict in one image, reducing management burden.</p>
✓	<p>Use Windows PE</p>
	<p>Windows Pre Environment (Windows PE) is an execution environment that's designed to be used <i>before</i> an operating system is booted. Rather than the old blue-background, text-based installation screen with previous versions of NT that you may hate, Windows PE comes in graphical format and contains a full complement of tools to assist with installing Windows Vista on a drive. Plus, you can use a mouse with it. The big win with Windows PE is that standard Windows network drivers work with it out of the box. If you have ever tried to install a driver in NT or via RIS that doesn't come in the box, you know the special hell of hunting for specific NDIS drivers that are useful only for network deployment. Windows PE also has a built-in firewall to protect the operating system at its most vulnerable, when it is partially installed. Finally, you can use any type of removable media -- not just a floppy disk in drive A: -- to insert files into the session. (You might recall the frustration of only being able to add a driver by hitting F6 at the right moment during setup and only having the driver on a floppy disk. Windows PE eliminates this annoyance.)</p>
✓	<p>Learn ImageX</p>
	<p>ImageX is a very simple program that takes a byte-for-byte, sector-for-sector, block-for-block copy of a disk and makes a WIM file from it. This resulting file is suitable for copying to a Windows Deployment Services server. You can also include the ImageX runtime on a CD or DVD and use it to deploy custom images to any machine you like through a more modernized version of sneakernet, if you don't want to go to the trouble of setting up Windows Deployment Services.</p>
✓	<p>Explore Windows Deployment Services</p>
	<p>Windows Deployment Services (WDS) is the next generation of Windows 2000's and Windows Server 2003's RIS. It will be released with Windows Server 2003 Service Pack 2 and is the only supported method of deploying Windows Vista over the network. If you want to stream Vista images to desktops and notebooks over the Internet, you'll need to upgrade your RIS servers to that service pack level. WDS supports both x86 and x64 images. Like RIS, WDS</p>

uses the Preboot Execution Environment (PXE) capabilities of most modern BIOSes and network interface cards to load a session of Windows PE. Windows PE presents a menu to the user consisting of all the appropriate image and configuration options available on the WDS machine. The user selects a target, and the image -- in WIM format, of course -- is laid onto the disk of the target machine.

About the author

Jonathan Hassell is an author, consultant and speaker residing in Charlotte, N.C. Jonathan's books include RADIUS, Learning Windows Server 2003, Hardening Windows and most recently Windows Vista: Beyond the Manual.