

"The Next Windows: Lucky 7?"

A special look at Microsoft's next operating system for my readers

created by Mark Minasi November 2008
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I was fortunate enough to be presenting at TechEd Barcelona in early November 2008, where Microsoft unveiled the first information about their upcoming Windows 7 – the name for both the new desktop (the replacement for Vista) and Server (which will be named Windows Server 2008 R2). I incorporated that information into a keynote that I gave in Las Vegas the next week to a kind reception. I don't usually post my keynote PPTs, but this time I thought that my readers would enjoy an early look at Win 7.

I hope you find this useful, and remember, I'm doing my Vista and Server 2008 classes in northern New Jersey on the week of December 8 – please consider joining me there, or pick up a copy of either of my audio seminars. Thanks!

-- Mark

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Topics

- Hey, Windows 7's coming!
- Client Stuff
- Server Stuff
- What do I DOOOO?????

Okay, First Thing...

- What are they going to call it?
- (Like anybody cares)
- Desktop = Windows 7 (unless it changes)
- Server=Windows Server 2008 R2
- Server only comes in x64, no x86
- Desktop still offers x86

"When? When? When?"

- "Can I skip Vista? Can I can I can I? Pleeeeeze?"
- The plan is the first half of 2010 for Windows 7
- But, um, that's the *plan*...
 - 2000 was supposed to appear in 1998
 - The next version, "Whistler," was supposed to appear in early 2001 (XP=Oct 01, 2003=April 03)
 - The BIG new version, "Blackcomb," was supposed to appear in 2004/2005 (and that is now "Windows 8")
 - The *interim* version pre-Blackcomb, "Longhorn" was supposed to appear in 2004/2005 (that was Vista and Server 2008)
 - So when exactly *will* 7 ship, anyway? 2010 H1 would surprise me

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Trust Me...

they know you hate Vista

- And so...
 - Windows 7 seeks to be as fast or faster
 - (So think about a Vista rollout after all?)
 - Hardware that runs Vista well will run W7 as well
 - Vista drivers are all Windows 7 drivers
 - Windows 7 includes nearly 400 "fixes," built-in shims that solve compatibility problems
 - Any SDB-type patches created in Vista work on W7
- Its internal version number will be 6.1
- Much of the UI seems Vistaish so far, but...

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UI Stuff

- SideBar's gone, now gadgets go right on the desktop
- Taskbar's got a new look, like a no-text, no-quick-launch version of Taskbar
- You can control system tray behavior for each app
- Devices (like cameras) go on Taskbar as well, leading you to DeviceStage, a window for controlling devices

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More UI Stuff

- Easy adjustment to make two windows share the screen side-by-side, half apiece
- Some tablet users will be able to run their Win 7 boxes as they were iPhones, all finger pushes (of course, most tablets currently don't respond to fingers...)
- ONE right-click on the Desktop gets you to video resolution
- Paint and WordPad get the Ribbon!

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More UI: Libraries

- New way to show files, sort of an evolution (for example) of how Vista shows tunes differently than videos or pictures
- Extends to downloaded files (shows their URL), contacts (shows their essential values)
- Essentially it's a meta-view of a bunch of folders
- Includes and extends the notion of search folders

PowerShell

- 2.0 does neat remote stuff
- Runs atop WinRM, not RPC
- (And by the way, there's a patch to add winrm to XP and 2003)
- .NET's now on Server Core, so PowerShell's on Server Core

Deployment

- Multicasting
 - Important new changes in WDS multicasting, a three-speed approach
- Dynamic driver provisioning: deploys an image, and removes unneeded drivers
- Tools: imagex still around; pkgmgr, peimg replaced by DISM...
- ... and DISM patches offline virtual machines
- USMT now does some interesting work, letting you wipe a disk clean but preserve the location of desired old files, making wipe-and-rebuild faster
- Moving away from WIMs to VHDs

AppLocker: SAFER, but Safer

- (SAFER= the beta name of Software Restriction Policies)
- Builds on digitally signed apps to control what can and can't be installed
- (Somehow) keeps people from installing apps as a standard user

Security

- UAC now has a slider with five ticks on it to control how intrusive it is
- Windows Solution Center (which contains the old Security Center) gives you more control over what sort of notifications the system gives you, reducing its irritation factor
- Workgroups can now be "HomeGroups," a password-protected group that lets you connect to resources in your home's network with your company's PC without your company's security settings getting in the way

More Security

- Neat new "global security access control list" makes object access auditing more useful
- Just point to a user and an object and it'll tell you, "user A tried to access object B and failed/succeeded because of X group membership"
- Multihomed systems can now have different firewall settings
- Read-Only DFS for branch office security

DirectAccess

- Call it "seamless VPN"
- Microsoft has used a process for years now whereby employees log onto the network, get an IPv6 address and tunnel (via Teredo) into MS's corpnet, using IPsec
- Local inside-corpnet-only addresses and names now look local ("direct access name resolution policy" accomplishes it)
- Difference: it's seamless

DirectAccess

- Requires IPv6, IPsec, R2 RRAS servers – set up with a wizard
- Exploits the new-to-Vista/2008 SSL-based "secure socket tunneling protocol" optionally
- Runs both ways as well, allowing you to service mobile devices in remote locations
- "VPN reconnect" aims keep you connected even when the VPN's spotty, as it's smart enough to retry at multiple VPN junction points

BitLocker To Go

- Removable devices can now be bitlocked
- You can even create a group policy requiring it
- Or say, "we won't write data to this USB stick unless it's Bitlocked"
- As before, you can store keys in AD, or in external 48-digit keys

Storage

- VHDs are becoming the new "container" standard, and have less and less to do with VMs
 - You can put one on your system, install an OS to it... and tell bcdedit to boot that OS
 - Mounting a VHD in Win7 is called "surfacing" it
 - Diskpart is the basic tool of choice to work with it
 - Of course, Vista & 2008 use them for backups now
- VHDs are on track to replace CABs, WIMs and perhaps even ZIPs

Speed!

- The way that the OS gives RAM to apps changes (with Vista, it's pretty generous in an attempt to make it faster), and so W7 should use less memory
- Non-miniport print drivers mean no (well, fewer) printer driver blue screens

Power Management

- Big push on this
- New "AQ" logo program
- The three in-the box power settings all yield 10% better power use
- "Core Parking" shuts down particular cores or entire sockets when not needed on Hyper-V systems

Hardware

- Device Stage also contains links to vendor things like supplies and accessories and, with hope, PDFs of the manual
- Wake-on-wireless LAN

Virtual Machines/Hyper-V

- Live Migration (like VMotion), shifts in ~10 ms range
- New NIC hardware supports separate queues for different virtual NICs
- Ditto NICs with embedded network switches
- Second level address translation on CPUs now supported – solves a problem (flushing VM page tables) that can take up to 10% of CPU time
- 64 (maybe 128) cores supported per instance
- Virtual desktop technologies looking like RemoteApps in Terminal Services

Terminal/Remote Services

- New name: Remote Desktop Services
- Hyper-V for virtual desktops
- More PowerShell support
- Server Manager now works remotely for role/feature control

BranchCache Lite

- So you're in a remote site, and you're using a file accessed across the WAN...
- Someone else in on your subnet needs that file...
- And you supply it (without knowing)
- You advertise your files using a Network Discovery protocol (the thing that's replaced Computer Browser in Vista/2008)
- Uses multicasts, not broadcasts

BranchCache Lite

- Caches SMB and HTTP/HTTPS traffic
- Security integrated so you can't look at things in the cache that you don't have access to
- Only Windows 7 systems can participate
- Extra: the SMB client does more caching... reopen a file and it's as quick as if you've already opened it
- Controlled with group policy settings

BranchCache Enterprise

- What's that you say, you have more than one subnet?
- Enable BranchCache on a local server
- Caches on the basis of hashed 64K blocks
- Server is obviously faster and can dedicate more resources
- It's a "role" in 2008 R2
- Windows 7 clients know to use it because group policy tells it to

DNSSEC

- Relatively old protocol-wise (2001-ish), but topical now
- Does *not* secure dynamic DNS updates
- *Does* secure responses to queries, with the result that it makes a DNS cache poisoning of the type recently discussed very unlikely
- For full effect, it'll require at least all R2 DNS servers on the forwarders/masters, and possibly on all DNS servers

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AD

- New domain functional level
- New task-oriented UI: AD Administration Center
- PowerShell cmdlets (sorta...)
- AD Recycle Bin
- Automatically maintained domain-based service accounts, new type of account
- Best Practice Analyzer
- Offline Domain Join
- Still no nice UI for flexible password settings

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AD and PS: the Good News

- New AD Administration Center is task oriented, which troubles some...
- ... but under the hood, it's nothing more than a GUI front end to PowerShell commands
- Benefit: we get the "reflectivity" that we've seen in Exchange 2007 – click the GUI button, see the PowerShell command

Other Networking

- Mobile broadband support makes mobile broadband look like a NIC, not dialup

"What do I DO???"

Remember:
All of this is *pre* Beta.
Anything can happen!

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"What do I DO???"

- I think the key is the "if works on Vista/2008, it works on W7/2008 R2"
- Remember, this means that any hardware you buy is essentially good for at least five years
- If you're not already doing it, get serious on solving any remaining Vista/08 problems
- I'm not slamming MS, but history shows that shipping on time isn't always possible (or even desirable)

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"What Do I DOOOO???"

- Honest, folks, I've been using Vista for about two years and 2008 for almost a year
- They're both good upgrades that have (IMHO) gotten a bad rap
- The Vista keys are that
 - It needs Vista-friendly hardware to shine
 - Again, most things will run but app compat's an essential
 - And hey, if you DO want to wait, XP SP3 is a pretty good OS!

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Thanks!

- I'm at help@minasi.com
- Free tech newsletter, forum at www.minasi.com
- My Vista/2008 seminars come to Parsippany, NJ the week of December 8
- <http://www.minasi.com/pubsems.htm>
- Audio CD versions of both seminars available there as well

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