

CLI357

# Vista, Take Two: what's new in Vista SP1

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IT Professionals | 2008

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## Outline

- ▶ Getting and deploying Vista SP1
- ▶ Vista changes to deployment in general
- ▶ Unpleasant News
- ▶ Storage Changes
- ▶ Network News
- ▶ Security Changes
- ▶ Terminal Services
- ▶ Speeding Up Vista
- ▶ Fun Stuff

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## SP1 Requirements

- ▶ As with XP SP2, will not install on battery
- ▶ There are separate SP1 versions for 32 bit and 64 bit
- ▶ 32 bit requires 2.5-5.5 GB free, 64 bit requires 4-8 GB free to install
- ▶ No Internet connection required with SP1 Update (which we'll meet soon)
- ▶ Biggest requirement: patience! Can take hours and four reboots

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## SP1 Install Options

- ▶ Microsoft calls them
  - ▶ Express
  - ▶ Stand-alone
  - ▶ Slipstream
- ▶ Here's what they mean...
  - ▶ Express: delivered via Update
  - ▶ Stand-alone: an EXE like the old SP updates
  - ▶ Slipstream: rebuilt installation ISOs w/SP1
- ▶ And don't forget getting SP1 on existing Vista images

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## Express

- ▶ Lowest initial-download option
- ▶ Only sends the changes required for the update
- ▶ Result: 65 MB update, not 560 MB
- ▶ This is what Windows Update (but not WSUS) delivers
- ▶ No stand-alone download – only part of Windows Update
- ▶ Only requires 1.2-1.5 GB of free space (x86 vs x64)

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## Express Steps

- ▶ Go to Windows Update
- ▶ Get updates KB949939, KB937287, KB935509, KB938371 (only necessary if you want it NOW)
- ▶ Then the SP1 update option will then appear in Windows Update

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## “What About the Drivers?”

- ▶ A number of systems running Vista RTM were blocked by Windows Update from getting SP1
- ▶ Reason: in the year that Vista’s been out, MS has discovered some systems with critical vendor-specific drivers – motherboard stuff, not just cameras or scanners – that make those systems unreliable

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## So What Happened?

(from my point of view)

- ▶ Problem: the vendors haven’t fixed the drivers
- ▶ Result: the whole point – well, 95% of the point – of SP1 is to make Vista more reliable
- ▶ But the old unfixed drivers loom much larger than any SP1-fixed bugs
- ▶ Anyway, Update refuses to install SP1 until the drivers are fixed

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## Good Answer? Bad Answer?

- ▶ This is actually an ancient argument
- ▶ If Vendor M makes an OS, and Vendor D makes a PC, who's got the responsibility to create drivers for M's OS on D's hardware?
- ▶ I don't know... but I do know that this sort of thing was a serious drawback for the OS/2s, both Microsoft's and IBMs

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## Stand-Alone "Update"

- ▶ This is the option that lets you download the whole thing and apply the SP offline
- ▶ Available options from [microsoft.com/downloads](http://microsoft.com/downloads):
  - ▶ Five language version for x86 (434 MB)
  - ▶ (English, Japanese, French, Spanish, German)
  - ▶ Five-language version for x64 (727 MB)
  - ▶ All language x86 version (544 MB)
  - ▶ All language x64 version (873 MB)
  - ▶ ISO-format file with both all-language versions (1418 MB)

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## Stand-Alone “Update”

- ▶ These are the exact names for those options, in order:
  - ▶ "Windows Vista Service Pack 1 Five Language Standalone"
  - ▶ "Windows Vista Service Pack 1 Five Language Standalone for x64-based Systems"
  - ▶ "Windows Vista Service Pack 1 All Language Standalone"
  - ▶ "Windows Vista Service Pack 1 All Language Standalone for x64-based Systems"
  - ▶ "Windows Vista Service Pack 1 All Language Standalone DVD ISO"

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## Stand-Alone “Update”

### how they work

- ▶ The first four are EXE files, the last is an ISO that contains nothing more than the two all-language EXEs with an autorun.inf and setup.exe included
- ▶ MSDN has a similar set of downloads but they're labeled just a trifle differently
- ▶ Related KB is KB936330

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# Stand-Alone “Update”

## WSUS issues

- ▶ This is what WSUS delivers
- ▶ As with Express, needs the same four hotfixes to deploy SP1; should be delivered by Microsoft Update automatically but if for some reason your system *doesn't* have them, then get them onto your target systems or SP1 won't arrive!

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# Running SP1 Update

## (the EXE files)

- ▶ `/quiet, /unattend`: installs and reboots without user interface (`/quiet` shows no UI at all)
- ▶ `/nodialog`: suppresses the final "we're done!" user interface; used with `/quiet` or `/unattend`
- ▶ `/promptrestart`: with `/quiet`, asks the user if it's OK to reboot
- ▶ `/forcerestart`: upon reboot, forces any open apps to shut down

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## The Integrated Build

- ▶ You cannot do a traditional slipstream
- ▶ But there are also updated ISOs that are Vista install DVDs with SP1 incorporated, called the "integrated builds"
- ▶ Not available on /downloads, but on MSDN as Vista Enterprise, N, Ultimate and "Vista generic" in x86 and x64 versions "with Service Pack 1"
- ▶ Replaces the RTM Vista DVDs, 32 and 64 bit
- ▶ This is the way to "slipstream"

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## "No Slipstream?"

- ▶ The old kind of slipstreaming is gone because, if you think about it, **it doesn't make sense any more**
- ▶ Pre-Vista, our install image was a bazillion little compressed files; Setup was so slow because it had to copy and expand those files
- ▶ Pre-updating each file made things smoother

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## “No Slipstream?”

- ▶ Vista installs, in contrast, are completely different
  - ▶ Basically Setup just copies one huge file named install.wim to the target
  - ▶ You don't create \$OEM\$ folders any more on a distribution point on Vista/2008 – you pre-inject drivers with pnputil
  - ▶ So there's only one file to update – install.wim
  - ▶ MS's answer: an updated install ISO

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## Once It's On...

[View basic information about your computer](#) 


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Windows edition

Windows Vista™ Ultimate

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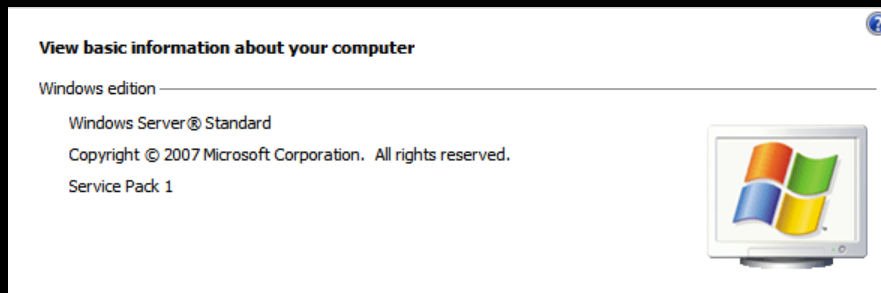
Service Pack 1



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## Heck, This SP1 Stuff is Catching...



Resulting kernel is a "99% match" to 2008

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## Summarizing so far...

- ▶ Just wait and get it from Windows Update
- ▶ Download the stand-alone updater, install to existing systems without the need for a network connection
- ▶ Build new systems from this point on with the new install integrated-build DVD ISOs
- ▶ But what about updating existing WIMs?

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## Updating WIMs

- ▶ There is no way to use peimg or pkgmgr to deploy SP1 to an existing image
- ▶ Instead, deploy the WIM to a physical machine, install SP1, use PostReflect, VSP1CLN, sysprep and imagex all over again (I'll explain the two new ones in a moment)
- ▶ And... it doesn't cost you a "rearm"

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## New Fixup for Updated WIMs

- ▶ To add SP1 to an existing image, you would, as you may expect:
  - ▶ Mount the image on a PC
  - ▶ Get past the "OOBE" stuff
  - ▶ Apply the SP1 Update
  - ▶ Run Sysprep
  - ▶ Boot WinPE
  - ▶ (and you get an extra "rearm" in SP1)
- ▶ And here's where things change...

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## Use PostReflect

- ▶ The resulting system would not boot, as the HAL and drivers don't match SP1
- ▶ So to add them,
  - ▶ assume that the \Windows folder shows up on drive R: in WinPE, but that it'll be drive C: when the image is up and running
  - ▶ From a WinPE command prompt, type
  - ▶ `postreflect r:\windows c:`
- ▶ Now imagex, using the WAIK 1.1 imagex

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## Post-SP1 Cleanup Option

- ▶ New command-line tool in the WAIK, VSP1CLN, removes original Vista RTM files
- ▶ Saves space; options:
  - ▶ `/quiet`, `/verbose`
  - ▶ `/o:windows` directory removes files from an offline Windows install; ex:
- ▶ `vsp1cln /o:r:\windows /quiet`
- ▶ Run from WinPE command prompt before or after running postreflect

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## Reimage-with-SP1 Summary

- ▶ Steps:
  - ▶ Mount the image on a PC
  - ▶ Get past the "OOBE" stuff
  - ▶ Apply the SP1 Update
  - ▶ Run Sysprep
  - ▶ Boot WinPE
  - ▶ Postreflect
  - ▶ Vsp1cln
  - ▶ ImageX to create the updated image

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## New To Setup / WGA / Updates

- ▶ When you exceed the grace period, it doesn't lock you out any more; it just annoys you every hour
- ▶ When you create the first user account in Vista setup, Setup **REQUIRES** you to create a password hint
- ▶ Yet again we're told that "hot patching" will preclude the need for many patch reboots
- ▶ "KMS can now run in a VM environment" and you must update your KMSes for Server 2008

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## Other WAIK Changes

- ▶ Win PE is 2.1, not 2.0
- ▶ You can control the size of its RAM disk more easily
- ▶ OSCDIMG has about 40 options now, but the old ones still work, don't worry
- ▶ 64-bit WIM images can now be delivered by a 32-bit Win PE

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## Managing Server 2008 with SP1 remote control: RSAT

- ▶ With a Vista SP1 system, you can now do remote server admin with a sort of Vista version of adminpak.msi
- ▶ (That assumes the firewall for remote management's not an issue)
- ▶ Called Remote Server Administration Tools (RSAT)
- ▶ Reference: KB article 941314, requires Vista SP1
- ▶ There are 32-bit and 64-bit versions

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## Little Annoyances

- ▶ Group Policy Management Console removed
- ▶ (RSAT restores it)
- ▶ The MoveUser API has been rewritten and so the old Resource Kit "moveuser.exe" won't work, as will be the case with many other profile tools
- ▶ KB 930255 has a simple replacement VBscript
- ▶ If you opted out of CEIP before, it'll ask again

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## Big Annoyances

- ▶ Vista no longer reports how much memory it can access
- ▶ Instead, it reports the amount of memory in the system


View basic information about your computer

Windows edition

Windows Vista™ Ultimate  
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Service Pack 1



System

Rating:  [Windows Experience Index](#)

Processor: Intel(R) Core(TM)2 Duo CPU T9300 @ 2.50GHz 2.50 GHz

Memory (RAM): 4.00 GB

System type: 64-bit Operating System

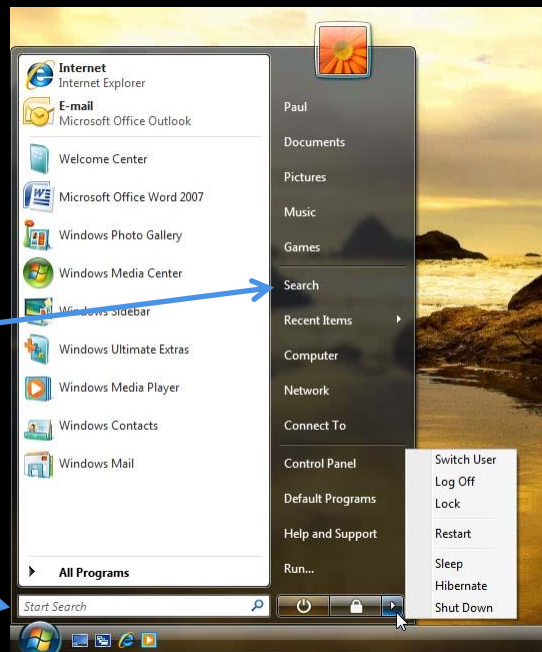
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You have to  
search a bit  
for search

THIS isn't

This is still there

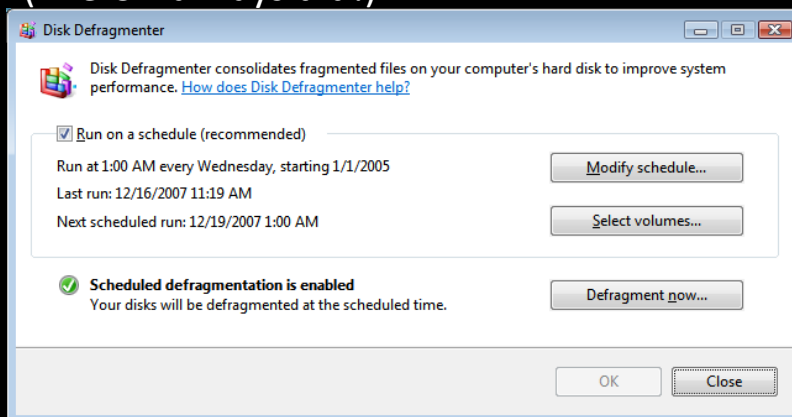


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## SP1 Storage Changes

- ▶ Defrag GUI now lets you choose volumes
- ▶ (The CLI always did!)



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## SP1 Storage Changes

- ▶ Backup used to have this little problem...
- ▶ ... it couldn't restore
- ▶ That's fixed
- ▶ Backup can now back up EFS files, leaving them encrypted
- ▶ In Vista RTM, creating or renaming some folders may cause up to 4 UAC prompts
- ▶ In SP1, it's just one!

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## SP1 Storage Changes

- ▶ New file system exFAT like FAT32, but supports files > 4 GB and can partition and format volumes > 32 GB
- ▶ Pointed at flash-based devices
- ▶ Allows users to rename or delete folders while working offline with redirected folders
- ▶ Support for Secure Disk Advanced DMA (ADMA)

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## SP1 Storage Changes

### better tags

- ▶ No one seems to have mentioned this, but SP1 seems better about picking up on existing file tags
- ▶ Type a couple of characters and it suggests existing ones that match that
- ▶ RTM did this, but much more slowly and less reliably

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## Security Improvements

- ▶ Vista now prompts to back up your EFS keys
- ▶ Bitlocker can encrypt all drives
- ▶ Unlocks encrypted them by default
- ▶ If using a USB key to store the volume encryption key on Bitlocker, you can add a PIN
- ▶ If using a TPM chip on Bitlocker, then you can now add an extra key in a USB key and you've always been able to add a PIN (three factor authentication?)

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## Network News

- ▶ Systems with multiple Internet interfaces pick the fastest one, and they take wireless's HDX nature into their reckoning
- ▶ NAP client gets smarter, finding Health Registration Authority (HRA) servers via DNS SRV records (used for quarantined IPsec connections)

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## Network News

- ▶ New "Secure Socket Tunneling Protocol" transports layer 2 over SSL, enabling a new VPN protocol
- ▶ Replaces PPTP, L2TP/IPsec
- ▶ Basically it's an SSL tunneling protocol that shows up as a PPP connection
- ▶ I do not think you can make this work with 2003 RRAS – 2008 needed on the server end

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# Network News

- ▶ NIC attributes like adapter names can be controlled via group policies
- ▶ "Single Sign On" extends 802.1x to wired networks; thus, if your wired network uses MS's authenticated wired networks, then you don't get double-prompted for both local and network logons!

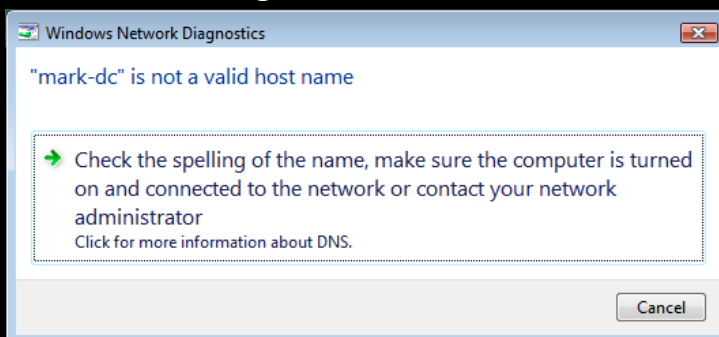
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# Network News

## new error UI

- ▶ When doing network connects from the GUI, the error messages are a bit better; called the "network diagnostic foundation"



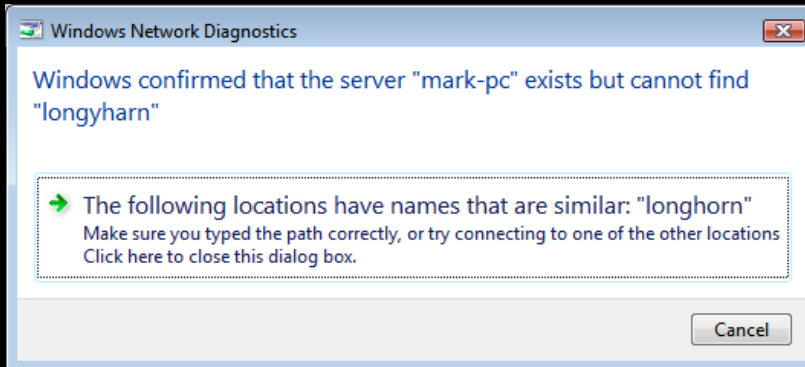
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# Network News

## new error UI

- ▶ Not impressed? How about this?
- ▶ Only works from GUI network ops



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# Network News

## IPv6 Stuff

- ▶ Teredo tunneling algorithm preserves ports
- ▶ Teredo blocks unsolicited traffic
- ▶ IPv6 now has the ability to store a DNS suffix search list
- ▶ Solves an IPv6 problem wherein IPsec secure connections don't work because Neighbor Discovery doesn't work in some IPsec situations

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## Terminal Services / RDP

- ▶ Opening a console session used to be "mstsc /console;" now it's "mstsc /admin"
- ▶ Printing to local printers much easier via XPS
- ▶ You can now sign RDP files, and require signing on RDP files
- ▶ Remote Assistance helpers couldn't click on UAC prompts; now "UAC: Allow Access" group policy setting lets you enable them

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## Terminal Services / RDP

- ▶ New compression algorithm
- ▶ Enabled in group policy setting
- ▶ Reduces RDP data size by 25-60%

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## Reliability

- ▶ More compatibility shims built in based on error reporting data sent to Microsoft (the upside of "Problems and Solutions")
- ▶ Vista handles removable NTFS devices (thumb drives, external drives) in a somewhat more cautious fashion, making it harder to lose data on a removable volume
- ▶ Startup Repair Tool handles a wider range of types of boot failures

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## Reliability

- ▶ SP1 fixes a lot of "sleep-related disorders" like the ones that cause Vista to crash when entering or leaving standby
  - ▶ disk sleep often didn't work
  - ▶ NIC sleep sometimes happened in mid-transaction
  - ▶ Video interrupts on some cards kept Vista from going to sleep entirely, running down batteries
- ▶ I still see my NIC going inactive when out of sleep, but vendor drivers might be the cause

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## Speeding Up Vista

- ▶ Systems come out of sleep and hibernation faster (and more so with ReadyBoost)
- ▶ File/Open dialog faster for domain users not in a domain
- ▶ 10 second delay when you press ctrl-alt-del upon login removed
- ▶ Moving large numbers of files within a drive (>20,000) 25% faster except to Desktop or C:

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## Speeding Up Vista

- ▶ 25% faster when copying files locally on the same disk on the same machine
- ▶ 45% faster when copying files from a remote non-Windows Vista system to a SP1 system
- ▶ 50% faster when copying files from a remote SP1 system to a local SP1 system

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## Speeding Up Vista

- ▶ Thumbnails of objects stored on a network share are now cached per-system for all users rather than per-user
- ▶ Compressed folder expansion algorithm improved ("extract all")
- ▶ Large (>100 MB files) transfer more quickly across a LAN unless it's a high-latency LAN (50% improvement claimed)
- ▶ Time estimates should take < 2 seconds

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## Speeding Up Vista

- ▶ Vista (and XP) gather information about how you use your computer for the first few boots so as to tune the system; SP1 resets that data, so systems can be a bit slow for a while
- ▶ ReadyBoost now saves info to make returning from hibernation or standby faster

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## Speeding Up Vista

- ▶ Network browser (NET VIEW et al) bandwidth needs reduced
- ▶ BITS faster and the query algorithm for finding installed components improved, making installing updates faster
- ▶ FTP faster on high-latency networks

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## Fun Stuff

- ▶ A faster, more tightly secured MPEG-2 protocol lets Vista run broadcast content over networks
- ▶ Media Center now includes "Windows Media Connectors" so MC can support things like networked DVD players and digital TVs
- ▶ "Connect to a Network Projector" can now handle non-standard resolutions

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## Fun Stuff

- ▶ Blu-Ray and HD-DVD drives now get their own icons
- ▶ DirectX 10.1, 3D faster for some chips, exploits new 3D verbs on some chips
- ▶ Can now create a single DVD that boots on either BIOS-based or EFI (Extensible Firmware Interface)-based systems

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## Hardware Support

- ▶ Wider range of drivers built in

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## And For More Help...

- ▶ MS is offering free support on Vista SP1 questions until 18 March 2009

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## Thank You!

- ▶ Thanks for attending
- ▶ I hope you found this useful
- ▶ I'm at [help@minasi.com](mailto:help@minasi.com)
- ▶ Please don't forget to fill out an evaluation

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