101 Microsoft Windows XP tips, tweaks, and hacks you need to know
101 Microsoft Windows XP tips, tweaks, and hacks you need to know

Performance

10 services to turn off in MS Windows XP
Disable Windows XP’s Error Reporting notification
Speed up Windows XP’s Search Companion
How do I... Use BootVis to improve XP boot performance?
Manage the most frequently used programs list on your XP Start Menu
Take advantage of the pinned items list in the XP Start menu
How do I... Force Disk Cleanup to delete all temporary files?
Improving Windows XP Performance Part I
Improving Windows XP Performance Part II
Improving Windows XP Performance Part III
Improving Windows XP Performance Part IV
Disable Windows Messenger on a Windows XP machine
Uncover Windows XP’s built-in image resizing utility
Get Windows SteadyState for managing shared Windows XP computers
Improve Windows XP Pro’s NTFS performance by disabling the Accessed timestamp
How do I ... tweak Windows Explorer to open in a directory of my choosing?
How do I ... use the Windows XP Installer Clean Up Utility to remove apps?
Adjust these performance options to speed up Windows XP
10+ Windows XP keyboard shortcuts to speed everyday tasks
Copy and paste from Windows XP Pro’s command prompt straight to the Clipboard
Reposition Windows XP’s Quick Launch toolbar
Get more out of Internet Explorer 7 tabs when using Windows XP
Increase your Command Prompt scrolling capability in Windows XP Pro with the List command
Removing unused device drivers from Windows XP machines
Using the Windows Installer CleanUp Utility in Windows XP
Windows XP services that can be disabled
Speed up Windows XP’s defrag operations
Take advantage of Windows XP Pro’s multiple monitor support for Remote Desktop Connection
How do I... use the Text-to-Speech application in XP?
Retrieve information for multiple Windows XP disk drives

Troubleshooting

Instantly create Restore Points in Windows XP
10 things you can do when Windows XP won't boot
Change the product key on Windows XP
Viewing non-present devices in Windows XP's Device Manager
Forcing Windows XP's Disk Cleanup to delete all temporary files
Extract troubleshooting info from Windows XP BSOD error messages
Get a better view of the Windows XP Tree command with Word
How do I recover my system in Windows XP using System Restore?
Re-enable icon transparency on your desktop in Windows XP
What you should already know about Windows XP Backup
Use the PushD command to create a quick temporary drive map in Windows XP
Viewing non-present devices in Windows XP's Device Manager
Quickly gather MAC addresses in Windows XP with ARP
Clear the Windows XP Run command's most recently used list
Troubleshoot Windows XP with the Driverquery command
Mapping drive letters to local folders in Windows XP
Specify Disk Cleanup configuration settings in Windows XP
Launch System Restore from a command prompt in Windows XP
Clear the Windows XP Run command's MRU list
Recover from a crash with XP's System Restore

Configuration

How do I... Configure Microsoft Windows XP Remote Desktop?
Return Windows XP to a previous working state with System Restore
How do I... Secure Windows XP NTFS files and shares?
Automatically run a batch file when you open a Windows XP command prompt
Configure Windows XP's MS-DOS Editor
Reset Internet Explorer's window size in Windows XP
Speed-up searching for network resources in Windows XP
Create a custom Control Panel in Windows XP
10 security tips for Microsoft Windows XP
Permanently set your flash drive's default AutoPlay action
Schedule a restart operation with Windows XP's Shutdown utility
Extend Windows XP's Clipboard with Network Clipboard and Viewer
Automatically generate and assign strong passwords in Windows XP
Prevent a shutdown of a Windows XP system
Get sound alerts for RSS feeds in Windows XP
Redirect the Command Prompt to a folder of your choosing in Windows XP
Add a Create New Folder icon to the Windows XP Quick Launch toolbar
Expand the notification area's calendar in Windows XP with DateTimeTray
Configure the Windows XP logon screen saver 126
Create your own Sleep button in Windows XP 128
Clean up the system tray in Windows XP 129
Liven up your desktop with Windows XP's animated pointer schemes 130
Simplify copy and paste operations in Windows XP 131
Make the Windows XP Favorites menu more useful in Windows Explorer 132
Add a Safe Mode option to the Boot menu in Windows XP 133
Modify the Open With list in Windows XP 134
Switch to Windows' basic search tool in XP 135
Add UNC information to the command prompt in XP 136
Create a drive menu for My Computer 137
Understand and exploit USB topology in Windows XP 138
Use registry shortcuts to disable and enable screensavers in Win XP 139
Taking a fresh look at the Windows XP Task pane 140
Alter Windows XP's most frequently used programs list 141
Remove clutter with Windows XP SP2's Duplicate Finder tool 142
Take advantage of the Windows XP Start menu's pinned items list 143
Implementing User Account Control-type protection in Windows XP 144
Customize Windows XP's General tab 145
How do I... set up multiple network interfaces in Windows XP? 146
Put your applications into a tabbed user interface with WinTabber 153
Use photos in Windows XP's 3D Flying Objects 154
Configure Windows Explorer to display Windows XP disk drives 155
Illustrated walk-through: Creating a bootable USB flash drive for Windows XP 156
How do I... stop Windows XP from nagging me about updates? 162

Fun stuff

Find and download new fonts for Windows XP 165
Add multiple desktops to Vista and XP with the Vista/XP Virtual Desktop Manager 166
Create your own special characters in Windows XP 169
Off hours: Put your name in the Windows XP notification area 170
Use Microsoft Media Player for your Windows XP apps 171
Change the font Windows XP displays in Windows Explorer 172
Create an old-time monochrome command prompt in Windows XP 173
Awesome tricks for 3D Pinball in Windows XP 174
In terms of sheer number of installed units, Microsoft Windows XP is by far and away the most successful PC operating system to date. But much of that success has come through the implementation of tricks, tweaks, and hacks. This download is the culmination of years of prodding the XP operating system. There are tips to gain more performance, to better troubleshoot problems, and to properly configure personal computer systems. These are the tricks every user and every IT professional should know because these are the tricks that make Windows XP work the way you want it to work. And after you are done getting everything working right, you will want to have some fun with your operating system, that is why we include several fun tricks that can further customize Windows XP to your personal taste.
Performance
10 services to turn off in MS Windows XP

By Chad Perrin

As I pointed out in point number four of the article “10 security tips for all general-purposes OSes” (http://blogs.techrepublic.com.com/security/?p=336), an important step in the process of securing your system is to shut down unnecessary services. As long as Microsoft Windows has been a network capable operating system, it has come with quite a few services turned on by default, and it is a good idea for the security conscious user of Microsoft’s flagship product to shut down any of these that he or she isn’t using.

Each version of MS Windows provides different services, of course, so any list of services to disable for security purposes will be at least somewhat particular to a given version of Microsoft Windows. As such, a list like this one needs to be identified with a specific Microsoft Windows version, though it can still serve as a guide for the knowledgeable MS Windows user to check out the running services on other versions as well.

If you are running Microsoft Windows XP on your desktop system, consider turning off the following services. You may be surprised by what is running without your knowledge.

- **IIS** — Microsoft’s Internet Information Services provide the capabilities of a Webserver for your computer.

- **NetMeeting Remote Desktop Sharing** — NetMeeting is primarily a VoIP and videoconferencing client for Microsoft Windows, but this service in particular is necessary to remote desktop access.

- **Remote Desktop Help Session Manager** — This service is used by the Remote Assistance feature that you can use to allow others remote access to the system to help you troubleshoot problems.

- **Remote Registry** — The capabilities provided by the Remote Registry service are frightening to consider from a security perspective. They allow remote users (in theory, only under controlled circumstances) to edit the Windows Registry.

- **Routing and Remote Access** — This service bundles a number of capabilities together, capabilities that most system administrators would probably agree should be provided separately. It is rare that any of them should be necessary for a typical desktop system such as Microsoft Windows XP, however, so they can all conveniently be turned off as a single service. Routing and Remote Access provides the ability to use the system as a router and NAT device, as a dialup access gateway, and a VPN server.

- **Simple File Sharing** — When a computer is not a part of a Microsoft Windows Domain, it is assumed by the default settings that any and all filesystem shares are meant to be universally accessible. In the real world, however, we should only want to provide shares to very specific, authorized users. As such, Simple File Sharing, which only provides blanket access to shares without exceptions, is not what we want to use for sharing filesystem resources. It is active by default on both MS Windows XP Professional and MS Windows XP Home editions. Unfortunately, this cannot be disabled on MS Windows XP Home.
MS Windows XP Professional, however, you can disable it by opening My Computer -> Tools -> Folder Options, clicking the View tab, and unchecking the Use simple file sharing (Recommended) checkbox in the Advanced settings pane.

- **SSDP Discovery Service** — This service is used to discover UPnP devices on your network, and is required for the Universal Plug and Play Device Host service (see below) to operate.

- **Telnet** — The Telnet service is a very old mechanism for providing remote access to a computer, most commonly known from its use in the bad ol’ days of security for remote command shell access on Unix servers. These days, using Telnet to remotely manage a Unix system may be grounds for firing, where an encrypted protocol such as SSH should be used instead.

- **Universal Plug and Play Device Host** — Once you have your “Plug and Play” devices installed on your system, it is often the case that you will not need this service again.

- **Windows Messenger Service** — Listed in the Services window under the name Messenger, the Windows Messenger Service provides “net send” and “Alerter” functionality. It is unrelated to the Windows Messenger instant messaging client, and is not necessary to use the Windows Messenger IM network.

On your system, these services may not all be turned on, or even installed. Whether a given service is installed and running may depend on whether you installed the system yourself, whether you are using XP Home or XP Professional, and from which vendor you got your computer if MS Windows XP was installed by a vendor.

With the exception of Simple File Sharing, all of the above listed services can be disabled from the same place. Simply click on the Start button, then navigate to Settings -> Control Panel, open Administrative Tools, and from there open the Services window. To disable any service in the list, double-click on its entry in that window and change the Startup type: setting. In general, you should change services you are turning off for security purposes to a “Disabled” state. When in doubt about whether a given service is necessary for other services, check the Dependencies tab in the service’s settings dialog.

Obviously, this is not a comprehensive list of everything running on your computer that you may want to turn off. It is merely a list of ten items that you most likely do not need to have running, and constitute a security vulnerability if left running. Most users will never have need of any of the services in this list, once the computer is up and running. Other services may be enabled without ill effect as well, though you should research each item in the complete services list before you disable it to ensure that you actually do not need it running. Some of them are quite critical to the normal operation of your system, such as the Remote Procedure Call (RPC) service.

Every running — but unused — service on your machine is an unnecessary security vulnerability. If a service is not important at all for authorized users and basic system functionality, turn it off. ✗
Disable Windows XP’s Error Reporting notification

By Greg Shultz

When Windows XP encounters a severe error that has the potential to crash the operating system, it immediately halts the offending program and displays an error message that says the application has encountered a problem and needs to close. Then, the operating system prompts you to send an error report to Microsoft. You can avoid having to click the Don't Send button by disabling Error Reporting. Here's how:

1. Press [Windows][Break] to display the System Properties dialog box.
2. Select the Advanced tab and click the Error Reporting button.
3. When you see the Error Reporting dialog box, select the Disable Error Reporting option. (If you don't want to see any type of error message, clear the But Notify Me When Critical Errors Occur check box.)
4. Click OK twice — once to close the Error Reporting dialog box and once to close the System Properties dialog box.

Note: This tip is for both Windows XP Home and Professional.
Speed up Windows XP’s Search Companion

By Greg Shultz

One reason why Windows Vista’s Search tool is so fast is because, rather than searching your whole hard disk, it only searches the Documents folders. So the next time that you pull up Windows XP’s Search Companion, click All Files And Folders and select My Documents in the Look In drop-down list. This prevents the Search Companion from searching the entire hard disk.

If you want to search documents stored in the root folder, you can still speed up the process by removing system folders from the search. Click All Files And Folders, open the More Advanced Options panel, and clear the Search System Folders check box. If the Search Hidden Files And Folders check box is selected, clear it too.

If you have a lot of ZIP files (or compressed folders, as Windows XP calls them) on your hard disk, the Search Companion will search through each of those as well, albeit more slowly. To prevent the Search Companion from searching through compressed folders, either move all your compressed folders to the root folder and then configure the Search Companion to only search the My Documents folder, or disable Windows XP’s support for compressed folders.

To disable this support, access the Run dialog box, type the command \regsvr32 /u zipfldr.dll in the Open text box and click OK. You’ll then need to restart the system for the change to take effect. (To re-enable Windows XP’s support for compressed folders, use the command regsvr32 zipfldr.dll.)

What if the Search Companion is disabled?

If you’ve disabled Windows XP’s Search Companion interface and are using the Windows 2000 Search interface instead, you’ll need to make the following adjustments to this tip:

To search My Documents, select My Documents in the Look In drop-down list.

- To remove system folders from the search, click Search Options, select the Advanced Options check box, and then clear the Search System Folders check box. (If the Search Hidden Files And Folders check box is selected, clear it too.)
- To prevent the searching of compressed folders, you can use the same technique as you would for the Search Companion.

Note: This tip applies to both Windows XP Home and Windows XP Professional. Also remember that editing the registry is risky; so be sure you’ve performed a full backup before making any changes.
How do I... Use BootVis to improve XP boot performance?

By Jim McIntyre

Microsoft Windows XP was designed to optimize the boot process so that users can boot their machines and access the operating system as quickly as possible. For the most part, XP is successful. There is, however, almost always room for improvement, and BootVis.exe, a free Microsoft utility, can help you get the best boot performance possible from an XP system.

How the Windows XP boot process works
A main cause of slow boots with Windows NT/2000 was their method for loading drivers. Prior to XP, Windows versions loaded drivers sequentially. Windows XP, however, loads drivers concurrently. It also records which applications are launched during startup. This information is written to the C:\WINDOWS\Prefetch\Layout.ini file.

When the Layout.ini file is created, XP performs a partial defragmentation on the files listed in Layout.ini. This defrag process attempts to make the files listed in Layout.ini available in one contiguous area on the hard disk, allowing these files to be accessed, and the associated drivers to be loaded, more quickly. This process is run in the background approximately every three days.

There are four factors affecting the defrag process:

- The system must be idle for XP to perform the defragmentation.
- There must be enough free, contiguous disk space to contain all the files listed in the Layout.ini file.
- The partial defrag performed by XP will not create the necessary contiguous disk space. That can be accomplished only by running a full defragmentation with the XP defragmentation tool or a third-party disk utility.
- The XP defrag process will not use a third-party utility to perform the defragmentation. Any external tools must be run on their own.

BootVis, which Microsoft describes as a “performance trace visualization tool,” actually performs the same tasks as the XP boot process, except that BootVis allows the information obtained during a single boot to be used for optimization, rather than monitoring the system over a period of several days.

Download the file (http://downloads.techrepublic.com.com/abstract.aspx?docid=377428) and then extract the BootVis.exe utility by double-clicking the archive file, selecting a location for the Bootvis.exe file, and clicking OK.

Opening BootVis and running a trace
To run BootVis, simply double-click the BootVis.exe file and the BootVis screen, shown in Figure A, should appear.

The first step in tweaking or troubleshooting your boot process is to run a boot trace. Click File | New | Next Boot + Drivers Trace. The Trace Repetitions window, shown in Figure B, will prompt you for the number of repetitions (reboots and traces) to run. Go with the defaults and click OK.
BootVis is now provide you with a 10-second countdown before it reboots the system and performs the trace, giving you time to cancel the reboot and close any applications you might have left running. Click Reboot Now to bypass the countdown or Cancel to cancel the reboot.

Once the system reboots, BootVis is restarted automatically and provides individual graphs for the following system activity areas (This can take a few minutes, so be patient.):

- Boot activity
- CPU usage
- Disk I/O
- Disk utilization
- Driver delay
- Process creates

**Reading the boot activity graph**

The Boot Activity graph (shown in Figure C) breaks the boot process down into the following components:

- **Disk:** The time required to detect all devices in the nonpageable device path. This entry can include any device from the CPU to the boot disk. This value should be around two seconds.
- **Driver:** The time required to initialize devices.
- Prefetching: The time required to read pages that are later used to initialize devices. This entry also includes Winlogon, services, the shell, and any applications loaded when the system boots.
- **Registry + Page File:** The time required to read the registry and initialize the page file.
- **Video:** The time spent setting the display mode and refresh rate. This time is affected by both the video BIOS and the video driver used.

- **Logon + Services and Shell:** The time required to start Winlogon, any services, the shell, and any applications, such as firewall or antivirus software, that are run when XP starts.

The components are displayed in the order in which XP calls them and are read from the bottom up. Each component’s bar begins at the point in the boot sequence when the component was called and the bar’s length reflects the time in seconds required to load the component. To determine the time required for any individual component activity, place the cursor over the title for the component.

To get the most important number, the time used to boot the system, place the cursor over the vertical line that crosses through all the components. This line represents the time the system took to boot. In the example in Figure C, the system required 33.84 seconds to complete the boot process.

One item of note, this boot time is dependent on the time it takes the user to enter the logon password, if one is required. Make sure to enter the password as quickly as possible when testing a system.

**Optimizing the boot process**

Now that you have an indication of how well the boot process is going, the next step is to optimize the system. To optimize your system boot, click Trace | Optimize System, and BootVis will present you with a 10-second countdown before rebooting. When the system reboots, the window shown in Figure D will appear, indicating that BootVis is using information gained from the previous boot and the current boot to optimize the system.
The next window, shown in Figure E, appears when BootVis actually begins to place the files specified in the Layout.ini file in the area of contiguous disk space created during the defragmentation process run prior to using BootVis.

When the window shown in Figure E closes, restart BootVis and run another boot trace by clicking File | Next Boot + Driver Trace. This will allow you to see how much improvement was gained from the optimization process.

Figure F shows the results on my test machine. After running the optimization, the boot time was reduced to 30.85 seconds — a difference of almost three seconds. As I mentioned earlier, this value is affected by the time it takes to enter a logon password, so enter the password as quickly as possible. While three seconds may not seem like a lot, I have seen this value change by as much as 10 seconds. And in today's world, where we expect instant-on computers, every second counts.

Identifying driver problems Now that you know how to optimize a machine's boot process with BootVis, let's look at how to troubleshoot boot issues involving problem drivers. BootVis can identify drivers that cause problems during the boot process and will indicate them on the Driver Delay graph, shown in Figure G, with a red bar.

Fortunately, my test machine does not have driver issues. If it did, I would check the manufacturer's Web site for the latest drivers.

BootVis can only do so much

BootVis tries to optimize the XP boot process as much as possible, but it can't work miracles. If a machine loads antivirus, firewall, and/or e-mail programs when booted, BootVis can only do so much. Remember the phrase “Your mileage may vary,” and use BootVis within the context of how you use your system. This will help you achieve a compromise between a fast boot and a system you can work with as soon as it boots to XP.
Manage the most frequently used programs list on your XP Start Menu

By Greg Shultz

One of the many features of Windows XP's Start Menu is the most frequently used programs list. When it comes to configuring this feature, Windows XP provides you with only two controls: the ability to completely clear the list and the ability to specify the maximum number of programs that can appear on this list at any one time. However, there is one other thing that would be nice to be able to control and that is preventing certain applications from appearing on that list.

For example, you probably don't need to have often-used but inconsequential applications such as Calculator or Notepad showing up in that space. You probably would rather not have games that you occasionally play show up in that space, either.

Fortunately, you can prevent an application from appearing in the Start Menu's most frequently used programs list by adding a special key to the registry. Follow these steps:

1. Launch the Registry Editor (Regedit.exe).
2. Go to HKEY_CLASSES_ROOT\Applications.
3. Right-click the Applications key and select New | Key.
4. Name the key the same as the application's executable file.
5. Right-click your new key and select New | String Value.
6. Name the string value NoStartPage.
7. Close the Registry Editor.

You'll need to reboot, or at least log off and then back on again, in order for this change to become effective.

Note: Editing the registry file is risky, so be sure you have a verified backup before making any changes. This tip applies to both Windows XP Home and Windows XP Professional.
Take advantage of the pinned items list in the XP Start menu

By Greg Shultz

The left panel of the Start menu consists entirely of a divided list of programs that Microsoft Windows XP thinks will come in handy for you: the pinned items list above the separator line, and the most frequently used programs list, displayed below the line.

By default, Windows XP places links to your Internet browser and your e-mail application in the pinned items list and will place as many as 30 shortcuts to the programs that you've recently used in the most frequently used programs list. (The most frequently used programs list is, by default, six shortcuts long.)

In order to really take advantage of the Start menu as a launching area for all the programs you use most often, you can configure the entire left panel as a pinned items list. Here's how:

1. Right-click the Start button and select the Properties command to display the Taskbar And Start Menu Properties dialog box.

2. Click the Customize button adjacent to the Start Menu radio button to display the Customize Start Menu dialog box.

3. In the Programs panel, use the Spin button to set the Number Of Programs On The Start Menu setting to 0. Click the Clear List button.

4. In the Show On Start Menu panel, you can clear the Internet check box, because the Internet Explorer icon already appears in the Quick Launch menu by default, and maybe even the e-mail check box, depending on how you launch your e-mail application.

5. Click OK twice — once to close the Customize Start Menu dialog box and once to close the Taskbar And Start Menu Properties dialog boxes.

6. Click the Start button and access the All Programs submenu.

7. Locate and right-click on a shortcut to a program you use most often and select the Pin To Start Menu command.

You can pin as many as 30 of your most often used programs to the Start menu, depending on your screen resolution setting. With your actual favorite programs on the pinned items list, you can now really take advantage of the Start menu.

Note: This tip applies to both Windows XP Home and Windows XP Professional.
How do I... Force Disk Cleanup to delete all temporary files?

By Greg Shultz

If you've ever run the Microsoft Windows XP's Disk Cleanup utility, you probably discovered that your temporary files occupy a significant amount of space. You might select the Temporary Files check box in order to allow the Disk Cleanup utility to delete the files in the Temp folder, but the Disk Cleanup utility will not remove all the files. The reason for this oddity is that the configuration for the Disk Cleanup utility does not allow deletion of files accessed in the last seven days.

Alter the parameters By altering the LastAccess value in the registry, you can configure the Disk Cleanup utility to delete all the files in the Temp folder regardless of the last accessed date. Here's how:

1. Launch the Registry Editor (Regedit.exe).
2. Go to HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Explorer\VolumeCaches\Temporary Files
3. Locate and double-click the LastAccess value.
4. When you see the Edit DWORD Value dialog box, change the Value Data setting from 7 to 0 and click OK.
5. To complete the operation, close the Registry Editor and restart Windows XP.

Changing the value to 0 will force the Disk Cleanup utility to delete all the files in the Temp folder every time you select the Temporary Files check box.

Notes: Since editing the registry is risky, be sure you have a verified backup before saving any changes. This tip applies to both Windows XP Home and Windows XP Professional.
Improving Windows XP Performance Part I

By Steven Warren

If you’ve been working with Windows XP Professional for some time and you’ve noticed a decline in system performance from when you first started using XP, you may be at a loss to explain the problem. As a Windows power user or IT admin, you most likely keep an eye on your system’s performance with the Task Manager. And you probably run Disk Defragmenter frequently as well as the Disk Cleanup utility. Yet none of these practices seem to be doing the trick.

Here are several built-in XP options you can tweak to adjust your visual effects, memory usage, virtual memory, and processor scheduling, each of which has a direct bearing on how well your system performs. We’ll explore each of them in detail as I show you how to optimize the way your system runs and how to prevent a degradation in performance from occurring in the future.

Tweak XP for better performance

To optimize XP’s performance and keep your workday running smoothly, we’ll show you how to adjust several of your operating system’s settings so you can get the most out of XP. We’ll begin by showing you how to configure XP’s visual effects to troubleshoot performance issues. Next, we’ll delve a little deeper by exploring processor slowdowns, and how you can make some adjustments to memory usage to improve performance. Finally, we’ll explore several quick and easy tweaks you can implement to jump-start your sluggish system.

Visuals

Windows XP Professional’s visual effects encompass such enhancements as animated menus, fade effects, cursor shadows, menu shadows, and more. While these effects are pleasing to the eye and can add to your overall XP sensory experience, they also have a negative effect on how quickly your operating system responds to your requests. The more visual effects you have activated, the slower your system performance. Let’s begin by taking a look at how you can adjust XP’s visual effects settings to improve performance without losing all of the effects that make XP cool.

To access your visual effects, click the Start button and then choose Control Panel. In Classic view, double-click on the System icon, and then in the System Properties dialog box, select the Advanced tab. Then, under Performance, click the Settings button to display the Performance Settings dialog box.

Note: If you’re using Classic view, open Control Panel, click on the Performance And Maintenance link, and then click on the Adjust Visual Settings link.

Now that you’ve located this area, you can allow Windows XP Professional to choose what’s best for your computer, manually adjust these settings for best appearance, manually adjust them for best performance, or choose Custom and pick and choose your own settings. As you can see, you can turn on and off visual effects by selecting or deselecting the appropriate check boxes.

So which options should you choose? For computers that are a few years old and are running with XP’s minimum system requirements, I recommend choosing the Custom setting which gives you the most control over your system and deselecting all of visual effect options. Next, use
Windows XP as you normally would over the next 24 hours to see if your system performance is improving. Slowly re-enable your favorite visual features and see how your system performs. By conducting this experiment, you should be able to determine exactly how many enabled effects your system can tolerate without experiencing performance problems.

If you find, however, that your system doesn't respond well to restoring the visual effects, you might want to consider turning off all the visual effects for good. You'll lose most of the effects of XP's cool new interface, windows won't slide into place, and the desktop won't have its 3-D appearance, but you'll get some added power and performance. And the loss of the visual effects is a small price to pay to save you the price of a costly upgrade.
Improving Windows XP
Performance Part II

By Steven Warren

Addressing processor problems

Now that you've seen how adjusting XP's visual settings can help you improve your system performance, it's time to delve a little deeper into XP and explore how memory settings can play a role in performance degradation. Over time, if you don't tweak or manage your memory settings, you'll begin to notice your computer's response time gets slower and slower, until it virtually crawls. Let's take a look at how you can take control of your memory settings by using the Advanced tab of the Performance Options dialog box to prevent this from happening.

To access your memory settings, select the Advanced tab in the Performance Options dialog. You'll now be able to make changes to your system's processor scheduling, memory usage, and virtual memory settings.

Adjusting processor scheduling

Processor Scheduling is the setting that tells XP how to handle your system's processor. By default, XP is configured to devote more processor time to the running of your programs than to the running of background services (such as Plug and Play and the print spooler, which loads your print jobs into memory for printing), so your programs respond more quickly to your requests. However, if you find that you'd like to change this default priority level to improve the performance of the services running on your system, select the Background Services option button.

Tweaking memory usage

The Memory Usage section allows you to optimize or tweak your settings for running programs. By default, Windows XP optimizes your memory to run your programs effectively and without problems. However, if you frequently run database-intensive applications on your system, or if you often edit large video or MPEG files, you might want to consider selecting the System Cache option to allocate a larger space of memory to cache. I recommend only selecting this setting if you see performance degradation when you run your database or video-editing application.
Improving Windows XP
Performance Part III

By Steven Warren

What is the system cache? The system cache is responsible for the system performance of your computer. The cache acts as a buffer between your computer's processor and the memory that serves it. The presence of the cache allows the processor to do its work while waiting much less time for available memory than it otherwise would.

Changing paging file size

The final memory setting we'll explore is Virtual Memory. As you may already know, virtual memory is a method used to trick your operating system into thinking it has more RAM for use by its applications than is physically present in the computer. The file used to simulate RAM is called the page file (also referred to as the swap file). Your computer uses the page file in conjunction with physical RAM to run your operating system and store programs and information.

Note: By default you can't see the page file on your operating system. If you're interested in seeing the actual file, open Windows Explorer and then choose Tools | Folder Options. Next, select the View tab and select the Show Hidden Files And Folders option button and deselect the Hide Protected Operating System Files option. You can then use Windows Explorer to view your page file, which is located at the root of your hard drive.

When Windows XP is first installed, the operating system creates your page file on the root folder of the drive that holds all of your system files. Windows XP Professional determines the minimal page file size by using the simple formula of 1.5 times the amount of physical RAM on your particular system, and the maximum page file size is three times that value. To see your current configuration, click the Change button located in the Virtual Memory section.

The first thing you'll see is the drive letter and the current size range for the Paging File Size (MB) option. Next you can see that you have the following three options available when working with the page file:

- Custom Size
- System Managed Size
- No Paging File

In almost all cases, setting Windows XP to use the System Managed size will suffice. Selecting this setting allows Windows XP to automatically manage the size of the page file. Next, you could choose No Paging File if you have two drives and you only want the page file on one drive. Furthermore, you'd choose Custom Size if you wanted to choose a custom size of your page file for testing. This is the option to choose if you want to reclaim some of the hard drive space your page file is using in order to gain better system performance. You might set the Initial Size to 2 MB and the Maximum size to a number that is three times the amount of memory you have. This causes the page file to grow only to the amount of space that's needed, instead of claiming all of that space for the page file at once.
As with the visual effects settings, I recommend decreasing the size of your page file slightly, and then working with your system as you normally would for 24 hours. Then, return to this dialog box, and make the necessary adjustments to the page file size increasing it slightly if your performance is improved and decreasing it slightly if it isn't, until you find the optimum level for your system. Keep in mind that whenever you make a change, you’ll need to click the Set button, click OK, and then reboot your system.
Additional performance-tuners

Now that we've explored the basics of how to configure your system to run at an optimum level, let's take a look at a few additional tweaks that you can make to other areas of your operating system to improve performance. With just a few small maintenance adjustments, you can have your XP machine well on its way to running smoothly.

Delete the contents of the Prefetch folder

One little-known performance booster we've discovered is to periodically delete the contents of the Prefetch folder. What is the Prefetch folder? The Prefetch folder collects indexes of your most frequently used programs. The index is similar to a database index in that it helps your system access programs faster, whereas a database index helps your system access data quicker. Over time, your Prefetch folder can get bogged down with obsolete links that can degrade performance. We recommend that you open this folder and delete files when your system performance is poor.

All you have to do is click the Start button, and then choose Run. In the Open text box, type the path c:\windows\Prefetch and press [Enter]. You should now see the contents of the Prefetch folder. The entire directory can be deleted by just selecting all the files and deleting them. In addition, you're prompted with a dialog box asking you to confirm your deletion. Click Yes.

Run Disk Cleanup

As we mentioned earlier, running XP's Disk Cleanup utility is a quick and easy way to improve the daily functioning of your system. You can compare Disk Cleanup to a 3,000-mile oil change on your car: both are needed to keep your machines healthy and running.

Running out of space?

Turn off System Restore Finally, if you notice that your system isn't performing as well as it used to, you can save on disk space and improve performance by disabling the System Restore feature. While this feature can assist you in troubleshooting your system, the restore points it creates can occupy valuable hard drive space on your system. Click the Start button and then choose Control Panel. Double-click on the System icon, and in the System Properties dialog box, select the System Restore tab. Then, select the Turn Off System Restore check box.

If your computer isn’t operating at top performance speeds, your daily productivity will start to slide. By implementing the simple operating system adjustments I showed you here, you can optimize XP and keep it running smoothly and keep your work on track to boot!
Disable Windows Messenger on a Windows XP machine

By Greg Shultz

If you're using MSN Messenger as your chat and videoconferencing tool, you may never use Windows Messenger anymore and have removed it from the startup group to keep it out of your way. However, you may have seen it pop up on occasion and had to struggle with closing it down. The reason that Windows Messenger makes these impromptu appearances is that Outlook, Outlook Express and even some Microsoft Web pages can still make it load automatically. Fortunately, you can banish Windows Messenger from your desktop by making an alteration to the local group policy with the Group Policy Editor. Here's how:

1. Access the Run dialog box by pressing [Windows][R]
2. In the Open text box type Gpedit.msc and click OK to launch the Group Policy Editor.
4. Double-click the Do Not Allow Windows Messenger To Be Run setting.
5. In the resulting dialog box, select the Enabled option, and click OK
6. Close the Group Policy Editor.

Note: This tip applies only to Windows XP Professional.
Uncover Windows XP’s built-in image resizing utility

By Greg Shultz

If you’ve ever had to resize a group of digital picture files, you’ve likely launched your image editing program and then resized each image individually — this is an extremely time-consuming task. Windows XP has a built-in image resizing utility buried inside the Send Pictures Via E-Mail dialog box that can quickly and easily resize a large group of digital picture files at once. Follow these steps:

2. Make sure the Tasks pane is visible. (The Folders button acts like a toggle switch. If the Tree pane is showing, clicking the Folders button will display the Tasks pane. Click the Folders button if the Tree pane is showing.)
3. Open the folder containing the group of digital pictures you want to resize. Select the group.
4. Under the File And Folder Task list, select the E-Mail The Selected Items command.
5. When you see the Send Pictures Via E-Mail dialog box, click the Show More Options link to expand the dialog box.
6. Select a radio button next to one of the available sizes and click OK. A new mail message window containing the resized digital pictures as attachments will appear.
7. Pull down the File menu, select the Save Attachments command, and save all the attachments to a different folder.
8. Close the mail message window and click No in the Save Changes dialog box.

Note: This tip applies to both Windows XP Home and Windows XP Professional.
Get Windows SteadyState for managing shared Windows XP computers

By Greg Shultz

If you manage shared, standalone, or workgroup computers — such as those in schools, Internet cafes, libraries, or even your home — you’ll want to investigate a new tool from Microsoft called Windows SteadyState. This free download, specifically designed for Windows XP, is the successor to the Shared Computer Toolkit. You can lock down any computer with various levels of access and protect the hard disk from any changes, including software installations, viruses, spyware, and other malicious software.

Windows SteadyState uses restricted user accounts to lock down the access levels; however, in order to protect the hard disk, Windows SteadyState creates a “sandbox” environment that allows users to make whatever changes they want or need to the system. Upon rebooting the computer, Windows SteadyState resets the hard disk and operating system to its original configuration, completely obliterating any changes.

For more detailed information about this great tool, check out the demos on Microsoft's Windows SteadyState page.

Note: This tip is for both Windows XP Home and Professional.
Improve Windows XP Pro’s NTFS performance by disabling the Accessed timestamp

By Greg Shultz

The New Technology File System (NTFS) is essentially a huge database that keeps track of all the files on your Windows XP Pro hard disk. When you create a file, or edit and then resave that file, the NTFS creates an entry and records the date in the Created or Modified timestamp so you can access the Properties sheet of the file and check the Created or Modified entries later.

NTFS also creates and keeps track of another timestamp called Accessed. The timestamp lists the date on which the file was last accessed and whether the file was opened and read or changed and saved. Each time NTFS updates a file’s Properties sheet, an accompanying disk read/write operation occurs. Since the Accessed timestamp does not add much useful information, you may consider the read/write operation incurred to record it wasteful.

If you have an application, such as a search tool, that frequently accesses many files for a simple read operation, the operation required to update each file’s Accessed timestamp can drain your system’s performance. Fortunately, you can use disable the Accessed timestamp using the FSUtil command. Here’s how:

1. Open a Command Prompt window.
2. Type the following command line:
   
   ```
   FSUTIL behavior set disablelastaccess 1
   ```
3. If you wish to turn the Accessed attribute back on, simply repeat the command and replace 1 with 0.

Note: This tip applies only to Windows XP Professional.
How do I ... tweak Windows Explorer to open in a directory of my choosing?

By Mark Kaelin

In information technology and operating system terms, Microsoft Windows XP has been around a very long time. Over the years, TechRepublic has literally written thousands of tips, tweaks, tricks, and hacks in our article, download, and blog pages. One of my favorites is a quick and easy tweak that will change the behavior of Windows Explorer.

The directory/folder metaphor employed by Windows XP to organize files on a hard drive fits well with my natural tendency of hierarchical organization. My thinking pattern follows the general > less general > specific > most specific framework. So there are times when I want to see a particular folder hierarchy laid out before me in Windows Explorer.

Tweak the displayed folder The default display for Windows XP Explorer is to show the My Documents folder with all of its subfolders expanded and ready to be selected (Figure A).

There is nothing wrong with this view, but I don’t always want to open Windows Explorer in the My Documents folder. I have access to, and the need to use, several different network folders during the course of a day. With a small tweak of the Windows Explorer Properties settings you can change which folder gets displayed and how that display is revealed.

To get to the Windows Explorer Properties dialog box, right-click the Windows Explorer shortcut. You can copy the shortcut in the Start Menu to your Desktop to make it easier to work with. I like to have several Windows Explorer shortcuts in my toolbar for easy access — each going to a different place.

Figure A

The default Windows XP Explorer view

Figure B

The Windows Explorer Properties dialog box
When you right-click and go to Properties and click the Shortcut tab, you should see a screen similar to Figure B.

The key box is the Target box. To change the Windows Explorer shortcut to open a specific folder of your choosing, change the Target box to read:

```
c:\windows\EXPLORER.EXE /n, /e, \x:\Folder of my choosing
```

For example, the blog posts I write or edit are saved on a network drive (U) in a folder I have dubbed “Working Folder.” The Target box for this shortcut looks like this and the corresponding screenshot is shown in Figure C.

```
c:\windows\EXPLORER.EXE /n, /e, u:\working folder
```

Now, when I click this Windows Explorer shortcut, I get the screen shown in Figure D.

Additional tweak The tweak above shows my Working Folder and all the subfolders under it. But with a small additional tweak, I can get a Windows Explorer view that shows the Working Folder subfolders collapsed (Figure E).

This is a cleaner more concise look. To get this behavior, add the /select command to the Target box like this:

```
c:\windows\EXPLORER.EXE /n, /e, /select, u:\working folder
```
Your choice

You can apply this tweak to as many folders as you want. You can give them different icons and place them on your desktop or on your toolbar. This small tweak gives you great flexibility in how you interact with Windows XP.

Someone asked

In the attached discussion thread, there was a request for an explanation of the Windows Explorer in-line commands. I found a reference on Microsoft’s Help and Support pages:

- `/n`: Opens a new window in single-pane (My Computer) view for each item selected, even if the new window duplicates a window that is already open.
- `/e`: Uses Windows Explorer view. Windows Explorer view is most similar to File Manager in Windows version 3.x. Note that the default view is Open view.
- `/root`: Specifies the root level of the specified view. The default is to use the normal namespace root (the desktop). Whatever is specified is the root for the display.
- `/select`: Specifies the folder to receive the initial focus. If /select is used, the parent folder is opened and the specified object is selected.
How do I ... use the Windows XP Installer Clean Up Utility to remove apps?

By Greg Shultz

If you are not able to remove or uninstall an application in Windows XP using either the Uninstall option or the Add/Remove Programs tool, you could try using the Windows Installer Clean Up Utility. As long as you installed the application using the Windows Installer, this utility will remove all the folders, files, registry keys, and entries from your system and allow you to start over with a clean slate.

Here’s how:

1. Download the Windows Installer Clean Up Utility from the Microsoft Download Center (http://download.microsoft.com/download/e/9/d/e9d80355-7ab4-45b8-80e8-983a48d5e1bd/msicuu2.exe).

2. Run the msicuu2.exe file you downloaded to install the Windows Installer Clean Up Utility.

3. Locate and launch the Windows Installer Clean Up Utility on the Start menu.

4. From the Windows Installer Clean Up Utility window, locate the application in the list you want to remove and click the Remove button.

5. Once the application has been removed, click the Exit button to close the utility.

The application should now be completely removed from your Windows XP system.
Adjust these performance options to speed up Windows XP

By Scott Lowe

If you have some Microsoft Windows XP clients that run slower than others, it could be due to some of the default settings located in the Performance Options dialog box. You can change the options in this dialog box to boost the performance of a Windows XP client. Let's examine the settings you can change to tweak Windows XP's performance.

Performance Options dialog box

The most useful Windows XP performance-tuning options are on the Visual Effects and Advanced tabs of the Performance Options dialog box. You'll find this box via the System Properties control panel by clicking the Settings button under Performance (Start | Control Panel | System | Performance | Settings). Figure A shows both the Visual Effects and Advanced tabs with the performance options you can easily modify.

Visual Effects tab

The Visual Effects tab is the easiest place to start when troubleshooting certain performance problems. By default, Windows XP enables visual effects, such as the “scroll” option for the Start menu. These effects consume system resources, though. If you're troubleshooting a sluggish system, you can potentially improve its performance by choosing the Adjust For Best Performance option, which will disable many of these visual effects settings. Of course, you'll lose the cool visual effects, but there's always a trade-off for performance.

Advanced performance settings

For troubleshooting something more than sluggish screen redraws, you'll need to adjust the performance options on the Advanced tab of the Performance Options dialog box. There are three sections: Processor Scheduling, Memory Usage, and Virtual Memory. Each of these sections' settings have a major impact on how your system operates.

Processor Scheduling

The Processor Scheduling section controls how much processor time Windows XP devotes to a program or process. The processor
has a finite amount of resources to divide among the various applications. Choosing the Programs option will devote the most processor time to the program running in the foreground. Choosing Background Services allocates equal processor time to all running services, which can include print jobs and other applications running in the background. If your users complain about slow-running programs, you could try setting the processor scheduling to Programs.

On the flip side, if users complain that print jobs never print or are very slow to print, or if they run a macro in one application while working in another, you may want to assign equal time slices (called quanta) to each process by choosing the Background Services option. If you use the Windows XP machine in question as a server, you’re better off choosing the Background Services option.

**Memory Usage**

The next section, Memory Usage, details how Windows XP uses system RAM. The first option in the section, Programs, allocates more RAM to running applications. For desktop systems with very little RAM, this selection gives the best performance. In systems with less RAM, you need to devote as much RAM as possible to just running Windows and your applications. For a server or a desktop with a lot of RAM, however, choosing the System Cache setting will yield better performance. When set to System Cache, the system will use most of the available RAM as a disk cache, which can result in major performance improvements on systems that depend on disk I/O.

**Virtual Memory**

Finally, there are a number of settings in the Virtual Memory section that affect how Windows XP performs. Virtual memory is an area on the disk that Windows uses as if it were RAM. Windows requires this type of system in the event that it runs out of physical RAM. The virtual memory space is used as a swap space where information residing in RAM is written to the virtual memory space (also called the page file or swap file) in order to free RAM up for other processes.

When the system needs the information in the swap file, Windows puts it back into RAM and writes something else out to the disk in its place. Figure B shows the virtual memory settings for my laptop.

Windows XP has a recommended default page file size of 1.5 times the amount of system RAM. Since I have 1GB of RAM in my laptop, the recommended size is 1.5GB, although I only have 768MB currently allocated for this purpose. I allow the paging file to grow as needed, up to a maximum size of 1.5GB. You can also choose to let Windows completely manage this file or to have no file at all. I highly recommend that you do not remove the paging file because you’ll experience a noticeable degradation of system performance without it.
One way to boost system performance is to place the paging file on a separate physical hard drive from the operating system. The only caveat is if the second drive is slower than the primary drive, you'd want to leave the paging file where it is.

You can also span the paging file across multiple disks to increase performance. To make changes to the virtual memory, click the Change tab on the Advanced tab of the Performance Options dialog box, make your desired changes, and click Set. Any changes you make won't take effect until you reboot the machine.

**Power users tip**

If you want to get every last ounce of power out of your machine but you don't want to sacrifice any unnecessary disk space, you can use the Windows XP performance monitor to see how much of your paging file is taken up during normal usage and adjust its size accordingly. For example, if you have a 1-GB page file, but only 40 percent of it is used during normal operations, you may want to set it to 512 MB instead. You can gather this information by watching the % Usage and % Usage Peak counters for the paging file (Figure C).

I recommend these changes only if you have time to tinker. Most of the time, the operating system's recommendations will work just fine.
10+ Windows XP keyboard shortcuts to speed everyday tasks

By Jody Gilbert

How expansive is your repertoire of Windows XP keyboard shortcuts? A lot of users learn a handful of shortcuts but turn their backs on a host of other ones that could come in handy. Check out the selection of shortcuts below and see if there aren't a couple you didn't know about that could be saving you some real time.

The shortcuts

<table>
<thead>
<tr>
<th>Keystroke</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alt + Tab</td>
<td>Switches between open programs</td>
</tr>
<tr>
<td>Alt + F4 (in a program)</td>
<td>Closes the program</td>
</tr>
<tr>
<td>Alt + F4 (from the desktop)</td>
<td>Opens the Windows Shutdown/Restart dialog box</td>
</tr>
<tr>
<td>Alt + Enter</td>
<td>Opens the Properties page of a selected item</td>
</tr>
<tr>
<td>Alt + Esc</td>
<td>Cycles between open programs in the order they were opened</td>
</tr>
<tr>
<td>Alt + Spacebar</td>
<td>In the active window, this brings up the corner dialog box for Move, Size, Minimize, Maximize, or Close</td>
</tr>
<tr>
<td>Shift + Insert a CD/DVD</td>
<td>Inserts a CD/DVD without triggering Autoplay or Autorun</td>
</tr>
<tr>
<td>Shift + Delete</td>
<td>Permanently deletes an item (rather than sending it to the Recycle Bin)</td>
</tr>
<tr>
<td>Ctrl + Shift + Esc</td>
<td>Opens the Windows Task Manager</td>
</tr>
<tr>
<td>Ctrl + drag an icon</td>
<td>Copies that item</td>
</tr>
<tr>
<td>Ctrl + Shift + drag an icon</td>
<td>Creates a shortcut for the item</td>
</tr>
<tr>
<td>Right-click + drag an icon</td>
<td>Brings up a menu to copy, move, or create a shortcut for the item</td>
</tr>
<tr>
<td>F1</td>
<td>Opens Windows XP Help</td>
</tr>
<tr>
<td>F2</td>
<td>Highlights the label of a selected item for renaming</td>
</tr>
<tr>
<td>F3</td>
<td>Opens Windows search for files and folders</td>
</tr>
<tr>
<td>F5 (or Ctrl + R)</td>
<td>Refreshes an Internet Explorer page or other window</td>
</tr>
<tr>
<td>F6</td>
<td>Cycles through the elements that can be selected in a screen or window</td>
</tr>
<tr>
<td>F10</td>
<td>Selects the menu bar in the active program (usually the File menu) so that you can use the arrow keys to navigate through the menus and the Enter key to display one</td>
</tr>
<tr>
<td>Shift + F10</td>
<td>Displays a shortcut menu for an item (like right-clicking with the mouse)</td>
</tr>
<tr>
<td>Ctrl + Esc</td>
<td>Opens the Start menu</td>
</tr>
</tbody>
</table>
Roll your own shortcut

You can also create custom Windows XP shortcuts. Just right-click on the icon of a program or program shortcut, choose Properties, click the Shortcut tab, and enter a keystroke combination in the Shortcut Key field. Windows will let you assign only key combos that aren't already taken.
Copy and paste from Windows XP Pro’s command prompt straight to the Clipboard

By Greg Shultz

If you need to copy output from a command and paste it into a Windows program, such as Notepad, while working at the command prompt, chances are you’ll try to use the Mark and Copy commands on the command prompt’s Edit menu. A better way to get information from a command prompt and onto the Clipboard is the Clip.exe command line tool.

Clip.exe comes with Windows Server 2003, but it also works in Windows XP Professional. Simply copy Clip.exe from the Windows\System32 directory on a Windows Server 2003 system, and then paste it into the Windows\System32 directory on a Windows XP system. (If you don’t have access to Windows Server 2003, you can download a copy of Clip.exe from Daniel Petri’s IT Knowledgebase site at http://www.petri.co.il/software/clip.zip.)

Once you have a copy of Clip.exe on your Windows XP system, using it is as easy as appending the pipe and the clip command (| clip) to the end of your command line. For example, you can use this command to copy the directory listing to the clipboard (Dir | clip), or you can use it to collect, copy, and paste the results of the Ipconfig command (Ipconfig /all | clip).

Note: This tip applies only to Windows XP Professional.
Reposition Windows XP’s Quick Launch toolbar

By Greg Shultz

If you think that Windows XP’s Quick Launch toolbar takes up a lot of room on the taskbar at the top of your screen, here’s how you can easily move the toolbar to any other location on the desktop:

1. Position your mouse pointer over the vertical bar on the left edge of the Quick Launch toolbar until your cursor turns into a double-headed arrow.
2. Drag the Quick Launch toolbar to any location on the desktop — you can anchor it to the top, left, or right edge of the desktop.
3. Once you position it where you want, you can right-click on the toolbar and select the Always On Top command so that you can always access the Quick Launch toolbar just like you can the taskbar.

Note: This tip applies to both Windows XP Home and Windows XP Professional.
Get more out of Internet Explorer 7 tabs when using Windows XP

By Greg Shultz

Many Windows XP users have upgraded to Internet Explorer 7 in order to take advantage of the Tabs feature, which allows you to view multiple sites at the same time. Here are some shortcuts and tricks that you can use to get even more out of Internet Explorer 7’s tabs.

• While clicking the tabs to switch between them is handy, you can also switch between tabs by pressing [Ctrl][Tab].

• If you have a wheel mouse, you can open a link in a new tab by clicking the link with the wheel button.

• While you can start a new tab by clicking the small New Tab button, you can also open a new tab by pressing [Ctrl]T.

• If you’re scanning several sites on multiple tabs and want to return to this same set of tabs at a later date, click the Add To Favorites button and use the Add Tab Group To Favorites command.

• If you have a wheel mouse, you can close any tab by clicking it with the wheel button.

• When scanning several sites on multiple tabs, you can click and drag the tabs in any arrangement that you wish.

Note: This tip applies to Windows XP Home and Windows XP Professional.
Increase your Command Prompt scrolling capability in Windows XP Pro with the List command

By Greg Shultz

The More command on the Command Prompt in Windows XP Pro (go to Biglogfile.txt | More) allows you to view a very long text file one screen at a time. With the More command, it's easy to overshoot the information you need due to the overwhelming amount of data you may scroll through. When that happens, you have to cancel the operation and start over. The More command only allows you to scroll down through a file.

A command line tool called List allows you to scroll both up and down through a file. List is not found in Windows XP; it's a part of the Windows Server 2003 Resource Kit Tools.

Because the Windows Server 2003 Resource Kit Tools also work in Windows XP, you can use the List command on your system. Here's how:


2. Double-click the RKTTools.exe self-installer and follow the onscreen instructions.

3. Once you have the Windows Server 2003 Resource Kit Tools installed, you can use the List command at the Command Prompt by typing List followed by the name of the file that you want to scroll through. For example, you can scroll through a big log file using the List command List Biglogfile.txt.

4. The Command Prompt window will change into a file viewer and display contents of the file. Use the arrow keys as well as the [Page Up] and [Page Down] keys to scroll through the file.

5. To exit List, type Q or press [Esc].

Note: This tip applies only to Windows XP Professional.
Removing unused device drivers from Windows XP machines

By Greg Shultz

When you install a device driver on a Windows XP machine, the operating system loads that driver each time the computer boots regardless of whether the device is present—unless you specifically uninstall the driver. This means that drivers from devices that you have long since removed from your system may be wasting valuable system resources.

Follow these steps to view and remove these unnecessary device drivers:

1. Press [Windows]+[Break] to bring up the System Properties dialog box.
2. Select the Advanced tab and click the Environment Variables button.
3. Click the New button below the System Variables panel.
4. In the New System Variable dialog box, type `devmgr_show_nonpresent_devices` in the Variable Name text box and 1 in the Variable Value text box.
5. Click OK to return to the System Properties dialog box and then click OK again.
6. Select the Hardware tab and click the Device Manager button.
7. In Device Manager, go to View | Show Hidden Devices.
8. Expand the various branches in the device tree and look for the washed out icons, which indicate unused device drivers.
9. To remove an unused device driver, right-click the icon and select Uninstall.
Using the Windows Installer CleanUp Utility in Windows XP

By Greg Shultz

Not able to remove or uninstall an application in Windows XP using either the Uninstall option or the Add/Remove Programs tool? Try using the Windows Installer CleanUp Utility. As long as you installed the application using the Windows Installer, this utility will remove all the folders, files, registry keys, and entries from your system and allow you to start over with a clean slate.

Here's how:

1. Download the Windows Installer CleanUp Utility from the Microsoft Download Center (http://download.microsoft.com/download/e/9/d/e9d80355-7ab4-45b8-80e8-983a48d5e1bd/msicuu2.exe).
2. Locate and run msicuu2.exe to install the Windows Installer CleanUp Utility.
3. Locate and launch the Windows Installer CleanUp Utility on the Start menu.
4. From the Windows Installer CleanUp Utility window, locate the application in the list and click the Remove button.
5. Once the application has been removed, click the Exit button to close the utility.

You may now reinstall the application.
## Windows XP services that can be disabled

By Scott Lowe

One of the most effective ways to secure a Windows workstation is to turn off unnecessary services. This reference sheet lists the Windows XP SP 2 services, describes each service’s function, specifies whether you can safely disable the service, and outlines the ramifications of disabling the service. The list assumes the machines is running Windows XP SP2 in a corporate network environment. The list offers one of the following three possibilities for safely disabling each service:

- **YES** = You can disable the service without causing any problems.
- **MAYBE** = The computer’s role dictates whether you should or should not disable the service—read the special considerations for further information.
- **NO** = The service is critical to proper Windows operation and should not be disabled.

<table>
<thead>
<tr>
<th>Service</th>
<th>Description</th>
<th>Safely Disable?</th>
<th>Ramifications if disabled</th>
<th>Suggested setting</th>
<th>Special Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alerter</td>
<td>Notifies selected users and computers of administrative alerts</td>
<td>Yes</td>
<td>Programs that use administrative alerts will not receive them.</td>
<td>Disable</td>
<td></td>
</tr>
<tr>
<td>Application Layer Gateway</td>
<td>Provides support for application-level protocol plug-ins and enables network/protocol connectivity</td>
<td>Maybe</td>
<td>Programs that rely on this service, such as MSN Messenger and Windows Messenger will not function.</td>
<td>Enable</td>
<td>Only enable when using the Windows firewall or another firewall. Failure to do so can result in a significant security hole.</td>
</tr>
<tr>
<td>Application Management</td>
<td>Processes installation, removal, and enumeration requests for Active Directory IntelliMirror group policy programs</td>
<td>Yes</td>
<td>Users will be unable to install, remove, or enumerate any IntelliMirror programs.</td>
<td>Disable</td>
<td></td>
</tr>
<tr>
<td>Automatic Updates</td>
<td>Enables the download and installation of critical Windows updates</td>
<td>Yes</td>
<td>The operating system cannot automatically install updates, but can still be manually updated at the Windows Update Web site.</td>
<td>Enable</td>
<td>Automatic updates help keep your computer current. If you do disable the service, perform regular, manual updates.</td>
</tr>
<tr>
<td>Background Intelligent Transfer</td>
<td>Transfers data between clients and servers in the background</td>
<td>Yes</td>
<td>Features such as Windows Update will not work properly.</td>
<td>Disable</td>
<td>Enable this services if you enable Automatic Updates.</td>
</tr>
<tr>
<td>ClipBook</td>
<td>Enables ClipBook Viewer to store information and share it with remote computers</td>
<td>Yes</td>
<td>ClipBook Viewer will not be able to share information with remote computers.</td>
<td>Disable</td>
<td></td>
</tr>
<tr>
<td>Service</td>
<td>Description</td>
<td>Safely Disable?</td>
<td>Ramifications if disabled</td>
<td>Suggested setting</td>
<td>Special Considerations</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>----------------</td>
<td>--------------------------------------------------------------------------------------------</td>
<td>------------------</td>
<td>---------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>COM+ Event Service/System/Application</td>
<td>Allows management of Component Services by providing automatic distribution of events to subscribing COM components</td>
<td>No</td>
<td>System Event Notification stops working, which means that logon and logoff notifications will not take place. Other applications, such as Volume Snapshot service, will not work correctly.</td>
<td>Enable</td>
<td></td>
</tr>
<tr>
<td>Computer Browser</td>
<td>Maintains an up-to-date list of computers on your network, and supplies the list to programs that request it. The Computer Browser service is used by Windows-based computers that need to view network domains and resources</td>
<td>Yes</td>
<td>Your computer will be unable to locate other Windows computers on the network</td>
<td>Enable</td>
<td>Enable this service, if you need to share files with other Windows computers.</td>
</tr>
<tr>
<td>Cryptographic services</td>
<td>Provides three management services: Catalog Database Service, which confirms the signatures of Windows files; Protected Root Service, which adds and removes Trusted Root Certification Authority certificates from this computer; and Key Service, which helps enroll this computer for certificates</td>
<td>No</td>
<td>The associated management services will not function properly.</td>
<td>Enable</td>
<td>Required if you use the Automatic Updates Windows service; Also used by other Windows services, such as Task Manager.</td>
</tr>
<tr>
<td>DHCP Client</td>
<td>Allows the system to automatically obtain IP addressing information, WINS server information, routing information, and so forth; is required to update records in Dynamic DNS</td>
<td>Maybe</td>
<td>The system will be unable to obtain an IP address, WINS information, and the like, from a DHCP server and will need to be configured with a static address.</td>
<td>Enable</td>
<td>You can disabled this service if you do not use DHCP.</td>
</tr>
<tr>
<td>Distributed Link Tracking Client</td>
<td>Ensures that shortcuts and OLE links continue to work after the target file is renamed or moved by maintaining links in the file system</td>
<td>Yes</td>
<td>Link tracking will be unavailable. Users on other computers won’t be able to track links on this computer.</td>
<td>Disable</td>
<td></td>
</tr>
<tr>
<td>Service</td>
<td>Description</td>
<td>Safely Disable?</td>
<td>Ramifications if disabled</td>
<td>Suggested setting</td>
<td>Special Considerations</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>-----------------</td>
<td>-------------------------------------------------------------------------------------------</td>
<td>-------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Distributed Transaction Coordinator</td>
<td>Coordinates transactions that span multiple resource managers, such as databases, message queues, and file systems</td>
<td>Yes</td>
<td>Distributed transactions will not occur.</td>
<td>Disable</td>
<td>Stopping this service will result in the inability for the computer to resolve names to IP addresses.</td>
</tr>
<tr>
<td>DNS Client</td>
<td>Resolves and caches DNS names, allowing the system to communicate with canonical names rather than strictly by IP address</td>
<td>No</td>
<td>The system will be unable to resolve a name and will be able to communicate only via IP address. A client may be unable to communicate with its domain controller.</td>
<td>Enable</td>
<td>Resolving and caching DNS names will allow the system to communicate with canonical names rather than strictly by IP address. A client may be unable to communicate with its domain controller.</td>
</tr>
<tr>
<td>Error Reporting</td>
<td>Collects, stores, and reports unexpected application crashes to Microsoft</td>
<td>Yes</td>
<td>Error Reporting will occur only for kernel faults and some types of user mode faults.</td>
<td>Disable</td>
<td>Resolving and caching DNS names will allow the system to communicate with canonical names rather than strictly by IP address. A client may be unable to communicate with its domain controller.</td>
</tr>
<tr>
<td>Event Log</td>
<td>Allows event log messages to be viewed in Event log to assist in problem resolution</td>
<td>No</td>
<td>Administrators won’t be able to view logs, including the security log, increasing the difficulty of diagnosing problems and detecting security breaches.</td>
<td>Enable</td>
<td>Resolving and caching DNS names will allow the system to communicate with canonical names rather than strictly by IP address. A client may be unable to communicate with its domain controller.</td>
</tr>
<tr>
<td>Fast User Switching Compatibility</td>
<td>Enables management for applications that require assistance in a multiple user environment</td>
<td>Yes</td>
<td>Fast User Switching will be unavailable.</td>
<td>Disable</td>
<td>Disabling this service will result in the inability for the computer to resolve names to IP addresses.</td>
</tr>
<tr>
<td>Help and Support</td>
<td>Enables Help and Support Center to run on this computer</td>
<td>Yes</td>
<td>The Help and Support Center will be unavailable.</td>
<td>Enable</td>
<td>Doesn’t work in domain environments anyway.</td>
</tr>
<tr>
<td>HID Input</td>
<td>Enables generic input access to Human Interface Devices (HID), which activates and maintains the use of predefined hot buttons on keyboards, remote controls, and other multimedia devices</td>
<td>Maybe</td>
<td>Hot buttons controlled by this service will no longer function.</td>
<td>Disable</td>
<td>Requires for some “hot buttons” on newer keyboards. Can be safely enabled if these buttons don’t work with this service disabled.</td>
</tr>
<tr>
<td>Service</td>
<td>Description</td>
<td>Safely Disable?</td>
<td>Ramifications if disabled</td>
<td>Suggested setting</td>
<td>Special Considerations</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
<td>----------------</td>
<td>--------------------------</td>
<td>------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>IMAPI CD-Burning COM</td>
<td>Manages CD recording using Image Mastering Applications Programming Interface (IMAPI)</td>
<td>Maybe</td>
<td>This computer will be unable to record CDs.</td>
<td>Enable</td>
<td>This service can be disabled if you don’t have a CD-RW drive in your system.</td>
</tr>
<tr>
<td>Indexing Service</td>
<td>Indexes contents and properties of files on local and remote computers; provides rapid access to files through flexible querying language</td>
<td>Yes</td>
<td>Files will not be indexed. Indexing can speed searching.</td>
<td>Disable</td>
<td>Uninstall this service if you don’t plan to use it.</td>
</tr>
<tr>
<td>Internet Connection - Firewall (ICF) / Sharing (ICS)</td>
<td>Provides network address translation, addressing, name resolution and/or intrusion prevention services for a home or small office network</td>
<td>Maybe</td>
<td>Networking services such as Internet sharing, name resolution, addressing and/or intrusion prevention will be unavailable.</td>
<td>Disable</td>
<td>If you share your Internet connection, you must enable this service.</td>
</tr>
<tr>
<td>IPSEC services</td>
<td>Provides end-to-end security between clients and servers on TCP/IP networks</td>
<td>Maybe</td>
<td>TCP/IP security between clients and servers on the network will be impaired.</td>
<td>Disable</td>
<td>If you connect over an IPSec secured connection, don’t disable this service.</td>
</tr>
<tr>
<td>Logical Disk Manager</td>
<td>Waits for new drives to be added and passes required information to the LDM administrative service; required to ensure dynamic disk information is up to date</td>
<td>Yes</td>
<td>New disks will not be detected by the system.</td>
<td>Enable</td>
<td>Leaving this service enabled makes it easy to add new drives to the system. In a very high security environment, this should not be allowed.</td>
</tr>
<tr>
<td>Logical Disk Manager Administrative</td>
<td>Starts and allows configuration to take place when a new drive is detected or a partition/drive is configured</td>
<td>Yes</td>
<td>None; runs only when needed.</td>
<td>N/A</td>
<td>Started by the Logical Disk Manager service only when needed. Do not disable if you have the Logical Disk Manager Service enabled.</td>
</tr>
<tr>
<td>Machine Debug Manager</td>
<td>Manages Visual Studio debugging</td>
<td>Yes</td>
<td>Visual Studio debugging information will not be available.</td>
<td>Disable</td>
<td></td>
</tr>
</tbody>
</table>

Performance
<table>
<thead>
<tr>
<th>Service</th>
<th>Description</th>
<th>Safely Disable?</th>
<th>Ramifications if disabled</th>
<th>Suggested setting</th>
<th>Special Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Messenger</td>
<td>Transmits net send and Alerter service messages between clients and servers. This service is not related to Windows Messenger</td>
<td>Yes</td>
<td>Alerter messages will not be transmitted.</td>
<td>Disable</td>
<td></td>
</tr>
<tr>
<td>Microsoft Software Shadow Copy Provider</td>
<td>Manages software-based volume shadow copies taken by the Volume Shadow Copy service</td>
<td>Yes</td>
<td>Software-based volume shadow copies cannot be managed.</td>
<td>Disable</td>
<td>Leave set at Manual if you intend to use Windows Backup.</td>
</tr>
<tr>
<td>NetMeeting Remote Desktop Sharing</td>
<td>Enables an authorized user to access this computer remotely by using NetMeeting over a corporate intranet</td>
<td>Yes</td>
<td>Remote desktop sharing will be unavailable.</td>
<td>Disable</td>
<td>If you use NetMeeting, don’t disable this service.</td>
</tr>
<tr>
<td>Network Connections</td>
<td>Manages the network and dial-up connections for the server, including network status notification and configuration</td>
<td>No</td>
<td>Network configuration will not be possible; new connections can’t be created and services that need network information may fail.</td>
<td>Enable</td>
<td></td>
</tr>
<tr>
<td>Network DDE</td>
<td>Provides network transport and security for Dynamic Data Exchange (DDE) for programs running on the same computer or on different computers</td>
<td>Yes</td>
<td>DDE transport and security will be unavailable.</td>
<td>Disable</td>
<td></td>
</tr>
<tr>
<td>Network DDE DSDM</td>
<td>Manages Dynamic Data Exchange (DDE) network shares</td>
<td>Yes</td>
<td>DDE network shares will be unavailable.</td>
<td>Disable</td>
<td></td>
</tr>
<tr>
<td>Network Location Awareness (NLA)</td>
<td>Collects and stores network configuration and location information and notifies applications when this information changes. This service is a part of ICS</td>
<td>Maybe</td>
<td>Services such as ICS &amp; ICF will not function.</td>
<td>Disable</td>
<td>Enable if this computer has Internet Connection Sharing enabled or if you are using the Internet Connection Firewall.</td>
</tr>
<tr>
<td>Service</td>
<td>Description</td>
<td>Safely Disable?</td>
<td>Ramifications if disabled</td>
<td>Suggested setting</td>
<td>Special Considerations</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>----------------</td>
<td>------------------------------------------------------------------------------------------</td>
<td>-------------------</td>
<td>----------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>NT LM Security Support Provider</td>
<td>Allows users to log on to the network using NTLM</td>
<td>Maybe</td>
<td>Users with versions of Windows prior to Windows 2000 will be unable to log in to the network.</td>
<td>Disable</td>
<td>Enable this service if this computer needs to log on to pre-Windows 2000 computers or domains</td>
</tr>
<tr>
<td>Performance Logs and Alerts</td>
<td>Collects performance data for the computer or other computers and writes it to a log or displays it on the screen</td>
<td>Yes</td>
<td>Performance information will no longer be logged or displayed.</td>
<td>Disable</td>
<td></td>
</tr>
<tr>
<td>Plug and Play</td>
<td>Allows an administrator to add hardware to a server and have the server automatically detect and configure it</td>
<td>No</td>
<td>The system will be unstable and incapable of detecting hardware changes.</td>
<td>Enable</td>
<td></td>
</tr>
<tr>
<td>Portable Media Serial Number</td>
<td>Retrieves the serial number of any portable media player connected to this computer</td>
<td>Yes</td>
<td>Protected content might not be downloaded to the device.</td>
<td>Disable</td>
<td></td>
</tr>
<tr>
<td>Print Spooler</td>
<td>Manages all local and network print queues and controls all printing jobs</td>
<td>Maybe</td>
<td>Printing on the local machine will be unavailable.</td>
<td>Enable</td>
<td>Disable this service if you don’t have a printer.</td>
</tr>
<tr>
<td>Protected Storage</td>
<td>Protects sensitive information such as private keys from exposure except to allowed persons and services</td>
<td>Yes</td>
<td>Protected information will be inaccessible.</td>
<td>Enable</td>
<td></td>
</tr>
<tr>
<td>QoS RSVP</td>
<td>Provides network signaling and local, traffic-control, set-up functionality for (Quality of Service) QoS-aware programs and control applets</td>
<td>Yes</td>
<td>QoS aware applications with either not function, or will not have their complete functionality.</td>
<td>Disable</td>
<td>Enable this service if you use QoS aware applications.</td>
</tr>
<tr>
<td>Service</td>
<td>Description</td>
<td>Safely Disable?</td>
<td>Ramifications if disabled</td>
<td>Suggested setting</td>
<td>Special Considerations</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>-----------------</td>
<td>--------------------------------------------------------------------------------------------</td>
<td>-------------------</td>
<td>----------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Remote Access Auto Connection Manager</td>
<td>Detects unsuccessful attempts to connect to a remote network or computer and provides alternative methods for connection</td>
<td>Yes</td>
<td>Users will need to manually connect to other systems.</td>
<td>Enable</td>
<td></td>
</tr>
<tr>
<td>Remote Access Connection Manager</td>
<td>Manages dial-up and virtual private network (VPN) connections from this computer to the Internet or other remote networks</td>
<td>Maybe</td>
<td>The operating system may not function properly.</td>
<td>Enable</td>
<td>This service is run on demand by the Remote Access Manager.</td>
</tr>
<tr>
<td>Remote Desktop Help Session Manager</td>
<td>Manages and controls Remote Assistance</td>
<td>Yes</td>
<td>Remote Assistance will be unavailable.</td>
<td>Disable</td>
<td></td>
</tr>
<tr>
<td>Remote Procedure Call (RPC)</td>
<td>Allows processes to communicate internally and across the network with each other</td>
<td>No</td>
<td>The system will not boot. Don’t disable this service.</td>
<td>Enable</td>
<td></td>
</tr>
<tr>
<td>Remote Procedure Call (RPC) Locator</td>
<td>Provides RPC name services similar to DNS services for IP</td>
<td>No</td>
<td>Systems that are running third-party utilities looking for RPC information will be unable to find it. OS components do not use this service, but programs such as Exchange do.</td>
<td>Enable</td>
<td></td>
</tr>
<tr>
<td>Remote Registry</td>
<td>Provides a mechanism to remotely manage the system registry</td>
<td>Maybe</td>
<td>Remote systems will be unable to connect to the local registry. Hfnetchk uses this mechanism. Disabling it can affect the patch utility’s operation.</td>
<td>Disable</td>
<td>Some programs require this functionality in order to operate.</td>
</tr>
<tr>
<td>Removable Storage</td>
<td>Manages and catalogs removable media and operates automated removable media devices</td>
<td>Yes</td>
<td>Programs that are dependent on Removable Storage, such as Backup and Remote Storage, will operate more slowly.</td>
<td>Enable</td>
<td></td>
</tr>
<tr>
<td>Service</td>
<td>Description</td>
<td>Safely Disable?</td>
<td>Ramifications if disabled</td>
<td>Suggested setting</td>
<td>Special Considerations</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>----------------</td>
<td>--------------------------------------------------------------------------------------------</td>
<td>-------------------</td>
<td>------------------------------------------------</td>
</tr>
<tr>
<td>Routing and Remote Access</td>
<td>Enables multiprotocol LAN-to-LAN, LAN-to-WAN, virtual private network (VPN), and network address translation (NAT) routing services for clients and servers on this network</td>
<td>Yes</td>
<td>Routing and Remote Access services will be unavailable.</td>
<td>Disable</td>
<td>Better yet, don’t install this service at all.</td>
</tr>
<tr>
<td>Secondary Logon</td>
<td>Enables starting processes under alternate credentials. If this service is stopped, this type of logon access will be unavailable</td>
<td>Yes</td>
<td>Users will be unable to use the “Run As” feature to elevate privileges.</td>
<td>Disable</td>
<td></td>
</tr>
<tr>
<td>Security Accounts Manager</td>
<td>Stores account information for local security accounts, which, when started, allows other services to access the SAM</td>
<td>Yes</td>
<td>Services that rely on requests to the SAM database will not function properly. Group Policy objects may not operate properly.</td>
<td>Enable</td>
<td>If you use don’t use DHCP to obtain an IP address, this service can be disabled.</td>
</tr>
<tr>
<td>Server</td>
<td>Allows the sharing of local resources such as files and printers, as well as named pipe communication</td>
<td>Yes</td>
<td>Resources can’t be shared, RPC requests will be denied, and named pipe communication will fail.</td>
<td>Disable</td>
<td>This service must be enabled on Windows XP computers that share files or printers.</td>
</tr>
<tr>
<td>Shell Hardware Detection</td>
<td>Provides notifications for AutoPlay hardware events</td>
<td>Yes</td>
<td>CD-ROMs and other devices will not automatically function.</td>
<td>Enable</td>
<td>Much easier to leave this enabled, and not much of a security risk.</td>
</tr>
<tr>
<td>Smart Card</td>
<td>Manages access to smart cards read by this computer</td>
<td>Yes</td>
<td>This computer will be unable to read smart cards.</td>
<td>Disable</td>
<td>If you’re using a smart card reader, enable this service.</td>
</tr>
<tr>
<td>Smart Card Helper</td>
<td>Manages access to smart cards read by this computer</td>
<td>Yes</td>
<td>The computer will be unable to read legacy smart cards.</td>
<td>Disable</td>
<td>If you’re using a smart card reader, enable this service.</td>
</tr>
<tr>
<td>Service</td>
<td>Description</td>
<td>Safely Disable?</td>
<td>Ramifications if disabled</td>
<td>Suggested setting</td>
<td>Special Considerations</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>-----------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>SSDP Discovery</td>
<td>Used to locate UPnP devices on your home network. Used in conjunction with Universal Plug and Play Device Host, it detects and configures UPnP devices on your home network</td>
<td>Yes</td>
<td>Your computer will be unable to located uPnP devices on the network.</td>
<td>Disable</td>
<td>Leave enabled for laptops to that power notifications are passed to the user.</td>
</tr>
<tr>
<td>System Event Notification</td>
<td>Required to record entries in the event logs; notifies COM+ subscribers about logon and power-related events</td>
<td>Yes</td>
<td>Certain notifications will no longer work. For example, synchronization won’t work, as it depends on connectivity information and Network Connect/Disconnect and Logon/Logoff notifications.</td>
<td>Disable</td>
<td></td>
</tr>
<tr>
<td>System Restore</td>
<td>Performs system restore functions, including saving periodic checkpoints</td>
<td>Yes</td>
<td>Automatic system restoration will not be possible.</td>
<td>Disable</td>
<td>While this service does use up some system resources, it can be invaluable for stand alone machines, particularly when a software install goes bad.</td>
</tr>
<tr>
<td>Task Scheduler</td>
<td>Enables a user to configure and schedule automated tasks on this computer</td>
<td>Yes</td>
<td>Tasks will not be run at their scheduled times.</td>
<td>Disable</td>
<td></td>
</tr>
<tr>
<td>TCP/IP NetBIOS Helper</td>
<td>Required for software distribution in a Group Policy (may be used to distribute patches) and provides support for NetBIOS over TCP/IP and NetBIOS name lookups</td>
<td>Yes</td>
<td>NetBIOS over TCP/IP clients including Netlogon and Messenger might stop responding, Disabling may also affect the ability to share resources.</td>
<td>Disable</td>
<td>For small networks, this service may be essential if you share files with others. For larger networks with central file servers, keep disabled on desktops.</td>
</tr>
<tr>
<td>Telephony</td>
<td>Provides Telephony API (TAPI) support for clients using programs that control telephony devices and IP-based voice connections</td>
<td>Yes</td>
<td>The function of all dependent programs will be impaired.</td>
<td>Disable</td>
<td>Only needed for modem/fax modem use.</td>
</tr>
<tr>
<td>Service</td>
<td>Description</td>
<td>Safely Disable?</td>
<td>Ramifications if disabled</td>
<td>Suggested setting</td>
<td>Special Considerations</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------</td>
<td>-----------------------------------------------------------------------------------------------</td>
<td>-------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>Telnet</td>
<td>Enables a remote user to log on to this computer and run programs; supports various TCP/IP Telnet clients, including UNIX- and Windows-based computers</td>
<td>Yes</td>
<td>Remote user access to programs might be unavailable.</td>
<td>Disable</td>
<td></td>
</tr>
<tr>
<td>Terminal Services</td>
<td>Allows users to connect interactively to a remote computer; Remote Desktop, Fast User Switching, Remote Assistance, and Terminal Server depend on this service.</td>
<td>Yes</td>
<td>May make your computer unreliable. To prevent remote use of this computer, clear the check boxes in the Remote tab of the System properties control panel item.</td>
<td>Disable</td>
<td></td>
</tr>
<tr>
<td>Themes</td>
<td>Provides user experience theme management</td>
<td>Yes</td>
<td>Themes cannot be used.</td>
<td>Disable</td>
<td></td>
</tr>
<tr>
<td>Uninterruptible Power Supply</td>
<td>Manages an uninterruptible power supply (UPS) connected to the computer</td>
<td>Yes</td>
<td>The UPS cannot communicate with the computer.</td>
<td>Disable</td>
<td></td>
</tr>
<tr>
<td>Universal Plug and Play Device Host</td>
<td>Used in conjunction with SSDP Discovery Service, it detects and configures UPnP devices on your home network</td>
<td>Yes</td>
<td>Your computer will be unable to located uPnP devices on the network.</td>
<td>Disable</td>
<td></td>
</tr>
<tr>
<td>Upload Manager</td>
<td>Manages synchronous and asynchronous file transfers between clients and servers. Driver data is anonymously uploaded from these transfers and used by Microsoft to help users find needed drivers. The Driver Feedback Server asks the client's permission to upload the computer's hardware profile and then search the Internet for information about how to obtain the appropriate driver or get support.</td>
<td>Yes</td>
<td>Certain file transfers will not take place.</td>
<td>Disable</td>
<td></td>
</tr>
<tr>
<td>Service</td>
<td>Description</td>
<td>Safely Disable?</td>
<td>Ramifications if disabled</td>
<td>Suggested setting</td>
<td>Special Considerations</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>-----------------</td>
<td>-------------------------------------------------------------------------------------------</td>
<td>-------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Volume Shadow Copy</td>
<td>Manages and implements volume shadow copies used for backup and other purposes</td>
<td>Yes</td>
<td>Shadow copies will be unavailable for backup and the backup may fail.</td>
<td>Disable</td>
<td>Enable this service if you use Windows Backup on this desktop.</td>
</tr>
<tr>
<td>WebClient</td>
<td>Enables Windows-based programs to create, access, and modify Internet-based files</td>
<td>Yes</td>
<td>These functions will not be available.</td>
<td>Disable</td>
<td></td>
</tr>
<tr>
<td>Windows Audio</td>
<td>Manages audio devices for Windows-based programs</td>
<td>Yes</td>
<td>Audio devices and effects will not function properly.</td>
<td>Enable</td>
<td>Even though it can be disabled, without this service, you will get no sound.</td>
</tr>
<tr>
<td>Windows Image Acquisition (WIA)</td>
<td>Provides image acquisition services for scanners and cameras</td>
<td>Yes</td>
<td>Programs that require images, such as Windows Movie Maker, won’t function properly.</td>
<td>Enable</td>
<td>This service is required for some scanners and cameras. If you don’t have a scanner or a camera, you can disable this service.</td>
</tr>
<tr>
<td>Windows Installer</td>
<td>Adds, modifies, and removes applications provided as a Windows Installer (*.msi) package</td>
<td>Yes</td>
<td>People can install no programs, or make use of Add/Remove programs.</td>
<td>Enable</td>
<td></td>
</tr>
<tr>
<td>Windows Management Instrumentation (WMI)</td>
<td>Provides system management information; required to implement performance alerts using Performance Logs and Alerts</td>
<td>No</td>
<td>System management and performance information will be unavailable.</td>
<td>Enable</td>
<td></td>
</tr>
<tr>
<td>WMI Driver Extensions</td>
<td>Monitors all drivers and event trace providers that are configured to publish Windows Management Instrumentation (WMI) or event trace information</td>
<td>Yes</td>
<td>(extension of WMI only)</td>
<td>Enable</td>
<td></td>
</tr>
<tr>
<td>Windows Time</td>
<td>Uses NTP to keep computers in the domain synchronized</td>
<td>Yes</td>
<td>Time synchronization won’t take place.</td>
<td>Enable</td>
<td></td>
</tr>
<tr>
<td>Service</td>
<td>Description</td>
<td>Safely Disable?</td>
<td>Ramifications if disabled</td>
<td>Suggested setting</td>
<td>Special Considerations</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>-----------------</td>
<td>-------------------------------------------------------------------------------------------</td>
<td>-------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>WMI Performance Adapter</td>
<td>Provides performance library information from Windows Management Instrumentation (WMI) providers to clients on the network</td>
<td>Yes</td>
<td>This service runs only when Performance Data Helper is activated.</td>
<td>Enable</td>
<td></td>
</tr>
<tr>
<td>Workstation</td>
<td>Provides network connections and communications using the Microsoft Network services</td>
<td>Yes</td>
<td>The computer will be unable to connect to remote Microsoft Network resources.</td>
<td>Enable</td>
<td></td>
</tr>
</tbody>
</table>
Speed up Windows XP’s defrag operations

By Greg Shultz

A simple way to speed up a defrag operation in Windows XP is to restart the system before you launch Defrag. This allows the operating system to clear out the swap/paging file and reset it to the default size. This lets Defrag focus strictly on the necessary data on the hard disk without having to stop and manage a huge swap file loaded with unneeded data.

Another approach to speeding up a defrag operation in Windows XP is to configure it to occur immediately upon startup. Fortunately, you can do so easily with this simple registry edit:

1. Launch the Registry Editor (Regedit.exe).
2. Go to HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\RunOnce.
3. Right-click on the RunOnce subkey and select New | String Value.
4. Name the value Defrag and press [Enter] twice.
5. Type `Defrag.exe c: /f` in the Value Data text box and click OK.
6. Close the Registry Editor and restart Windows.

The defrag operation will begin when you type in your password and press [Enter]. (Keep in mind that values added to the RunOnce key are removed immediately after the command has been run.)

Note: This tip applies to both Windows XP Home and Professional editions.
Take advantage of Windows XP Pro’s multiple monitor support for Remote Desktop Connection

If you manage Windows XP Pro systems via Remote Desktop Connection (RDC) with multiple monitors, you’ll want to get the newest version of RDC (Terminal Services Client 6.0) because of its invaluable support for multiple monitors.

After you download RDC (Terminal Services Client 6.0) (http://www.microsoft.com/downloads/details.aspx?FamilyId=26F11F0C-0D18-4306-ABCF-D4F18C8F5D9F&displaylang=en), you can use it from your multiple monitor system and span the desktop of the remote computer across the multiple monitors on your local system.

Two caveats: Your multiple monitors must have the same screen resolution, and the screen resolution on your multiple monitors and the monitor of the computer to which you’re connecting must be under 4096 x 2048.

Follow these steps to launch RDC with multiple monitor support:

1. Open a Command Prompt window and type the command Mstsc /span.
2. Fill in the connection settings in the standard RDC dialog box.
3. Once you’re connected, you can toggle between RDC’s new multiple monitor display and a regular window by pressing [Ctrl][Alt][Break].

This tip applies only to Windows XP Professional.
How do I... use the Text-to-Speech application in XP?

By Mark Kaelin

Windows XP includes many different features that make it accessible to all different types of users. One such feature is the Narrator, which uses Text-to-Speech (TTS) technology to enable Windows XP to play back printed text in a pre-recorded spoken voice. This can be very useful if there are users on the network who have vision impairments and difficulty reading the text that is displayed on the screen. In this article I will outline how you can configure Text-to-Speech in Windows XP and then use the Narrator to read the text that is displayed on the screen.

Text-to-Speech in Windows XP

A sound card and speakers are all you need to make Windows XP talk to you. This is because Microsoft Windows XP is capable of playing back text in a spoken voice. This technology is referred to as Text-to-Speech (TTS). Not only is this technology useful for a person with visual impairments, but it is also useful for someone who is working on multiple tasks at one time.

Windows XP makes this possible through a built-in driver called a TTS engine that is able to recognize text. It can play displayed text back using a pre-generated voice. Although it is a very useful technology, the engine included with Windows XP provides limited Text-to-Speech functionality, but you can obtain third-party engines from other manufacturers. In any case, let’s take a look at how you can configure the TTS engine included with Windows XP.

Configuring speech properties

Configuring TTS is very straightforward. Open the Speech folder within the Control Panel. The Speech Properties dialog box will appear, as shown in Figure A. It allows you to control various TTS settings.

Under Voice Selection, you can select the voice you want to use. By default, there is only one voice available in Windows XP called Microsoft Sam. Additional voices can be downloaded from various Web sites.

Once you have selected a voice using the drop-down arrow, you can preview the voice by clicking the Preview Voice button. Assuming that the speakers are already connected to your computer, the voice will read the default text displayed in the Use the Following Text to Preview the Voice field. Alternatively, you can type in specific text to preview by highlighting the existing default text and typing in the text you want read.

Figure A

Configure speech properties in Windows XP.
Along with selecting a specific voice, you can also control the speed at which the voice reads text. By dragging the slider you can increase or decrease the voice speed, although the default value of Normal tends to be fine for most people.

By clicking the Audio Output button, you can select the audio output device. From the Text to Speech Sound Output Settings dialog box, select from one of the two options: User Preferred Audio Output Device or Use This Audio Output Device. By leaving the default Use Preferred Audio Output Device option selected, the audio device used for all other sound is also used for TTS. Conversely, if there is more than one audio device installed on the computer, you can specify a separate audio output device for use with your speech programs.

The Text To Speech Sound Output Settings dialog box also includes a Volume button. This allows you to control the TTS volume. When you click this button, the Master Volume dialog box will appear, allowing you to adjust the volume output levels.

As you will now see in the next section, once you have configured all the text-to-speech options, you can have Windows XP read the text on your screen using the Narrator.

**Configuring the Narrator**

Windows XP includes its own TTS utility called the Narrator. If you require a TTS utility, keep in mind that it is limited in functionality. First of all, it is designed to work with a specific set of programs that include Control Panel programs, Notepad, WordPad, Internet Explorer, Windows Setup, and the Windows desktop. This means it may not work for other programs. Second, the Narrator is only supported on the English version of Windows XP.

To start the utility, press [Ctrl][Esc], press [R], type narrator, and press [Enter]. You can also configure the Narrator to start automatically each time you log on to the computer. Open the Utility Manager by pressing the [Windows Key][U]. Select Narrator and place a check beside the Start Automatically When I Log In option. As you can see, the Narrator is configured to start automatically when you launch the Utility Manager.

Once you open the Narrator, a dialog box will appear, as shown in Figure D. As you can see, it can be configured to perform several different TTS functions that include:

1. **Announce events on screen**
2. **Read typed characters**
3. **Move mouse pointer to the active item**
4. **Start Narrator minimized**

Configure the Narrator to perform Text-to-Speech functions.
• Announce Events on Screen — The Narrator will read aloud new windows, menus, or shortcuts when they are displayed.
• Read Typed Characters — The Narrator will read typed characters aloud.
• Move Mouse Pointer to the Active Item — The mouse pointer will follow the active item that is on the screen.
• Start Narrator Minimized — This allows you to start the Narrator without seeing the dialog box. The utility is minimized.

The Narrator dialog box includes a Voice button that can be used to control voice settings. As shown in Figure E, voice settings for the Narrator include Speed, Volume, and Pitch. Once you have configured the appropriate values, click OK to return to the Narrator dialog box.

With the Narrator settings configured, your speakers turned on, and the volume turned up, you can minimize the Narrator dialog box, and Windows XP will be ready to talk to you. Depending on how you have the Narrator configure, you should hear the pre-configured voice read the text that appears on your screen. For example, if you are working in Microsoft Word, the Narrator will repeat the text as you type. You can turn off the Narrator at any time by clicking Exit from the Narrator dialog box and clicking Yes when prompted.

Troubleshooting Text-to-Speech in Windows XP

Troubleshooting can be a difficult task, especially if you have not worked with a specific technology before. When it comes to troubleshooting Text-to-Speech problems, there are a few points that you should keep in mind.
• Use the Preview Text button from the Speech Properties dialog box to verify that the TTS engine.
• Open the Utility Manager to check the status of the Narrator program.
• If you do not hear any sound and you are using external speakers, make sure they are turned on.
• Check the Master Volume dialog box to make sure that muting is not enabled.
• Verify that the speakers are properly connected to the computer. You may need to check the documentation that came with the speakers for the proper procedure.
• Use Device Manager to check the status of the computer’s sound card. If necessary, reinstall or update the drivers for the device.

Now your computer can talk back to you too

Windows XP includes built-in technology to make it more accessible for users who are blind or who have vision impairments. The Text-to-Speech engine can read text on the screen using a pre-generated voice. Windows XP includes a default voice called Microsoft Sam. Other voices are available through third-party manufacturers.
You can hear your computer talk using the Narrator. This is the built-in Text-to-Speech utility that is included with Windows XP. It is designed to work with common programs that come with Windows XP, such as Internet Explorer and WordPad. You can launch the utility by typing narrator using the Run command. The Narrator provides limited Text-to-Speech functionality, but third-party programs are available from various manufacturers.
Retrieve information for multiple Windows XP disk drives

By Greg Shultz

You can obtain detailed information about the amount of available and used space on your Windows XP disk by right-clicking any drive icon in My Computer and selecting Properties. You also get a nice pie chart display that depicts this information graphically, which makes it very easy to quickly analyze your hard disk usage.

If you have multiple drives, performing this operation on each one can be time consuming. Fortunately, Windows XP can provide the same type of pie chart display for all your drives in one tabbed dialog box. Here's how:

1. Open My Computer.
2. Hold down [Ctrl] and select each one of the drive icons.
3. Right-click the last one and select Properties.

The resulting dialog box will have a tab containing a pie chart for each drive. You can use this technique with removable as well as floppy disk drives.

Note: This tip applies to both Windows XP Home and Professional editions.
Troubleshooting
Instantly create Restore Points in Windows XP

By Greg Shultz

Windows XP’s System Restore utility continuously monitors your system looking for changes to the system files, and even some application files. This utility will automatically create a Restore Point if it senses a change.

If you wish to manually create a Restore Point, you can launch the System Restore utility by clicking Start | All Programs | Accessories | System Tools | System Restore and then following the steps in the wizard. You can simplify the launching process by copying the System Restore shortcut to your desktop, but you still have to walk through the wizard.

However, there’s a great method for creating a Restore Point with just the click of your mouse. All you have to do is create a simple two line VBScript file that uses the WMI (Windows Management Instrumentation) moniker to access the SystemRestore class and create a Restore Point. Here’s how:

1. Launch Notepad.
2. Type these two lines:

   ```vbs
   Set IRP = getobject("winmgmts:\\.\root\default\Systemrestore")
   MYRP = IRP.createrestorepoint ("My Restore Point", 0, 100)
   ```

3. Save the file as InstantRestorePoint.vbs.

Now, when you’re ready to create an instant Restore Point, all you have to do is launch the script. When you do, System Restore will run in the background without displaying its interface, and it will create a restore point called My Restore Point.

Note: Keep in mind that in order to use this script, you must have Administrator privileges.
10 things you can do when Windows XP won’t boot

By Greg Shultz

When your computer hardware appears to power up okay, but the Windows XP operating system won’t boot properly, you have to begin a troubleshooting expedition that includes getting into the operating system, determining the problem, and then fixing it. To help you get started on this expedition, here are 10 things you can do when Windows XP won’t boot.

1. Use a Windows startup disk

One of the first things you should reach for when troubleshooting a Windows XP boot problem is a Windows startup disk. This floppy disk can come in handy if the problem is being caused when either the startup record for the active partition or the files that the operating system uses to start Windows have become corrupted.

To create a Windows startup disk, insert a floppy disk into the drive of a similarly configured, working Windows XP system, launch My Computer, right-click the floppy disk icon, and select the Format command from the context menu. When you see the Format dialog box, leave all the default settings as they are and click the Start button. Once the format operation is complete, close the Format dialog box to return to My Computer, double-click the drive C icon to access the root directory, and copy the following three files to the floppy disk:

- Boot.ini
- NTLDR
- Ntdetect.com

After you create the Windows startup disk, insert it into the floppy drive on the afflicted system and press [Ctrl][Alt][Delete] to reboot the computer. When you boot from the Windows startup disk, the computer will bypass the active partition and boot files on the hard disk and attempt to start Windows XP normally.

2. Use Last Known Good Configuration

You can also try to boot the operating system with the Last Known Good Configuration feature. This feature will allow you to undo any changes that caused problems in the CurrentControlSet registry key, which defines hardware and driver settings. The Last Known Good Configuration feature replaces the contents of the CurrentControlSet registry key with a backup copy that was last used to successfully start up the operating system.

To use the Last Known Good Configuration feature, first restart the computer by pressing [Ctrl][Alt][Delete]. When you see the message Please select the operating system to start or hear the single beep, press [F8] to display the Windows Advanced Options menu. Select the Last Known Good Configuration item from the menu and press [Enter].

Keep in mind that you get only one shot with the Last Known Good Configuration feature. In other words, if it fails to revive your Windows XP on the first attempt, the backup copy is also corrupt.
3. Use System Restore

Another tool that might be helpful when Windows XP won't boot is System Restore. System Restore runs in the background as a service and continually monitors system-critical components for changes. When it detects an impending change, System Restore immediately makes backup copies, called restore points, of these critical components before the change occurs. In addition, System Restore is configured by default to create restore points every 24 hours.

To use System Restore, first restart the computer by pressing [Ctrl][Alt][Delete]. When you see the message Please select the operating system to start or hear the single beep, press [F8] to display the Windows Advanced Options menu. Now, select the Safe Mode item from the menu and press [Enter].

Once Windows XP boots into Safe mode, click the Start button, access the All Programs | Accessories | System Tools menu, and select System Restore. Because you're running in Safe mode, the only option on the opening screen of the System Restore wizard is Restore My Computer To An Earlier Time, and it's selected by default, so just click Next. Then, follow along with the wizard to select a restore point and begin the restoration procedure.

4. Use Recovery Console

When a Windows XP boot problem is severe, you'll need to use a more drastic approach. The Windows XP CD is bootable and will provide you with access to a tool called Recovery Console.

To boot from the Windows XP CD, insert it into the CD-ROM drive on the problem system and press [Ctrl][Alt][Delete] to reboot the computer. Once the system begins booting from the CD, simply follow the prompts that will allow the loading of the basic files needed to run Setup. When you see the Welcome To Setup screen, press R to start the Recovery Console.

You'll then see a Recovery Console menu. It displays the folder containing the operating system's files and prompts you to choose the operating system you want to log on to. Just press the menu number on the keyboard, and you'll be prompted to enter the Administrator's password. You'll then find yourself at the main Recovery Console prompt.

5. Fix a corrupt Boot.ini

As the Windows XP operating system begins to load, the Ntldr program refers to the Boot.ini file to determine where the operating system files reside and which options to enable as the operating system continues to load. So if there's a problem rooted in the Boot.ini file, it can render Windows XP incapable of booting correctly.

If you suspect that Windows XP won't boot because Boot.ini has been corrupted, you can use the special Recovery Console version of the Bootcfg tool to fix it. Of course, you must first boot the system with the Windows XP CD and access the Recovery Console as described in #4.

To use the Bootcfg tool, from the Recovery Console command prompt, type

```
Bootcfg /parameter
```

Where /parameter is one of the required parameters listed in the table that follows.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>/Add</td>
<td>Scans the disk for all Windows installations and allows you to add any new ones to the Boot.ini file.</td>
</tr>
</tbody>
</table>
/Scan Scans the disk for all Windows installations.
/List Lists each entry in the Boot.ini file.
/Default Sets the default operating system as the main boot entry.
/Rebuild Completely re-creates the Boot.ini file. The user must confirm each step.
/Redirect Allows the boot operation to be redirected to a specific port when using the Headless Administration feature. The Redirect parameter takes two parameters of its own:

[Port Baudrate ] | [UseBiosSettings].

/Disableredirect Disables the redirection.

6. Fix a corrupt partition boot sector

The partition boot sector is a small section of the hard disk partition that contains information about the operating system's file system (NTFS or FAT 32), as well as a very small machine language program that is crucial in assisting the operating system as it loads.

If you suspect that Windows XP won't boot because the partition boot sector has been corrupted, you can use a special Recovery Console tool called Fixboot to fix it. Start by booting the system with the Windows XP CD and accessing the Recovery Console as described in #4.

To use the Fixboot tool, from the Recovery Console command prompt, type

Fixboot [drive]:

Where [drive] is the letter of the drive to which you want to write a new partition boot sector.

7. Fix a corrupt master boot record

The master boot record occupies the first sector on the hard disk and is responsible for initiating the Windows boot procedure. The master boot record contains the partition table for the disk as well as a small program called the master boot code, which is responsible for locating the active, or bootable, partition, in the partition table. Once this occurs, the partition boot sector takes over and begins loading Windows. If the master boot record is corrupt, the partition boot sector can't do its job and Windows won't boot.

If you suspect Windows XP won't boot because the master boot record has been corrupted, you can use the Recovery Console tool Fixmbr to fix it. First, boot the system with the Windows XP CD and access the Recovery Console as described in #4.

To use the Fixmbr tool, from the Recovery Console command prompt, type

Fixmbr [device_name]

Where [device_name] is the device pathname of the drive to which you want to write a new master boot record. For example, the device pathname format for a standard bootable drive C configuration would look like this:

\Device\HardDisk0
8. Disable automatic restart

When Windows XP encounters a fatal error, the default setting for handling such an error is to automatically reboot the system. If the error occurs while Windows XP is booting, the operating system will become stuck in a reboot cycle—rebooting over and over instead of starting up normally. In that case, you'll need to disable the option for automatically restarting on system failure.

When Windows XP begins to boot up and you see the message Please select the operating system to start or hear the single beep, press [F8] to display the Windows Advanced Options Menu. Then, select the Disable The Automatic Restart On System Failure item and press [Enter]. Now, Windows XP will hang up when it encounters the error and with any luck, it will display a stop message you can use to diagnose the problem.

9. Restore from a backup

If you can't seem to repair a Windows XP system that won't boot and you have a recent backup, you can restore the system from the backup media. The method you use to restore the system will depend on what backup utility you used, so you'll need to follow the utility's instructions on how to perform a restore operation.

10. Perform an in-place upgrade

If you can't repair a Windows XP system that won't boot and you don't have a recent backup, you can perform an in-place upgrade. Doing so reinstalls the operating system into the same folder, just as if you were upgrading from one version of Windows to another. An in-place upgrade will usually solve most, if not all, Windows boot problems.

Performing a Windows XP in-place upgrade is pretty straightforward. To begin, insert the Windows XP CD into the drive, restart your system, and boot from the CD. Once the initial preparation is complete, you'll see the Windows XP Setup screen. Press [Enter] to launch the Windows XP Setup procedure. In a moment, you'll see the License Agreement page and will need to press [F8] to acknowledge that you agree. Setup will then search the hard disk looking for a previous installation of Windows XP. When it finds the previous installation, you'll see a second Windows XP Setup screen.

This screen will prompt you to press R to repair the selected installation or to press [Esc] to install a fresh copy of Windows XP. In this case, initiating a repair operation is synonymous with performing an in-place upgrade, so you'll need to press R. When you do so, Setup will examine the disk drives in the system. It will then begin performing the in-place upgrade.

Keep in mind that after you perform an in-place upgrade or repair installation, you must reinstall all updates to Windows.
Change the product key on Windows XP

By Brien Posey

For most Microsoft Windows XP installs, you’ll never need to worry about the validity of the product key assigned to your copy of the OS. However, software does tend to get installed without authorization, even in the most carefully managed shops, and so from time to time you may need to reset the Windows XP product key.

For example, perhaps a user installed a pirated copy of XP but now wants to go legal. Maybe you’ve been hired by an organization that installed 100 pirated copies of XP but now has a legitimate volume-licensing key (VLK). Perhaps an end user purchased an additional retail license for XP but needs to use his original CD to install the software. When situations like these arise, changing XP’s product key is often the most practical—or only—solution.

Determining if you have a valid product ID Hopefully you already know if you’re dealing with a pirated copy of XP. But if you’re unsure, a quick way to tell is to install Service Pack 1. Shortly after releasing Windows XP, Microsoft realized that most pirated XP installations used two specific VLKs, the most popular of which begins with “FCKGW.” These VLKs produce product IDs that match either XXXXX-640-0000356-23XXX or XXXXX-640-2001765-23XXX, where X is any number.

If you try to install SP1 and get the following error message:

The Product Key used to install Windows is invalid. Please contact your system administrator or retailer immediately to obtain a valid Product Key...

You are dealing with a pirated copy of Windows. For more information about obtaining a valid product key, see Microsoft Knowledge Base article 326904 (http://support.microsoft.com/default.aspx?scid=kb;EN-US;326904).

You can also directly check the operating system’s product ID by right-clicking on My Computer, clicking Properties, and selecting the General tab. The machine’s product ID will be located under the Registered To section. If the ID matches either of the two models commonly associated with VLK fraud, you’ll need to obtain a valid XP product key before proceeding. None of the procedures described below will work without a legitimate product key.

Two methods of changing Windows XP’s product key

You can change a Windows XP installation’s product key either by editing the registry or by using one of two Windows Management Instrumentation (WMI) scripts. The registry editing method is outlined in Knowledge Base articles 321636 (http://support.microsoft.com/default.aspx?scid=kb;en-us;321636) and 328874 (http://support.microsoft.com/default.aspx?scid=kb;en-us;328874) and works on Windows XP Home, Windows XP Professional, and Windows XP Corporate Edition.

The script method is outlined in article 328874 and is designed to work on Corporate Edition installations that use a VLK and do not require activation. It may work on a Home or Professional installation, but I have not tested this scenario.
The script method is the practical solution for changing the product keys on a large number of machines. Regardless of the method you choose, make sure to backup important data before changing a product ID, since an unexpected problem could render the machine unbootable and necessitate a complete reinstallation of Windows.

**Warning**

The following instructions involve editing your system registry. Using the Windows Registry Editor incorrectly can cause serious problems that require the reinstallation of your operating system and possible loss of data. TechRepublic does not support problems that arise from editing your registry. Use the Registry Editor and the following directions at your own risk.

**Editing the registry**

Begin by opening the Registry Editor and navigating to

HKEY_LOCAL_MACHINE\Software\Microsoft\WindowsNT\Current Version\WPA\Events

In the right pane, right-click the ODBETimer binary value and select Modify. Change at least one character of this value to either a number from 0 to 9 or to a letter from A to F, then click OK and close the Registry Editor. This renders the current product key invalid and deactivates Windows.

Now, it's time to reactivate Windows using your new product key. Click Start | Run and enter the command:

```
%systemroot%system32oobemsoobe /a
```

where `%systemroot%` is your Windows directory. In many cases, this command will look like:

```
C:windowssystem32oobemsoobe.exe /a
```

At this point, Windows will launch the Product Activation Wizard.

Select the option to telephone a Microsoft customer service representative to activate Windows, and click Next. Now, select the Change Product Key option and enter your new product key. Finally, click Update and close the window. If Windows returns you to the previous screen, just select the Remind Me Later option. When the wizard is finished, reboot the system.

When Windows reboots, your next step will depend on which Windows XP version you are using. If you have XP Home or Professional, you'll be prompted to reactivate your copy of Windows through the normal activation process. If you have XP Corporate, no activation is required and your machine should have a valid product ID. You can verify this by running the `%systemroot%\system32\oobe\msoobe.exe /a` command again. When the wizard loads this time, you should see a message indicating that your copy of Windows has already been activated.

**Using a WMI script**

Although the registry editing process is effective, it can be tedious and impractical if you need to change the product key on more than a few machines. So Microsoft provides two WMI scripts, one for XP machines with SP1 and one for XP machines without SP1.
1. View the code for the WMI script, ChangeVLKey2600.vbs, designed for use on XP machines without SP1. (http://support.microsoft.com/default.aspx?scid=kb;en-us;328874#5)

2. View the code for the WMI script, ChangeVLKeySP1.vbs, for XP machines with SP1 already installed (http://support.microsoft.com/default.aspx?scid=kb;en-us;328874#4).

Copy the appropriate script's code into a text file and save it as either ChangeVLKey2600.vbs or ChangeVLKeySP1.vbs. The scripts can act in conjunction with a valid product key as part of a login script to change the product ID on multiple machines. You can also execute the script from the command line to change the key on a single computer.

For example, if you wanted to change the product key on an XP machine without SP1 and had already saved the script to root directory on the C: drive, you would click Start | Run and enter the following command:

C:changevlkey2600.vbs xxxxx-xxxxx-xxxxx-xxxxx-xxxxx

Of course, xxxxx-xxxxx-xxxxx-xxxxx-xxxxx in this scenario is a valid product key.

The script should take only a few seconds to run and won't prompt you for further action unless there's a problem, such as an invalid product key. As with the registry editing method, you can verify that Windows is now using a valid product key by running the command:

%systemroot%system32oobemsoobe.exe /a

The Product Activation Wizard will load and should tell you that your copy of Windows has already been activated.
Viewing non-present devices in Windows XP’s Device Manager

By Greg Shultz

When troubleshooting driver problems in Windows XP, one of the first places you may look is Device Manager, which provides detailed information about every piece of installed system hardware. In light of devices such as removable USB drives becoming more and more common, you may need information about devices that are not currently connected; Device Manager recognizes these as non-present devices. Here’s how to get information about these devices:

1. Go to Start, right-click My Computer, and select Properties.
2. In the System Properties dialog box, select the Advanced tab and click the Environment Variables button.
3. In the Environment Variables dialog box, locate the System Variables panel and click New.
4. In the New System Variable dialog box, type `DEVMGR_SHOW_NONPRESENT_DEVICES` in the Variable Name text box and type `1` in the Variable Value text box.
5. Click OK twice.
6. To view the non-present devices, go to Start, right-click My Computer, and select Manage.
7. Click Device Manager, pull down the View menu, and select Show Hidden Devices.

Note: This tip applies to both Windows XP Home and Windows XP Professional.
Forcing Windows XP’s Disk Cleanup to delete all temporary files

By Greg Shultz

If you’ve ever run the Windows XP’s Disk Cleanup utility, you probably discovered that your temporary files occupy a significant amount of space. You might select the Temporary Files check box in order to allow the Disk Cleanup utility to delete the files in the Temp folder, but the Disk Cleanup utility will not remove all of the files. The reason for this oddity is that the configuration for the Disk Cleanup utility does not allow deletion of files accessed in the last seven days.

By altering the LastAccess value in the registry, you can configure the Disk Cleanup utility to delete all the files in the Temp folder regardless of the last accessed date. Here’s how:

1. Launch the Registry Editor (Regedit.exe).
2. Go to HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Explorer\VolumeCaches\Temporary Files.
3. Locate and double-click the LastAccess value.
4. When you see the Edit DWORD Value dialog box, change the Value Data setting from 7 to 0 and click OK.
5. To complete the operation, close the Registry Editor and restart Windows XP.
6. Changing the value to 0 will force the Disk Cleanup utility to delete all the files in the Temp folder every time that you select the Temporary Files check box.

Notes: Since editing the registry is risky, be sure you have a verified backup before saving any changes. This tip applies to both Windows XP Home and Windows XP Professional.
Extract troubleshooting info from Windows XP BSOD error messages

By Greg Shultz

Microsoft Windows XP systems are notorious for crashing for any number of reasons and in a number of ways. Some of these crashes are mild and can easily be overcome simply by closing a nonresponding application or by rebooting the system. However, others are more serious and can bring the entire system to its knees. Microsoft calls these types of crashes “Stop errors” because the operating system stops responding. When a Stop error occurs, the GUI is replaced by a DOS-like blue screen with a cryptic error message followed by a code number. This screen is affectionately referred to as the Blue Screen of Death, or BSOD for short.

I’m going to show you how to analyze BSODs and extract the relevant troubleshooting information. I’ll then take a look at some of the more common Windows XP BSOD errors. I’ll also provide a link to an article in Microsoft’s Knowledge Base that describes the troubleshooting steps and possible solutions in detail. To view screen shots of these BSOD error messages, along with an explanation of each one, check out the photo gallery at http://techrepublic.com.com/2300-10877-6052833.html.

Dissecting a BSOD Although Stop errors can be caused by both hardware and software malfunctions, the most typical cause is a hardware malfunction. Each Stop error is accompanied by a specific error description and an eight-digit hexadecimal number error code. It may not be immediately apparent when you see a BSOD (mostly due to the shock factor that hits you when a BSOD occurs), but you can use the description and code to identify the type of error that is occurring. You just need to be able to identify the key parts of the message so you’ll have a direction and focus for your troubleshooting expedition. The trick is in finding the relevant information on the BSOD.

Let’s suppose that you encounter the BSOD shown in Figure A.

At the top of the Windows XP BSOD, you’ll find the error description, which will be in all uppercase letters with multiple words tied together with underscore characters. In the following BSOD excerpt, the text KMODE_EXCEPTION_NOT_HANDLED is the error description:

A problem has been detected and Windows has been shut down to prevent damage to your computer.

PAGE_FAULT_IN_NONPAGED_AREA

This Stop error indicates that requested data was not in memory.
Immediately following the error description, you’ll find some general troubleshooting steps. In some cases, following these steps will lead you to a solution. (Keep in mind that this same information appears in just about every BSOD.)

If this is the first time you’ve seen this error screen, restart your computer. If this screen appears again, follow these steps:

Check to make sure any new hardware or software is properly installed. If this is a new installation, ask your hardware or software manufacturer for any Windows updates you might need.

If problems continue, disable or remove any newly installed hardware or software. Disable BIOS memory options such as caching or shadowing. If you need to use Safe Mode to remove or disable components, restart your computer, press F8 to select Advanced Startup Options, and then select Safe Mode.

After the general troubleshooting information, you’ll find the Technical Information section, which contains the eight-digit hexadecimal number error code. The code is usually accompanied by four error-dependent values enclosed in parentheses. (These values typically aren’t necessary information, but you may want to take note of them.) If a file was directly associated with the problem that caused the BSOD, it will also be listed here. In this case, you can see that the file ati3diag.dll is tied to the problem:

Technical information: *** STOP: 0x00000050 (0x8872A990, 0x00000001, 0x504F35D7, 0x00000000)*** ati3diag.dll - Address ED80AC55 base at ED88F000, Date Stamp 3dcb24d0

Following the Technical Information section, you’ll see another generic section. This one alerts you to the fact that Windows XP has dumped the contents of system memory to a file on the hard disk:

Beginning dump of physical memory Physical memory dump complete. Contact your system administrator or technical support group for further assistance.

Armed with these details, you can visit Microsoft’s online Help and Support page and search the Knowledge Base for more detailed troubleshooting and solution information.

Common BSODs in Windows XP

Now that you have a good idea of how to dissect a BSOD and pull out the relevant pieces of information from all the gibberish on the screen, let’s look at some of the more common BSODs in Windows XP. I’ll cover just a few of the BSOD conditions, but there are lots of possible Stop errors. For each BSOD I discuss, I’ll provide a link to an article on the Microsoft Knowledge Base that covers that particular Stop error. (Since more than one article might address a Stop error, you may want to search the Knowledge Base if you discover that you need more information.)

STOP: 0x0000000A
IRQL_NOT_LESS_OR_EQUAL

This Stop error, which can be caused by either software or hardware, indicates that a kernel-mode process or driver attempted to access a memory location it did not have permission to
access or a memory location that exists at a kernel interrupt request level (IRQL) that was too high. A kernel-mode process can only access other processes that have an IRQL that's equal to or lower than its own.

Troubleshooting a Stop 0x0000000A error in Windows XP (http://support.microsoft.com/?kbid=314063)

STOP: 0x0000001E
KMODE_EXCEPTION_NOT_HANDLED

This Stop error indicates that the Windows XP kernel detected an illegal or unknown processor instruction. The problems that cause this Stop error can be either software or hardware related and result from invalid memory and access violations, which are intercepted by Windows' default error handler if error-handling routines are not present in the code itself.

Possible Resolutions to STOP 0xA, 0x1E, and 0x50 Errors (http://support.microsoft.com/?kbid=183169)

STOP: 0x00000050
PAGE_FAULT_IN_NONPAGED_AREA

This Stop error indicates that requested data was not in memory. The system generates an exception error when using a reference to an invalid system memory address. Defective memory (including main memory, L2 RAM cache, video RAM) or incompatible software (including remote control and antivirus software) might cause this Stop error.

Possible Resolutions to STOP 0xA, 0x1E, and 0x50 Errors (http://support.microsoft.com/?kbid=183169)

STOP: 0x0000007B
INACCESSIBLE_BOOT_DEVICE

This Stop error indicates that Windows XP has lost access to the system partition or boot volume during the startup process. Installing incorrect device drivers when installing or upgrading storage adapter hardware typically causes this Stop error. This error could also indicate a possible virus infection.

Troubleshooting Stop 0x0000007B or “0x4,0,0,0” Error (http://support.microsoft.com/search/default.aspx?catalog=LCID%3D1033&query=stop%3A+0x0000007b+inaccessible_boot_device&mode=r)

STOP: 0x0000007F
UNEXPECTED_KERNEL_MODE_TRAP

This Stop error indicates a hardware problem resulting from mismatched memory, defective memory, a malfunctioning CPU, or a fan failure that's causing overheating.

General causes of “STOP 0x0000007F” Errors (http://support.microsoft.com/?kbid=137539)

STOP: 0x0000009F
DRIVER_POWER_STATE_FAILURE

This Stop error indicates that a driver is in an inconsistent or invalid power state. This Stop error typically occurs during events that involve power state transitions, such as shutting down or moving in or out of standby or hibernate mode.
Troubleshooting a Stop 0x9F Error in Windows XP ([http://support.microsoft.com/?kbid=315249](http://support.microsoft.com/?kbid=315249))

STOP: 0x000000D1
DRIVER_IRQL_NOT_LESS_OR_EQUAL

This Stop error indicates that the system attempted to access pageable memory using a kernel process IRQL that was too high. The most typical cause is a bad device driver (one that uses improper addresses). It can also be caused by faulty or mismatched RAM or a damaged pagefile.

Error Message with RAM Problems or Damaged Virtual Memory Manager ([http://support.microsoft.com/?kbid=810093](http://support.microsoft.com/?kbid=810093))

STOP: 0x000000EA
THREAD_STUCK_IN_DEVICE_DRIVER

This Stop error indicates that a device driver problem is causing the system to pause indefinitely. Typically, this problem is caused by a display driver waiting for the video hardware to enter an idle state. This might indicate a hardware problem with the video adapter or a faulty video driver.

Error message: STOP 0x000000EA THREAD_STUCK_IN_DEVICE_DRIVER ([http://support.microsoft.com/?kbid=293078](http://support.microsoft.com/?kbid=293078))

STOP: 0x00000024
NTFS_FILE_SYSTEM

This Stop error indicates that a problem occurred within Ntfs.sys, the driver file that allows the system to read and write to drives formatted with the NTFS file system. (A similar Stop message, 0x00000023, exists for the file allocation table [FAT16 or FAT32] file systems.)

Troubleshooting Stop 0x24 or NTFS_FILE_SYSTEM Error Messages ([http://support.microsoft.com/?kbid=228888](http://support.microsoft.com/?kbid=228888))

STOP: 0xC0000218
UNKNOWN_HARD_ERROR

This Stop error indicates that a necessary registry hive file could not be loaded. The file may be corrupt or missing. The registry file may have been corrupted due to hard disk corruption or some other hardware problem. A driver may have corrupted the registry data while loading into memory or the memory where the registry is loading may have a parity error.

How to Troubleshoot a Stop 0xC0000218 Error Message ([http://support.microsoft.com/?kbid=156640](http://support.microsoft.com/?kbid=156640))

STOP: 0xC0000221
STATUS_IMAGE_CHECKSUM_MISMATCH

This Stop message indicates driver, system file, or disk corruption problems (such as a damaged paging file). Faulty memory hardware can also cause this Stop message to appear.

"STOP: C0000221 unknown hard error" or "STOP: C0000221 STATUS_IMAGE_CHECKSUM_MISMATCH" error message occurs ([http://support.microsoft.com/?kbid=314474](http://support.microsoft.com/?kbid=314474))
Get a better view of the Windows XP Tree command with Word

By Greg Shultz

To find out how many folders there are on your Microsoft Windows XP hard disk, you can open a Command Prompt and use the Tree command. You’ll get a very nice looking graphical tree structure showing all the folders on your hard disk. The only problem is that the display will scroll by your screen so fast and exceed the buffer size, so you’ll never be able to see it.

Instead, try using the old MS-DOS pipe to funnel the output of the Tree command to a Rich Text Format (RTF) file. You can then import that RTF file into a specially formatted Word document and have the same graphical tree structure, showing all the folders on your hard disk, in an easy to read format. Here’s how:

1. Open a Command Prompt window.
2. Use the CD \ command to access the root folder.
3. Type Tree > Tree.rtf
4. Close the Command Prompt window.
5. Launch Word and open a new document.
7. In the Page Setup dialog box, choose the Landscape Orientation, and set the left and right margins to zero.
8. Click OK and click the Ignore button in the margins warning dialog box.
9. Go to Insert | File.
10. In the Insert File dialog box, locate the Tree.rtf file and click the Insert button.
11. In the File Conversion dialog box, select the MS-DOS option and click OK.
12. You can save the document and then scroll through the graphical tree structure showing all the folders on your hard disk.

Note: This tip applies to both Windows XP Home and Windows XP Professional.

Editor’s note: The file can be viewed by any word processor or text editor with RTF capability.
How do I recover my system in Windows XP using System Restore?

By Steven Warren

Oh no! Your computer just crashed after you downloaded and installed the latest video card driver for your system. Don't sweat it. Windows XP is bundled with a cool feature called System Restore. It allows system administrators to restore XP computers to a previous state without losing the following files: Email, Favorites, My Documents, and Cookies. It does this by monitoring changes in your files and folders and taking a snapshot of your system at regular intervals. Once a problem with your system is encountered, you can restore the system to a previous point and roll back your system files and registry to a point in time when the operating system was working. In this post, we will discuss how to configure your System Restore options and how to restore to a previous point in time.

System Restore 101

This new feature in Windows XP runs in the background as a service. It constantly logs changes to your system in C: \Windows\System32\Restore. In addition to this constant logging, System Restore takes regular snapshots of your system state, which includes the following: User Accounts and System Settings.

For example, you have recently installed a new device driver and a warning message is displayed that tells you this driver is not supported with XP or is unsigned. You continue with the installation anyway, and as soon as you choose to continue, the System Restore feature creates a restore point automatically so you can restore the system if for some reason it crashes. Restore points are also created when you install or upgrade to Windows XP or when you install any update patches off the Windows Update web site.

By default, System Restore will create a restore point every 24 hours. If this is a machine that is left on all the time, you can count on this happening once every 24 hours. If you shut down the machine and restart it, a restore point is created at boot-up as long as one has not been created in the last 24 hours.

You can adjust this time frame in the registry. Simply open Regedit from a command prompt and browse to Hkey Local Machine\Windows\NT\CurrentVersion\SystemRestore. Once you are there, change the RPGlobalInterval from its default setting of 86,400 seconds to the appropriate amount (86,400 seconds is 24 hours). In addition, Restore points are deleted every 90 days. To change this value, adjust the RPLifeInterval from 7,776,000 to an appropriate value (7,776,000 is 90 days).

You can also specify a protected location in the registry that the System Restore will normally overwrite.

1. Open the Regedit and browse to Hkey Local Machine\System\CurrentControlSet\Control\BackupRestore\FilesNotToBackup.
2. Right-click and select New | Multi-String Value.
3. Specify a Name of the location that System Restore won't restore to a previous point.
4. Double-click the new value and enter the appropriate path that you want protected from System Restore.

**Configuring System Restore**

Before using the System Restore functionality, you should become familiar with how you can configure your options for optimal performance. You can access the System Restore options by opening Control Panel | Performance and Maintenance | System | System Restore tab.

*Note:* If you are using the classic view, open Control Panel | System.

You can turn off the System Restore feature completely or specify the amount of disk space for System Restore to use. The System Restore feature uses a maximum of 12 percent of your disk space by default. This can take up quite a bit of your hard drive space, so plan accordingly before changing this setting.

**Manual restore points**

At any time if you feel it is necessary, you can create a manual restore point. You must have administrative access to perform this function. This can be done by performing the following:

1. Open Help and Support from the Start menu.
2. Select Undo Changes to Your Computer with System Restore and the Welcome to the System Restore window will appear.
3. Choose the Create a Restore Point radio button and click Next.
4. Enter a Restore Point Description and click Create. The restore point is created.
5. Click Home.

**Restoring your computer**

In the event of a crash or any other incident that leaves your computer in a state of non-bliss, you can quickly restore your computer by performing the following:

1. Open Help and Support from the Start menu.
2. Select Restore My Computer to an Earlier Time and click Next.
3. Select a restore point by highlighting a day in the calendar and choosing the appropriate checkpoint. Click Next.
4. Review your Selected Restore Point and click Next. This will shut down your computer and restore your computer to an earlier point in time.

*Note:* You can undo your latest restore by following the same procedure and selecting Undo My Last Restoration.

In this article we have discussed the various ways you can easily recover your system in the event of a crash. We also provided you with some basic configuration knowledge to quickly and easily configure System Restore to work optimally on your system. The System Restore feature is a powerful tool that will help you run Windows XP without a glitch.
Re-enable icon transparency on your desktop in Windows XP

By Greg Shultz

Have you ever changed your desktop theme or just your desktop background and discovered that the text for your desktop icons is no longer transparent? Instead you now have a colored background box behind the text. If you have experienced this situation, chances are that you searched high and low for a solution, but were unable to find one.

Unfortunately, this is because the setting that allows you to control the icon transparency is very poorly named. Rather than being named something makes sense, Microsoft choose to name the setting “Use drop shadows for icon labels on the desktop.” To make matters worse, this setting is buried in the Performance Options dialog box rather than on the Display Properties dialog box.

In any case, sometimes that act of changing a desktop theme or desktop background inadvertently disables the Use drop shadows for icon labels on the desktop setting. Fortunately, re-enabling is it easy. Here’s how:

1. Access the Control Panel and double-click System.
2. When you see the System Properties dialog box, select the Advanced tab.
3. Click Settings button in the Performance section.
4. When you see the Performance Options dialog box, scroll down the list and select the “Use drop shadows for icon labels on the desktop” checkbox.
5. Click OK twice — once to close Performance Options dialog box and once to close the System Properties dialog box.

You should now have your transparent icons back.

Note: This tip applies to both Windows XP Home and Windows XP Professional.
What you should already know about Windows XP Backup

By Erik Eckel

Data backups aren't as exciting as dual-core Intel chips that dual-boot Mac OS X and Windows XP, but maintaining a sound back-up strategy can prevent excitement of a different kind (the kind you don't want). Although technology professionals can choose from a confusing array of OEM, proprietary, and third-party solutions, Windows' native back-up program often proves adequate for meeting the data backup and recovery requirements of most small and medium businesses. The trick is in knowing Windows Backup's benefits and drawbacks. By playing to the utility's strengths, you can eliminate unwanted excitement and keep your workday low key.

1. It’s proven (i.e., no one ever got fired for buying IBM…)

No one in their right mind wants to explain to a client or director why a backup or recovery operation failed. Losing data is among the greatest technology sins, so it’s only appropriate that the job be entrusted to a reliable solution. The old saying reminds us that “No one ever got fired for buying IBM.” The same holds for technology professionals in small or medium-size businesses who opt for using Microsoft tools.

Although many criticize Microsoft's native Backup tool for its lack of sophistication and flexibility, the Windows utility's lack of complexity is its greatest strength. Windows Backup provides a simple and proven method for safeguarding data. Further, it’s a capable tool for backing up data to a medium that’s easily stored off site.

2. The wizard is your friend

Sure, you can elect to work in Backup's Advanced mode (see Figure A), but wizards simplify complex tasks. More important, they help ensure that you don't forget a step. And let's face it, when the phone's ringing and you're downloading a service pack, applying a patch, and configuring a backup, it's easy to overlook a setting.

There's a reason wizards dominate Windows Small Business Server administration: They work. When creating a critical backup, take a few extra steps to ensure that it's done correctly.

Figure A

Windows Backup's Advanced Mode lets you specify all backup configuration details manually.
moments to allow the wizard shown in Figure B to walk you through the process.

The Backup Or Restore Wizard first asks whether you want to back up or restore files and settings. Assuming you specify a back-up operation, the next step involves specifying the data you want to back up. You can elect to back up local files and folders as well as network shares, of course.

After you configure the data to be backed up, you’ll have to select the back-up location. I’ve encountered clients who back up data to the same hard disk, believing it’s a second disk (due to its being partitioned and possessing a different drive letter). Backups always work best when a copy is stored off site, thereby protecting against fire/smoke/water damage that might occur at the central place of business.

Next, the wizard will prompt you to provide a name for the backup. It will then provide a summary screen, shown in Figure C. But you’re not through yet.

Click Advanced to configure the type of backup:

- Normal backs up all files and marks each as backed up.
- Copy backs up files but does not mark them as backed up.
- Incremental backs up files only if they were created or modified since the last back-up operation completed and marks them as backed up.
- Differential backs up only those files created since the last backup completed, but unlike Incremental backups, a Differential backup doesn’t mark the files as backed up.
- Daily backs up only files created or modified that day (without changing files’ archive bits).

Once you’ve specified the back-up type, the wizard presents two options: Verify Data After Backup and Disable Volume Shadow Copy. A third option, Use Hardware Compression If Available, will appear if the system has the appropriate equipment. Make your selections and

Figure B

The Windows Backup Or Restore Wizard simplifies backup creation and helps ensure that you don’t miss critical configuration settings (such as scheduling the backup to occur daily or configuring an Incremental versus a Normal backup).

Figure C

The wizard’s summary screen leads you to believe you’re just about finished configuring the new backup; you’re not. You still need to configure advanced settings.
specify whether to append or replace the backup, select a time for the backup to run, and enter a back-up name (this name identifies the back-up operation, not the .BKF file the backup creates). Enter a user account with the appropriate permissions to run the back-up operation and then provide the password.

Before clicking Next to finish creating the back-up routine, click Set Schedule. Use the Schedule tab to specify how often and when the backup should run. Use the Settings tab to configure additional options, such as the length of time the backup has to complete the process and whether the backup should run even if the power fails and the system's battery power kicks in.

Once those settings are configured, you're finished with the wizard. You can rest assured all important steps have been considered (even if you're interrupted mid-process by a telephone call).

3. You must watch names when creating new backups

When creating backups using Windows Backup Or Restore Wizard, you need to provide a name for the back-up routine. In fact, you must enter two names — one to identify the back-up operation itself (the job name) and another for the actual .BKF file that Backup creates (the backup name). They're easy to confuse, and worse, Windows Backup remembers the last names you used and displays them by default; it's easy to overwrite an existing routine or back-up file when creating a second back-up operation. Take care to ensure you don't accidentally overwrite an old back-up file or mistakenly alter an existing back-up operation when configuring new backups.

When using the Backup Or Restore Wizard, the first name you specify is for the back-up file itself. This is the data file the back-up operation creates. It's entered on the wizard's Backup Type, Destination, And Name screen.

Scheduling a backup triggers the Job Name box, found on the wizard's When To Back Up menu. The name you enter there determines the job name used to administer the back-up operation.

4. Advanced options are key

Advanced Options, accessed using the Advanced button found on the Backup Or Restore Wizard's summary screen, shown in Figure C, provides access to critical settings. In addition to configuring the back-up type as described above, you use Advanced options to specify whether backups append or replace older backups and whether a backup is scheduled to run regularly.

When scheduling back-up routines, the Set Schedule button provides access to yet another set of tabs. The Schedule tab enables configuring the backup's frequency, while the Settings tab, shown in Figure D, permits critical power management and idle time settings are configured using the Settings tab reached by clicking the Set Schedule button from within Advanced options.
customizing Scheduled Task completion parameters, managing the system's idle time, and setting power management.

5. You needn't overcomplicate schedules/types

Microsoft exams and practice test companies love quizzing you on how you best recover from a disk failure if you've got a six-day-old Normal backup and five days of Incremental or Differential backups. Although such practices work well in theory, they're more difficult to complete as intended in the real world. Office managers forget to replace the tapes or Rev Disks in a system and copy a Tuesday Differential over a Monday Differential. Disks get lost; tapes fail over time.

I recommend simply talking with clients or reviewing with corporate staff how much data you can afford to lose. Can you get by without a week's worth of data? Then configure weekly Normal backups, ensure they complete properly, and get them off site. Regularly recover backups to ensure all necessary data is being properly protected.

However, some organizations need data backed up every day. In those cases, I recommend setting Windows Backup to complete Normal backups daily. Just be sure to keep several copies (at least a week's worth, if not more) and rotate them. That way, if a user accidentally deletes a needed customer file on Monday and you don't discover the problem until Friday, you still have a week-old backup from which you can obtain the file.

Still other companies can't afford to lose even a half-day's data. Microsoft Backup isn't the solution for them. That's when it's time to turn to high-availability data provisioning services (such as RAID arrays and on-line backups).

6. You likely need to replace—not append—backups

In most small and medium businesses, there's no need to obtain more than a week or two's worth of backups. Although for some it makes sense to keep master quarterly back-up copies forever, typically just replacing Normal backups works well as part of a regular rotation. Thus, many will elect to use the Windows Replace feature rather than the Append feature when configuring scheduled backups.

If circumstances require, you can append backups or add them to your media as opposed to replacing an existing backup. But more often than not, you'll run out of storage space quickly. Most midsize businesses and many small businesses will be best served by maintaining fresh sets of operative Normal backups. Therefore, these organizations can simply replace existing backups.

Larger organizations requiring more complex data back-up regimens will be best served using a more sophisticated backup system. Because of Windows Backup's simplicity, it quickly becomes unwieldy when trying to manage multiple back-up sets in small organizations. And trying to scale appending Incremental or Differential backups in addition to weekly Normal backups simply isn't worth the effort in large enterprises, where more sophisticated systems help ease the tediousness of the process.

7. Data compression is weak, so plan accordingly

If you need to back up 30GB daily, as I often do for everyone from one- or two physician-practice health care providers (due to patient records and x-ray images) to realty firms wishing to
retain copies of various blueprints, contracts, and show house images, your backup requires a lot of storage space. Windows Backup works well for these businesses, but don't expect the backup to compress data effectively.

Third-party tools typically outperform the compression capacities Windows Backup boasts. In larger backups I've configured for clients, I see little data compression result from Windows Backup (using standard removal hard drives, Rev Disks, and the like). Using tape technologies, additional compression benefits emerge.

When calculating media storage required to manage back-up routines, I recommend planning at least 12 months ahead. Thus, if you're using Windows Backup and you must back up 12GB worth of data weekly, and the organization adds 500MB of new data a month, I'd recommend working with at least a 20GB tape or disk.

8. Data verification can take forever

Windows Backup offers a data verification feature, which helps confirm that backups complete properly. Almost everyone advises that you use it. The option should be selected with care when creating larger backups, however, as the confirmation process can add an inordinate amount of time to the back-up operation. In one example I've seen in the field, a 32GB backup regularly and consistently failed to complete in eight hours due to the verification feature taking too long; when data verification was turned off, the backup completed much more quickly.

If you're completing smaller (5GB or less) backups, consider selecting data verification (the Verify Data After Backup check box) from the Backup Or Restore Wizard's How To Back Up screen. For larger backups, I recommend periodically verifying backups complete properly firsthand instead, by opening a backup and checking its uniformity.

9. When scheduling backups, once is the default

It's important to note that the default setting for the Schedule is Once. This is true even though you can set the backup to begin a week or months in advance. As a result, it's easy to configure a Normal backup to occur on Friday at 11:00 p.m. and forget to select Weekly from the Scheduled Task drop-down box. If you don't confirm that you've selected the appropriate frequency, you'll wind up configuring a scheduled backup to run only once. When you create a new back-up routine using Windows Backup, always be sure you specify that it run Later and click Set Schedule.

10. You need to limit Backup’s default run time

Backups can easily suck up a system's resources, not to mention network bandwidth (when backing up files from network shares). Add in the fact users are constantly making changes to files during regular business hours, and it's easy to see why backups are traditionally programmed to occur during off hours.

When configuring Windows Backup, be sure to review the timeframe Windows allots the routine to complete. The default setting (reached by selecting Set Schedule and clicking the Settings tab from Advanced options) is 72 hours. That's an incredibly long time, especially in the event that a back-up routine becomes stuck, confused, or locked in an endless access, read, or write cycle. You don't want users rendered unable to access the server, network data, or the network. Configure reasonable run times and make it a habit to review backups and confirm that they're completing within the allotted time.
Use the PushD command to create a quick temporary drive map in Windows XP

By Greg Shultz

Have you ever been working from a Command Prompt and needed to temporarily map a drive letter to a network location for a quick file operation? Of course, you can switch over to Windows Explorer and use the Map Network Drive command on the Tools menu.

While this is a viable solution, it requires multiple steps to create and then you have to perform several more steps to disconnect the network drive. This can be a pain — especially if you just want to work from a Command Prompt.

However, there is another way. You can use the PushD command to quickly create a temporary drive map while remaining in the Command Prompt. You can then use PopD to quickly disconnect the network drive. Here's how:

1. Open a Command Prompt window.
2. Type the following command line:
   
   ```
   pushd Server\Share\Path
   ```
   
   where `\Server\Share\Path` is the network resource to which you want to map a drive letter.

As soon as you do, the `pushd` command will instantly map a drive letter to the network resource and then change to that drive right in the Command Prompt window. When you're done, just type `popd` and the mapped drive letter will be disconnected and you'll return to your original drive.

Keep in mind that, the `pushd` command allocates drive letters from Z: on down and will use the first unused drive letter that it finds.

Note: This tip applies to both Windows XP Home and Windows XP Professional.
Viewing non-present devices in Windows XP’s Device Manager

By Greg Shultz

When troubleshooting driver problems in Windows XP, one of the first places you may look is Device Manager, which provides detailed information about every piece of installed system hardware. In light of devices such as removable USB drives becoming more and more common, you may need information about devices that are not currently connected; Device Manager recognizes these as non-present devices. Here’s how to get information about these devices:

1. Go to Start, right-click My Computer, and select Properties.
2. In the System Properties dialog box, select the Advanced tab and click the Environment Variables button.
3. In the Environment Variables dialog box, locate the System Variables panel and click New.
4. In the New System Variable dialog box, type DEVGR_SHOW_NONPRESENT_DEVICES in the Variable Name text box and type 1 in the Variable Value text box.
5. Click OK twice.
6. To view the non-present devices, go to Start, right-click My Computer, and select Manage.
7. Click Device Manager, pull down the View menu, and select Show Hidden Devices.

Note: This tip applies to both Windows XP Home and Windows XP Professional.
Quickly gather MAC addresses in Windows XP with ARP

By Greg Shultz

When securing a wireless Windows XP network, in addition to using Wired Equivalent Privacy (WEP) or Wi-Fi Protected Access (WPA) encryption, you can use Media Access Control (MAC) address filtering.

When you enable MAC address filtering, the wireless access point or wireless router verifies that the network card in the computer requesting access has a MAC address in its filter list before allowing the computer to access the network. This means that you must first obtain the MAC addresses of each client computer. To do so, you might think that you have to manually visit each computer and use the Getmac command.

An easier way to gather MAC addresses is to take advantage of the Address Resolution Protocol (ARP) command. Here’s how:

1. From one computer, use the Ping command to ping each of the other client computers that will connect to the wireless access point or wireless router.
2. Type the ARP command along with the -a parameter:

   Arp -a

When used with the -a parameter, the ARP command displays the ARP cache, which stores the IP and MAC addresses of the computers that most recently accessed the system — or in this case, those computers that responded to the Ping command.

Note: This tip applies to both Windows XP Home and Professional.
Clearing the Windows XP Run command’s most recently used list

By Greg Shultz

If you regularly use the Run command to launch applications, you know that Windows XP keeps a record in the registry, called the MRU (most recently used) list, of all the applications you recently launched. When you have the Run dialog box open, you can access the MRU list by clicking the drop-down arrow adjacent to the Open text box.

The MRU list is designed to make it easier for you to re-launch the same applications at a later date. However, this list can grow quite long, making it difficult to find what you want.

Fortunately, you can create a registry shortcut that clears the Run command’s MRU list. To do so, follow these steps:

1. Launch the Registry Editor (Regedit.exe).
2. Go to HKEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Explorer\RunMRU.
3. Right-click the RunMRU key and select Export.
4. Name the REG file Clear Run M RU , click the Save button, and close the Registry Editor.
5. Open the Clear Run M RU .reg file in Notepad.
6. Add a minus sign to the beginning of the key name just inside the square brackets.
7. Delete all lines that follow the line containing the key path.
8. Save the file and close Notepad.
9. Reboot Windows (or at least log off and then log back on) in order for this change to become effective. Now, any time you want to clear the Run command’s M RU list, simply locate and double-click the Clear Run M RU .reg file. When you do so, the Registry Editor will display two dialog boxes: one that prompts you to confirm the operation, and the other to let you know the operation was successful.

Notes: Editing the registry is risky, so be sure you have a verified backup before saving any changes. This tip applies to both Windows XP Home and Professional editions.
Troubleshoot Windows XP with the Driverquery command

By Greg Shultz

When you're troubleshooting a suspected device driver problem, you can find detailed information about specific drivers being used in a Windows XP system by going to Device Manager, selecting the device from the list, and drilling down to the device's properties sheet. While this technique is fine when you're looking for information on one specific device driver, it's not very efficient when you're interested in information about a number of device drivers— it's just too time consuming.

To ease the task of gathering information on a number of device drivers, you can use a tool called Driver Query (Driverquery.exe). When you run this tool, Driver Query provides you with a detailed list of all the device drivers installed on a local system, or on any system on a network—and using it is easy. Here's how:

1. Open a Command Prompt window.
2. Type Driverquery on the command line.

The results are displayed in a table format in the Command Prompt window. If you want to perform more detailed analysis, you can direct the Driver Query to save the results in a CSV file so you can open them in a spreadsheet application such as Excel. To do so, type the following on the command line:

Driverquery /v /fo csv > drivers.csv

Note: This tip applies only to Windows XP Professional.
Mapping drive letters to local folders in Windows XP

By Greg Shultz

If you regularly work with files stored in shared folders on a Windows XP network, chances are that you’ve used Windows’ Map Network Drive command to map a drive letter to that folder. Wouldn’t it be nice if you could map a drive letter to a nested folder on your hard disk? Then, you could access nested subfolders just as easily as you can access shared folders on the network.

Fortunately, you can do just that. Unbeknownst to most Windows users, there’s an old DOS command called Subst that’s designed to associate a drive letter with any local folder — and it’s still a viable tool in Windows XP. Here’s how to use the Subst command:

1. Open a Command Prompt window.
2. Type the following command and press [Enter]:

```plaintext
subst x: C:\{pathname}\foldername}
```

In the command, x: is any available drive letter and {pathname}\foldername} is the complete path to your selected folder. For example:

```plaintext
Subst K: C:\Downloads\Windows\Drivers
```

Now, instead of typing the full path, you can reach the Drivers folder by accessing drive K: in Windows Explorer.
Specify Disk Cleanup configuration settings in Windows XP

By Greg Shultz

If you run Windows XP's Disk Cleanup utility regularly in order to keep your hard disk free from clutter, you may have wished that there was a way to save your settings so you wouldn't have to reconfigure the utility each time you run it. Fortunately, there is a method for saving your settings, but the steps for doing so are undocumented. Here's how:

1. Access the Run dialog box by pressing [Windows]R.
2. In the Open text box, type the following command: `Cleanmgr /d x: /sageset:#` In this command line, `Cleanmgr` is Disk Cleanup's executable file name; `/d x:` is the letter of the drive you want to clean; `/sageset` is a special configuration command that tells Disk Cleanup to save the settings in the registry; and `#` is a unique number from 0 to 65,535 that designates a unique configuration settings file. For example, you could create your first configuration settings file for drive C by typing `Cleanmgr /d C: /sageset:1` in the Open text box.
3. When you see the Disk Cleanup Settings dialog box, select the check boxes next to the categories of files that you'd want to remove from your hard disk.
4. Click OK to save the settings in the registry.
5. To run Disk Cleanup using the saved settings, type the following command:
   ```
   Cleanmgr /sagerun:#
   ```
   In this command line, `Cleanmgr` is Disk Cleanup's executable file name; `/sagerun` is a special configuration command that tells Disk Cleanup to retrieve the saved settings from the registry; and `#` is the number you used to designate your configuration settings file.
Launch System Restore from a command prompt in Windows XP

If your Windows XP system begins acting strange, a typical fix is to use System Restore to remove any system changes made since the last time you created a Restore Point. However, what if the problem is so bad that you can’t start Windows XP normally—or even start the system in Safe Mode?

The good news is you can run System Restore from a command prompt. Here’s how:

1. Restart your computer and press [F8] during the initial startup.
2. When you see the Windows Advanced Options Menu, select the Safe Mode With A Command Prompt option.
3. Select the Windows XP operating system.
4. Log on to your computer with an administrator account or with an account that has administrator credentials.
5. Type the following command at a command prompt:

   C:\windows\system32\restore\rstrui.exe

When you see the System Restore window, the graphics may look odd, but you can still follow the onscreen instructions to restore your computer to an earlier state.

Note: This tip applies to both Windows XP Home and Windows XP Professional.
Clear the Windows XP Run command’s MRU list

If you regularly use the Run command to launch applications, you know that Windows XP keeps a record in the registry, called the MRU (most recently used) list, of all the applications you recently launched. When you have the Run dialog box open, you can access the MRU list by clicking the drop-down arrow adjacent to the Open text box.

The MRU list is designed to make it easier for you to relaunch the same applications at a later date. However, this list can grow quite long, making it difficult to find what you want.

Fortunately, you can create a registry shortcut that clears the Run command’s MRU list. To do so, follow these steps:

1. Launch the Registry Editor (Regedit.exe).
2. Go to HKEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Explorer\RunMRU.
3. Right-click on the RunMRU key and select Export.
4. Name the REG file Clear Run M RU, click the Save button, and close the Registry Editor.
5. Open the Clear Run M RU.reg file in Notepad.
6. Add a minus sign to the beginning of the key name just inside the square brackets.
7. Delete all lines that follow the line containing the key path.
8. Save the file and close Notepad.
9. Reboot Windows (or at least log off and then log back on) for this change to become effective. Now, any time you want to clear the Run command’s MRU list, simply locate and double-click on the Clear Run M RU.reg file. When you do so, the Registry Editor will display two dialog boxes: one that prompts you to confirm the operation and the other to let you know the operation was successful.

Note: This tip applies to both Windows XP Home and Professional editions.
Recover from a crash with XP’s System Restore

By Steven Warren

Your computer just crashed when you downloaded and installed the latest video card driver for your system. If you have Windows XP, don’t sweat it. XP has a great new feature called System Restore that allows you to restore XP systems to a previous state without losing the following files:

- E-mail
- Favorites
- My Documents
- Cookies

It does this by monitoring changes to your files and folders and taking a snapshot of your system at regular intervals. If a problem with your system is encountered, you can restore the system to a previous point and roll back your system files and registry to a point when the operating system was working. Let’s look at how to configure your System Restore options and how to put the feature to work.

Understanding how System Restore works

System Restore runs in the background as a service, constantly logging changes to your system in C:\Windows\System32\Restore. In addition to this logging, System Restore also takes regular snapshots of your system state, which includes User Accounts and System Settings.

For example, let’s say you recently installed a new device driver, and a warning message is displayed that tells you this driver is not supported by XP or is unsigned. You continue with the installation anyway. As soon as you choose to continue, the System Restore feature creates a restore point automatically so that you can restore the system if it crashes when you reboot. Restore points are also created when you install or upgrade to Windows XP or when you install any update patches from the Windows Update Web site.

By default, System Restore will create a restore point every 24 hours. If a machine is left on all the time, you can count on this happening once every 24 hours. If you shut down the machine and restart it, a restore point is created at bootup, as long as one has not been created in the last 24 hours.

You can adjust this timeframe in the registry. Simply open Regedit from a command prompt and browse to HKEY_LOCAL_MACHINE\Windows\NT\CurrentVersion\SystemRestore. Then, change the RGlobalInterval from its default setting of 86,400 seconds (which is 24 hours) to the appropriate interval.

Restore points are deleted every 90 days. To change this value, just adjust the RPLifeInterval from 7,776,000 (which is 90 days).

You can also specify a protected location in the registry that System Restore would normally overwrite. Here are the steps:
1. Open Regedit and browse to `HKEY_LOCAL_MACHINE\System\CurrentControlSet\Control\Backup Restore\FilesNotToBackup`.

2. Right-click and select New | Multi-String Value.

3. Specify a name for the location that System Restore won’t restore to a previous point.

4. Double-click the new value and enter the appropriate path to the location you want protected from System Restore.

### Configuring System Restore

Before using System Restore functionality, you should know how to configure your options for optimal performance. You can access these options by opening Control Panel | Performance and Maintenance | System | System Restore tab. Note: If you are using the classic view, open Control Panel | System.

In this tab, you can turn off the system restore feature completely or specify the amount of disk space for System Restore to use. By default, System Restore uses a maximum of 12 percent of your disk space. Be careful if you change this default. System Restore can consume quite a bit of your disk space if you let it.

### Manual restore points

Any time you think it is necessary, you can create a manual restore point. You must have administrative access to do this. Just follow these steps:

1. Open Help And Support from the Start menu.

2. Select Undo Changes To Your Computer With System Restore to bring up the Welcome To The System Restore window.

3. Choose the Create A Restore Point option and click Next.

4. Enter a Restore Point Description and click Create.

5. Click Home.

### Restoring your computer

In the event of a crash or any other incident that leaves your computer in a nonbootable or problematic state, you can quickly restore your computer by performing the following steps:

1. Open Help And Support from the Start menu.

2. Select Restore My Computer To An Earlier Time and click Next.

3. Select a restore point by highlighting a day in the calendar and choosing the appropriate checkpoint.

4. Click Next.

5. Review your selected restore point and click Next. This will shut down your computer and restore your system to the specified point in time.
Note that you can undo your latest restore by following the same procedure and selecting Undo My Last Restoration.

**Summary**

We have discussed the various ways you can easily recover your system in the event of a crash using Windows XP’s new System Restore feature. We also provided you with some basic configuration knowledge to quickly configure System Restore to work optimally on your machines. As you can see, the System Restore feature is a powerful tool that will help you recover from problematic drivers and rogue application issues far more easily than you could with previous versions of Windows.
Configuration
How do I… Configure Microsoft Windows XP Remote Desktop?

By Erik Eckel

Supporting remote systems is much easier thanks to Windows XP’s Remote Desktop application. The application’s biggest benefit is that it provides access to a desktop as if you were sitting in front of the system. In addition to receiving the actual desktop GUI, you can access network shares and printers as if seated at the PC.

While remote users can request help using Windows XP’s Remote Assistance feature, often administrators must update settings and make configuration changes to remote machines. Occasionally employees must work from home, too. Windows XP’s Remote Desktop simplifies the process. Follow these steps to configure Windows Remote Desktop and administer systems remotely.

Windows Remote Desktop

Connecting to a remote desktop is fairly straightforward, but a few elements must be in place first:

- The host desktop must have Internet access (preferably high-speed).
- The local system (the PC connecting to the remote desktop that will serve as the host) must be running Windows XP Professional (or a Windows 2003-flavor server) or have the appropriate Terminal Services tools installed.
- Firewalls between the local system and the remote host must be configured to pass the appropriate traffic.
- Remote Desktop must be installed and enabled on the target system.

Installing Remote Desktop

Remote Desktop is an optional Windows XP Professional service. To install it on a host system (to enable a computer to accept a remote connection request), Microsoft recommends you:

1. Click Start.
2. Click Control Panel.
3. Select Add Or Remove Programs.
4. Select Add/Remove Windows Components.
5. Select Internet Information Services.
6. Click the Details button.
8. Click the Details button.
10. Click OK.
11. Click Next.
12. Click Finish to complete the wizard.
13. Click Start.
15. Enter `Net Stop w3svc` and click the OK button or press Enter.
16. Click Start.
17. Select All Programs.
18. Select Microsoft Update.
19. Select Scan For Updates.
20. Install all critical updates on the host system.
21. Click Start.
22. Select Run.
23. Enter `Net Start w3svc` and click the OK button.

**Installing Remote Desktop connection on non-XP systems**

Non-Windows XP systems can also access Windows systems running Windows Remote Desktop. The local system used to access the remote computer must have the remote connectivity client software installed. To install the required Terminal Services components:

1. Insert a Windows XP Professional CD in the local system's CD or DVD drive.
2. From the resulting Welcome To Microsoft Windows XP screen, click Perform Additional Tasks.
3. Click Setup Remote Desktop Connection from the What Do You Want To Do Screen.
4. The InstallShield Wizard will open; click Next on the Welcome To The InstallShield Wizard for Remote Desktop Connection.
5. Read and accept the license agreement and click Next.
6. Enter the customer name and organization, and specify whether the desktop connection is to be available to all users or only the logged in user and click Next.
7. Click Install.
8. Click Finish.

The older Windows system can now open the Remote Desktop Connection menu by clicking Start | Programs | Accessories | Communications | Remote Desktop Connection or by opening a command prompt and typing `mstsc`. 
Firewall settings

Before attempting a Remote Desktop session, ensure the host system’s Windows Firewall is set to enable the connection. Follow these steps to confirm the Windows Firewall is properly configured:

1. Click Start.
2. Click Control Panel.
3. Access the Windows Firewall menu (by clicking Windows Firewall using Control Panel’s Category View or by clicking Security Center and selecting Windows Firewall using the Classic View).
4. Click the Exceptions tab.
5. Confirm the Remote Desktop checkbox is checked and isn’t overridden by a group policy.

When working with other firewalls, it’s usually best that port 3389 (and port 80) be opened to enable Terminal Services traffic (and the connection to the Remote Desktop application). This is especially true when attempting to connect to Small Business Server 2003 desktops.

Enabling user access

To ensure a remote system is configured to support Remote Desktop, follow these steps:

1. Click Start.
2. Click Control Panel.
3. Select Performance and Maintenance and click System (if the view is set to Category; if the Classic View is in use simply click the Control Panel’s System applet).
4. Click the Remote tab.
5. Confirm the Remote Desktop checkbox is checked (Allow Users To Connect Remotely To This Computer).

Next, you need to specify which users can access the system remotely. To do so:

1. Open the Remote tab again (following the steps just described).
2. Click the Select Remote Users button, shown in Figure A.
3. Click the Add button.
4. Specify those users that should receive permission to access the system remotely.
5. Click OK to close the Select Users window.
6. Click OK to close the Remote Desktop Users window.

By default, any members of the Administrators group can connect to the system, even if they’re not specifically authorized using the Remote Desktop Users window. Should you wish to remove a user’s permission to log on remotely, highlight that user’s name and click the Remove button.
Configuring Remote Desktop

Once those conditions are met, users and administrators should be able to access systems using Remote Desktop by:

1. Clicking Start.
2. Selecting Run.
3. Typing `mstsc` and clicking OK.

Alternatively, one can:

1. Click Start.
2. Click All Programs.
3. Click Accessories.
4. Click Communications.
5. Click Remote Desktop Connection.

The Remote Desktop Connection Screen will appear. By default, an abbreviated version displays, as shown in Figure B.

To display more remote connectivity options and configure additional settings, click the Options button. Clicking the Options button reveals five tabs, from which additional settings are configured, as shown in Figure C.

From the General tab, you can enter the IP address or fully qualified domain name (FQDN) of the computer you wish to connect to within the Computer field. If you use the default menu shown in Figure A the remote computer will prompt you for a username and password.

Figure B

By default, a simple Remote Desktop Connection menu appears.

Figure C

Clicking Options reveals a host of additional Remote Desktop Connection settings.

Figure D

The Display tab enables changing desktop size and color settings.
However, from the General tab, you can specify the username, password and domain in the appropriate fields and skip the logon process. Saving this information makes quick work of logging on to remote connections, such as those used often by employees wishing to connect to their office desktops from home.

The Display tab, shown in Figure D provides options for configuring the desktop size. It's important to match the remote system's desktop size to the local PC, otherwise the user may go crazy trying to navigate menus that can consistently reach beyond his or her monitor's range if configure incorrectly.

Use the Local Resources tab, shown in Figure E to set sound, keyboard and local device options. For example, you can configure remote system events to generate sounds on the local PC (by selecting Bring To This Computer within the drop down box within the Remote Computer Sound section or automatically connect to remote printers, disk drives and even serial ports (by selecting the respective checkbox from within the Local Devices section).

The Programs tab, shown in Figure F, permits users to trigger a specific program upon establishing the remote connection. To enable the feature, check the Start The Following Program On Connection box and specify the program's location using the provided fields.

The Experience tab, shown in Figure G makes it possible to configure the remote connection's look and feel. For example, you can set the connection speed to maximize performance, apply the remote system's theme and even display its desktop background. Or, to optimize performance, you can turn off menu and window animation, forego displaying the remote system's desktop background, etc.
Return Windows XP to a previous working state with System Restore

By Mark Kaelin

In light of the recent troubles many TechRepublic members have been having with the installation of Microsoft Internet Explorer 8, I thought it might be a good time to revisit some of the concepts behind the System Restore feature of Windows XP.

System Restore runs in the background and periodically records the state of the OS at a specific point in time. Theoretically, you can return your operating system to that recorded point, which presumably is a point where the operating system was working properly. This restoration can take you back to a time before a driver, application, malware, or other recent installation corrupted the operating system.

Steven Warren wrote a “How Do I…” on Windows XP System Restore in June 2008 that explains how it works, how you can use System Restore to create a restoration point manually, and how an actual restoration process plays out.

If you have been wrestling with a bad install of Internet Explorer 8, this may be an option to consider.

Note: System Restore in Windows Vista is similar to this process but different enough to warrant its own blog post. Look for the Vista version in a later post.

Also, System Restore may be turned off via Group Policy, so the feature may be missing on some enterprise PCs.
How do I... Secure Windows XP NTFS files and shares?

By Erik Eckel

Security is all the rage. From white-hat hacker articles in Wired magazine to daily e-mail newsletter alerts, security concerns threaten to overwhelm most IT professionals.

Most of the talk targets protecting an organization’s resources from external audiences. But often there’s a very real need to partition data within an organization, too. Just imagine the trouble that would arise were employees able to access one another’s HR records.

Windows XP’s NTFS file system, and permissions assigned to folder shares, are designed to protect files and folders from being access by unauthorized parties, whether those parties are internal or external to an organization. Here’s how to ensure you’re administering NTFS permissions and file shares appropriately.

File Share Permissions

Most users begin sharing files with workgroups, or peer-to-peer networks, by following these steps:

1. Right-clicking the folder containing the documents, spreadsheets and files they wish to share.
2. Selecting Sharing And Security from the pop-up menu.
3. Selecting the Share This Folder button from the Sharing tab of the folder’s Properties dialog box. (Figure A)
4. Entering a Share Name for the folder.
5. Optionally supplying some wording describing the folder’s contents within the Comment field.
6. Clicking OK.

However, that method won’t always work as you intend, especially on Windows XP systems formatted with NTFS (in which conflicting NTFS permissions can prevent an intended user from accessing those resources -- more on that in a moment). Worse, Windows XP’s default share permissions behavior is set to provide Everyone with access to the share’s contents.

It’s also important to note that Windows XP’s Simple File Sharing, enabled by default, must be turned off to specify different permissions for different users. To turn off Simple File Sharing:

1. Open Windows Explorer.
2. Click Tools.
3. Select Folder Options.
4. Click the View tab.

5. Within the Advanced Settings window, scroll to the bottom and uncheck the box for the Use Simple File Sharing (Recommended) option.

6. Click OK.

To remove the Everyone permissions, and specify varying access permissions different users should receive to a file share:

1. Right-click the folder you wish to share.

2. Select Sharing And Security from the pop-up menu.

3. Click the Permissions button. The Permissions ForFolderName dialog box will appear. (Figure B)

4. Highlight Everyone from within the Group Or User Names window.

5. Click the Remove button.

6. Click the Add button. The Select Users Or Groups dialog box will appear. (Figure C)

7. Within the Enter The Object Names To Select window, specify the users’ names for whom you wish to provide access, then click OK.

8. Highlight (within the Group Or User Names window) the names of the users and groups you selected and specify the appropriate permissions (Allow or Deny for Full Control, Change and Read are the options that appear) within the Permission For Username or Group dialog box.

9. Click OK to apply the changes and close the dialog box; click OK to close the FolderName Properties dialog box.

The **Full Control** permission enables a user or group to read, write, delete and execute files within the folder. Users possessing Full Control permission can also create and delete new folders within the share.

The **Change** permission enables a user or group to read and change files within the folder and create new files and folders within the shared folder. Users with Change permission can also execute programs within the folder.

The **Read** permission, meanwhile, enables a user or group to read files within the share and execute programs located within the folder.

Windows XP systems formatted with the NTFS file system provide additional permission settings. The next section reviews configuring NTFS permissions.
NTFS Permissions

Windows NTFS permissions provide a host of additional permissions options. In addition, NTFS permissions can be applied to a single file or folder.

Before configuring NTFS permissions, first ensure the Windows XP system is configured to use the NTFS file system:

1. Click Start.
2. Click Run.
3. Type `compmgmt.msc` and click OK. The Computer Management console will appear.
4. Highlight Disk Management within the Storage section to learn the file system in use for each of the system's drives.

If a hard disk or partition isn't formatted using NTFS, you can upgrade the disk by typing `convert X:/fs:ntfs` where X denotes the drive requiring the upgrade. Using the `convert` command, you can upgrade a drive to NTFS without losing its data. However, it's always best to confirm you have a working backup on hand before executing the command.

To configure NTFS permissions:

1. Right-click the file or folder you wish to share.
2. Select Properties from the pop-up menu.
3. Click the Security tab.
4. Use the Add/Remove buttons to add and remove permissions for users and groups.
5. Highlight the respective user or group within the Group Or User Names window and specify the appropriate permissions from within the Permissions For User/Group window using the provided Allow and Deny checkboxes. (Figure D)
6. Click OK to apply the changes.

Note that, by default, subfolders will inherit permissions from parent folders. To customize permissions inheritance, click the Advanced button found on the share or filename's Properties dialog box.

Several NTFS permissions are available:

- **Full Control** — enables a user or group to perform essentially all actions, including view files and subfolders, execute application files, list folder contents, read and execute files, change file and folder attributes, create new files, append data to files, delete files and folders, change file and folder permissions and take ownership of files and folders.

- **Modify** — enables a user or group to view files and subfolders, execute application files, list folder contents, view file and
folder attributes, change file and folder attributes, create new files and folders, append file data and delete files.

- **Read & Execute** — enables a user or group to view files and folders, execute application files, list folder contents, read file data and view file and folder attributes.

- **List Folder Contents** — enables a user or group to navigate folders, list folder contents and view file and folder attributes.

- **Read** — enables a user or group to view a folder's contents, read data and view file and folder attributes.

- **Write** — enables a user or group to change file and folder attributes, create new files, make changes to files and create new folders and append file data.

To determine a user's ultimate resulting permissions, add all the NTFS permissions granted to a user directly and as a result of group membership, then subtract those permissions denied directly and as a result of group membership.

For example, if a user is explicitly granted Full Control but is also a member of a Group in which Full Control is denied, the user will not receive Full Control rights. If a user received Read & Execute and List Folder Contents in one group but was also a member of a group that had List Folder Contents denied, the user's resultant NTFS permissions would be only Read & Execute. For this reason, administrators should carefully apply Deny permissions, as the Deny attribute overrules any equivalent instances of Allow when the two rights are applied to the same user or group.

Windows XP includes an effective permissions tool you can use to help verify the permissions a user or group receives. To access the tool:

1. Open the folder or filename's Properties dialog box.
2. Click the Security tab.
3. Click the Advanced button. The Advanced Security Settings For File/Foldername will open.
4. Click the Effective Permissions tab. (**Figure E**)
5. Click the Select button.
6. The Select User Or Group dialog box will appear.
7. Type the group or username whose permissions you wish to confirm in the Enter The Object Name To Select window and click OK.

The Advanced Security Settings For File/Foldername dialog box will display the resulting NTFS permissions for that user or group.

**Figure E**

The Effective Permissions tab helps simplify determining a user or group's actual permissions.
Combining Share and NTFS Permissions

It sounds straightforward. Configure the permissions you want and a user is good to go. But there's one additional catch to keep in mind. Folder share and NTFS permissions must combine to determine the actual rights a user or group receives. Unfortunately, they often conflict.

To determine the ultimate permissions a user receives, take the user or group's resulting shared permissions and compare it with the user or group's resulting NTFS permissions. Note that the most restrictive of those rights will prevail.

For example, if a user's resulting NTFS rights are Read and Execute and the same user's resulting share permission is Full Control, the user will not receive Full Control. Instead, Windows calculates the most restrictive of the two resulting rights, which in this case is the NTFS permission of Read and Execute.

Remember that, to determine a user or group's ultimate resulting permissions, the most restrictive of the resulting NTFS and share rights applies. This is an important lesson that's easily forgotten but that quickly leads to frustration for users, so be sure to spend time up front properly calculating share and NTFS permissions.
Automatically run a batch file when you open a Windows XP command prompt

By Greg Shultz

You probably run the same few commands each time you start using the command prompt in Windows XP. For example, perhaps you first switch to the root directory and then clear the screen. Then, you may have put these commands into a batch file and saved the file to the C:\Documents and Settings\{username} folder so that when you open the command prompt, you simply type the name of the batch file to issue the commands.

You can save yourself from typing any commands at all if you add the path and name of the batch file to a special key in the registry. Here's how to add them:

1. Launch the Registry Editor (Regedit.exe).
2. Go to the HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Command Processor key.
3. Double-click the AutoRun value to access the Edit String dialog box.
4. In the Value Data text box, type the path and name of the batch file. Be sure to enclose the text in double quotes — for example, “C:\Documents and Settings\greg\go.bat”.
5. Click OK to close the Edit String dialog box and close the Registry Editor.

Now, your batch file will automatically run every time you open the command prompt window.

Caution: Editing the registry is risky, so make sure you have a verified backup before making any changes.

Note: This tip is for both Windows XP Home and Professional.
Configure Windows XP’s MS-DOS Editor

By Greg Shultz

Windows XP comes with another text editor besides Notepad — it’s called the MS-DOS Editor, and it’s commonly referred to simply as Edit. It has features similar to Notepad, as well as additional features such as the ability to work with multiple text files and change the background and text colors. Since Edit is a DOS-based application, you can easily configure it to work just like a Windows application. Here’s how:

1. Use Windows Explorer to locate the Edit.com file in the \Windows\System32 folder.
2. Right-click the file, drag it to your desktop, and select the Create Shortcut(s) Here command from the Shortcut menu.
3. Right-click the Shortcut icon and select the Properties command from the Shortcut menu.
4. Choose the Program tab and select the Close On Exit check box.
5. Click OK to finish.

Now you can double-click the Shortcut icon to launch Edit. When you’re done using it, you can close it by clicking the Close button in the upper-right corner or by using the Exit command on the File menu.

Note: This tip applies to both Windows XP Home and Windows XP Professional.
Reset Internet Explorer’s window size in Windows XP

By Greg Shultz

If in Windows XP you typically maximize a too-small Internet Explorer window, every subsequent time you launch Internet Explorer, its windows may remain too small. By default, Internet Explorer is supposed to open at the same size it was at the last time it was closed; however, sometimes the default setting gets out of whack, and you need to manually reset it. Here’s how:

1. Launch Internet Explorer.
2. Click one of the window corners and drag it out to completely fill your screen. Do not use the Maximize button.
3. Press [Alt] to view the menu bar (if you are using Internet Explorer 7).
4. Press and hold down either [Ctrl] or [Shift] while selecting Exit from the File menu. Do not use the Close button.

Now when you launch Internet Explorer, it should open in a full window. If it opens in the same small window, repeat the steps but hold down the opposite key in step 4, that is either [Ctrl] or [Shift].

Note: This tip applies to both Windows XP Home and Windows XP Professional. As this is a function of Windows XP, it will work on all versions of IE.
Did you know that each time you open My Computer on Windows XP, your computer automatically searches for the network files and printers your specific login has access to? This entire process can decrease system performance to a crawl as well as take much longer to display all of your icons in the My Computer window. You have the ability to stop Windows from automatically searching for network resources and printers by performing the following:

1. Open My Computer
2. Select Tools | Folder Options
3. Select the View tab and deselect Automatically Search for Network folders and Printers check box.
4. Click OK.
Create a custom Control Panel in Windows XP

By Greg Shultz

To simplify access to the tools in Windows XP's Control Panel, Microsoft created the Category View, in which the Control Panel's tools are organized into categories. If you're an old-school Windows user, you can still switch back to the Classic View, in which all of the Control Panel's tools are available. If you admire the simplicity of the Category View but prefer the Classic View, you may want to create your own custom Control Panel that combines the best of both views. Here's how:

1. Right-click the Start button and select the Explore command.
2. Go to File | New | Folder.
3. Name the new folder My Control Panel.
4. Right-click your new My Control Panel folder, select the Properties command, choose the Customize tab, click the Change Icon button, and select an icon that will differentiate this folder from all the rest on the Start menu.
5. Open your new My Control Panel folder, and then open the original Control Panel and select Classic View.
6. Drag and drop your favorite tools from the original Control Panel to your new My Control Panel folder.
7. Close both your new My Control Panel folder and the original Control Panel.

Now when you need to use your favorite tool, just click Start | All Programs and at the top of the All Programs menu select the My Control Panel folder. You'll see your favorite tools in an easy to access drop-down menu.

Note: This tip applies to both Windows XP Home and Windows XP Professional.
10 security tips for Microsoft Windows XP

By Chad Perrin

Some general security tips apply to all operating systems, but each operating system platform provides its own security challenges. The following tips are tailored to Microsoft Windows XP.

1. Disable dangerous features

Microsoft Windows systems come with a number of features enabled by default that do little or nothing for convenience but that introduce significant security risks. Among these are Autorun, the Guest account, and even Automatic Updates — because letting someone in Redmond, WA, decide when changes should be made to your system, when he has no idea what software you’re running and you haven’t tested the updates yet, is a bad idea. Microsoft Windows provides many features that are activated by default and either poorly conceived from a security perspective or, at best, unnecessary for the vast majority of users. Each of these features introduces its own risks, and any that you do not need should be deactivated.

2. Disable unneeded services

In addition to local operating system features, you should disable unneeded services. Almost exactly one year ago, my article 10 services to turn off in MS Windows XP provided a brief checklist of services to turn off — or to ensure you know why you’re leaving them on, at least. The list is not comprehensive, of course, but it is a good start.

3. Employ good e-mail security practices

Make use of some basic email security tips to ensure you do not invite the bad guys to read your e-mail, flood you with spam, and take advantage of you through phishing techniques.

4. Install and maintain malware protection software

Regardless of the reason for it, the fact remains that malware is a significant threat to Microsoft Windows systems, and running that platform without malware protection is irresponsible. Research your options for antivirus and anti-spyware protection carefully, and choose well. Don’t let your malware protection software’s signature databases get out of date because the software protects only against the threats it can recognize. And don’t rely on your choice of antivirus software from six years ago because there’s no such thing as a trusted brand.

5. Update more than just Microsoft Windows

In the world of Windows, the majority of the software most people run on their computers often comes from third-party vendors without any connection to Microsoft’s own software distribution channels. This means that when you install something like Adobe Photoshop or Mozilla Firefox, you have to track security updates for them separately from the operating system.
6. Research and test your updates

It’s important to keep your system updated so that security vulnerabilities that receive patches from Microsoft and other software vendors will not remain open to exploit. It’s also important, however, to ensure that you research and test your software updates before applying them to a production system. All too often, users and sysadmins discover that untested updates are a cure worse than the disease. They may break functionality, open additional vulnerabilities in the system, and even occasionally undo the benefits of previously applied updates. Other users may have tested the updates or have simply applied them and run into problems, so researching others’ experiences can help you plan for such issues as they arise. Then, testing them yourself by installing them on a test system before doing so on your production system is the next necessary step to ensure that your system in particular will not develop problems as the result of a bad update.

7. Investigate alternatives to your default application choices

Should you be using a Web browser other than Internet Explorer, such as Google Chrome, Mozilla Firefox, or Opera? Is the multiprotocol IM client Pidgin with the OTR encryption plug-in a better option for your instant messaging needs — including security — than the native clients for AIM, MSN, Y!M, ICQ, and gTalk? The only way to be sure is to determine your own needs and make an informed decision. Don’t settle for default applications without knowing the consequences of that choice.

8. Use a quality desktop firewall

Desktop firewalls are in many respects applications like any other, but they deserve special mention for Windows security. Furthermore, even Windows servers are in effect desktop systems, so don’t let the fact that a given computer is a “server” deter you from installing a good “desktop” firewall application on the system if you can spare the CPU cycles and RAM. On an actual end-user desktop system, desktop firewall software is even more important. Relying on the defaults you get when you buy the computer is a good way to get your system compromised without even knowing it. The Windows Firewall provided with Microsoft Windows after Service Pack 2 is certainly better than nothing, but one can almost always do better. Look into alternatives to the Windows Firewall and select the option that best suits your needs.

9. Research your options before assuming Windows XP is what you need

The same principles that apply to applications may also apply to operating systems. Different OSes can provide different security and functionality benefits. Are you really certain that Windows XP is the operating system you need? Have you investigated other alternatives? What about Windows 2000 or Vista? Have you checked into the possibility of MacOS X, FreeBSD,
or Ubuntu Linux for a workstation? What about OpenBSD, OpenSolaris, or OpenVMS for a server?

10. Protect yourself the same way you would with any other operating system

In last year's article 10 security tips for all general-purpose O Ses, I laid out a list of security tips that apply for good security practice in the use of any general purpose operating system — including Windows.

Step two Installing Windows XP is only the first step to using it. If you stop there, you're likely to run afoul of the various security threats roaming the wilds of the Internet. Make sure you configure your system to best protect you against the dangers that lurk around every corner.
Permanently set your flash drive’s default AutoPlay action

By Greg Shultz

If you have a USB flash drive holding various Microsoft Windows XP files, you may want to configure the drive to automatically open Windows Explorer rather than display the AutoPlay dialog box.

You can select the Open Folder To View Files In Windows Explorer and select the Always Do The Selected Action check box but that only configures the flash drive for one file type. Here’s how to configure your flash drive to open Windows Explorer for all file types at the same time:

1. Insert your flash drive into the USB port.
2. When you see the AutoPlay dialog box, click Cancel.
3. Open My Computer, right-click your flash drive icon, and select Properties.
4. In the Properties dialog box, select the AutoPlay tab.
5. Perform the following steps for each item in the Content Type drop-down list:
   a. Select an item in the Content Type drop-down list.
   b. Choose Select An Action To Perform in the Actions panel.
   c. Select the Open Folder To View Files In Windows Explorer action.
   d. Click the Apply button.
6. Click OK to close the Properties dialog box.

Now use the Safely Remove Hardware feature to remove your flash drive — wait a moment and plug it back in. You’ll see the AutoPlay progress appear momentarily, and then you should see Windows Explorer open to show the contents of the flash drive.

Note: This tip is for both Windows XP Home and Professional.
Schedule a restart operation with Windows XP’s Shutdown utility

By Greg Shultz

To help you automate this type of restart operation, Microsoft Windows XP comes with a command-line utility called Shutdown.exe, which can restart your system. To make this happen automatically, you can configure it to run at a specified time with the Scheduled Tasks tool. Here’s how:

1. Go to Control Panel | Scheduled Tasks.
2. Double-click Add Scheduled Task to launch the Scheduled Task Wizard.
3. Click Next and then click the Browse button.
4. Access the Windows\System32 folder, select Shutdown.exe, and click Open.
5. Follow the wizard through the next two screens to give the task a name and choose a schedule.
6. Enter your user account name and password and click Next.
7. Select the Open Advanced Properties check box and click Finish.
8. In the task’s Properties dialog box, add the /r parameter to the end of the command line in the Run text box and click OK. (Be sure to include a space between the last character in the command name and the first character in the parameter list.)
9. Enter your user account name and password and click OK.

When the Shutdown utility runs, you’ll momentarily see a small dialog box on your screen before the system restarts.

Note: This tip applies to both Windows XP Home and Professional editions.
Extend Windows XP’s Clipboard with Network Clipboard and Viewer

By Greg Shultz

If you have ever copied something to Windows XP’s Clipboard and then wished that you had the same thing on the Clipboard of another network computer, check out Network Clipboard and Viewer from Interdesigner Software Development (http://www.interdesigner.com/NetworkClipboard/index.htm). Once you have installed and properly configured this tool to work with your computers, user accounts, and firewall, the Network Clipboard and Viewer is easy to use.

The computer where you install the tool becomes the server. You can use it to send the current contents of the Clipboard to another computer, as well as retrieve the Clipboard’s contents from another computer. In addition to this base feature, the Network Clipboard and Viewer has a host of features and settings; for instance, the extensive Help system includes step-by-step tutorials and a FAQ.

You can download Network Clipboard and Viewer and experiment with it using the 30-day free trial. If you decide to keep it, you can register the single-user edition of the software for $24.95, or additional users at extra cost.

Note: This tip applies to Windows XP Home and Windows XP Professional.
Automatically generate and assign strong passwords in Windows XP

By Greg Shultz

Computer users consistently use very simplistic logic when creating passwords. For example, many of us choose meaningful words, personal dates, or a word commonly found in the dictionary because it makes the password easy to remember. These common practices cause us to sacrifice the security that passwords are intended to provide.

If you’re really at a loss when it comes to thinking of a strong password, you can let Windows XP create and assign a random password to your account. To let Windows XP generate your password, follow these steps. (Warning: Before you follow these steps, please be sure that you are paying careful attention and are ready to actually use a password that might not be as memorable as you’re accustomed to! Also, you cannot use this tip on a Windows Server domain.)

1. Open a Command Prompt window and type:
   ```
   net user username /random (username is your login account name)
   ```

2. Press [Enter]. Windows XP will randomly generate a secure password, as well as assign that strong password to your account. Windows XP will also display the strong password so you can remember it.

At your discretion, you may want to create a Password Reset Disk at this point. This disk will allow you to gain access to your computer in the event you forget your password. Here's how to create the disk:

1. Open the Control Panel and double-click the User Accounts tool.
2. Click your account icon.
4. Follow the instructions provided by the wizard.

Note: This tip applies to both Windows XP Home and Windows XP Professional systems in either a standalone or peer-to-peer workgroup configuration.
Prevent a shutdown of a Windows XP system

By Greg Shultz

By default, at three o’clock every morning Windows XP’s Automatic Updates tool contacts the Windows Update site and automatically downloads and installs updates for your system. However, that cannot happen if other people who use the computer shut it down at the end of the day. Fortunately, you can prevent anyone from shutting down Windows XP with a little registry tweak. Here’s how:

1. Launch the Registry Editor (Regedit.exe).
2. Go to HKEY_CURRENT_USER\SOFTWARE\Microsoft\Windows\CurrentVersion\Policies\Explorer.
3. Right-click the Explorer subkey and select New | DWORD Value.
4. Name the key NoClose and press [Enter] twice.
5. Type 1 in the Value Data text box and click OK.

To enable the setting, close the Registry Editor and restart your system. Once your system restarts, you will not be able to shut down by clicking the Shutdown button on the Start menu. This will prevent most users from inadvertently shutting down the computer.

When you do want to shut down your system, just access Task Manager by pressing [Ctrl][Alt][Del], then pull down the Shut Down menu and select the Turn Off command.

Note: Since editing the registry is risky, be sure you have a verified backup before saving any changes. This tip applies to both Windows XP Home and Windows XP Professional.
Get sound alerts for RSS feeds in Windows XP

By Greg Shultz

If you’re always on the lookout for new RSS (Really Simple Syndication) feeds, you probably look to see if the new Web site you’re browsing features a feed. To make this easier, you can configure Internet Explorer 7 to automatically alert you that the page you’re currently visiting has an RSS feed. Here’s how:

1. Launch Internet Explorer 7.
2. Press [Alt] to bring up the standard menu, then pull down the Tools menu and select the Internet Options command.
3. When you see the Internet Options dialog box, select the Content tab.
4. Locate the Feeds section and click the Settings button.
5. When you see the Feed Settings dialog box, select the Play A Sound When A Feed Is Found For A Webpage checkbox.
6. Click OK twice — once to close the Feed Settings dialog box and once to close the Internet Options window.

Now, each time that Internet Explorer 7 locates an RSS feed on a page, it will play a designated sound.
Redirect the Command Prompt to a folder of your choosing in Windows XP

By Greg Shultz

As you probably know, when you open a Command Prompt, from the Start menu or by typing CMD in the Run dialog box, the Command Prompt window will always open in the C:\Documents and Settings\{yourname} folder. (Where {yourname} is the name of your user account.)

The reason for this is that by default Windows XP is programmed to start the Command Prompt in the folder designated by the %HOMEDRIVE%\%HOMEPATH% environment variable, which in most cases translates into C:\Documents and Settings\{yourname}.

However, having the Command Prompt window open in the C:\Documents and Settings\{yourname} by default may not always be convenient. As such, you're left to using the CD (Change Directory) command to manually navigate to the folder of your choice. Fortunately, you can reconfigure the Command Prompt shortcut to open in any folder that you want. Here's how:

Right click on the Command Prompt shortcut on the Start menu and select Properties the command.

When you see the Shortcut tab, double-click the Start in text box to select %HOMEDRIVE%\%HOMEPATH% environment variable.

Type the path to the folder in which you want the Command Prompt windows to open.

(If you need more flexibility when opening a Command Prompt window than this tip provides, you might be better served by downloading and installing the Open Command Window Here PowerToy from Microsoft — http://www.microsoft.com/windowsxp/downloads/powertoys/xppowertoys.mspx.)

Note: This tip applies to both Windows XP Home and Windows XP Professional.
Add a Create New Folder icon to the Windows XP Quick Launch toolbar

By Greg Shultz

Creating new folders to store files is a basic Windows XP task, but Windows Explorer does not have a button for easy creation of new folders. You can create your own shortcut by adding a Create New Folder button to the Quick Launch toolbar. Follow these steps:

2. Navigate to C:\Documents and Settings\{Username}\Application Data\Microsoft\Internet Explorer\Quick Launch. ({Username} is your account name.)
3. Create a new folder in the Quick Launch folder and name it Create New Folder. You will see a new button on the Quick Launch toolbar called Create New Folder.
4. To create a new folder, hold down [Ctrl], drag the Create New Folder icon from the Quick Launch toolbar, and drop it in the folder in which you want to create a new folder. You will see a new folder, and the Create New Folder icon will remain on the Quick Launch toolbar.

Note: This tip applies to both Windows XP Home and Windows XP Professional.
Expand the notification area’s calendar in Windows XP with DateInTray

By Greg Shultz

For many Windows XP users, the notification area’s calendar is the most used area for date information on the system. If you hover your mouse pointer over the time, the date appears; if you need more information, you can simply double-click the time display to bring up the Date And Time Properties dialog box.

While this is a good system, a handy freeware utility from CrispyBytes Development called DateInTray (http://www.crispybytes.com/downloads.html) makes it better. DateInTray adds a day of the month calendar to the notification area, allowing you to instantly tell the date with a just a quick glance — no hovering required. However, you can get the full date by hovering, and you can see a complete monthly calendar with a single click. If you need to add the date to a document, right-click to can place the date on the Clipboard and then paste it anywhere you need.

Note: This tip applies to both Windows XP Home and Windows XP Professional.
Configure the Windows XP logon screen saver

By Greg Shultz

If you ever work in a computer lab or an Internet café where systems regularly sit idle waiting for someone to log on, you know that Windows XP will display the Logon dialog box or the Welcome screen for 10 minutes before running the default logon screensaver, which is the Windows XP logo floating on a black background. You can change the default logon screensaver to something different, such as the OpenGL 3D Pipes screen saver, and you can even shorten the amount of time that Windows XP waits before activating the screensaver. Here's how to do both:

1. Launch the Registry Editor (Regedit.exe).
2. Go to HK_USERS\.DEFAULT\Control Panel\Desktop.
3. Locate and double-click the SCRNSAVE.EXE string value.
4. When you see the Edit String dialog box, type the name of the screensaver you want in the Value Data text box and click OK.
5. Locate and double-click the ScreenSaveTimeOut string value and change the value from 600 seconds to another number, such as 120 for two minutes.
6. Close the Registry Editor and restart Windows XP.

After the system restarts and you see the Logon or Welcome screen, leave the system untouched for two minutes to see your new screensaver in action.

Note: This tip applies to both Windows XP Home and Windows XP Professional. As always, remember that editing the registry is risky, so be sure to back up your computer before undertaking any registry changes.
Create your own Sleep button in Windows XP

By Greg Shultz

Is the Sleep button on your Windows XP machine in an inconvenient location for regular use? If so, follow these simple steps to create your own.

Many computers or keyboards have a Sleep button, which when pressed puts the computer into either Stand By or Hibernate mode depending on how Windows XP’s Power Options are configured. However, the Sleep button might not be in convenient location for regular use. For example, it might be on the front of a mid-tower case that's under your desk.

You could activate Stand By or Hibernate mode from the Shut Down Windows dialog box. An alternative to this method is to create your own Sleep button by creating a shortcut on your desktop. Here’s how.

1. Right-click on the desktop.
2. Select New | Shortcut.
3. Type `rundll32.exe powrprof.dll,SetSuspendState` in the text box.
4. Click Next.
5. Type Sleep in the text box and click Finish.

Now when you click the Sleep icon, Windows XP will put the computer into either Stand By or Hibernate mode depending on how the When I Press The Sleep Button On My Computer setting is configured on the Advanced tab of the Power Options Properties dialog box.
Clean up the system tray in Windows XP

By Steve Warren

I was working with my laptop today and I realized I had too many icons sitting in my system tray. I really needed a system tray overhaul. Here is a little gem you can use to clean-up the system tray for peak performance in Windows XP.

1. Right-click on some empty space in the system tray area and choose Properties.
2. Select the Hide Inactive Icons check box on the Taskbar and Start Menu window.
3. Click the Customize button and you can choose the following behavior for any current startup item: Hide when inactive, Always hide, or Always show.

By choosing Hide when inactive or Always hide, you can reduce the amount of icons appearing in your system tray or just limit them to your most important system tray icons.
Liven up your desktop with Windows XP’s animated pointer schemes

By Greg Shultz

Windows XP has a variety of built-in animated pointer schemes. Here’s how you can start using some of these little-known tricks. Note: This tip applies to both Windows XP Professional and Home.

Let’s face it. There are times in every IT person’s week when the urgent need for high-powered technical intelligence wanes a bit—especially on a slow Friday afternoon. Those are the times when technical prowess turns to such tasks as fine-tuning the advanced settings of the ultimate OpenGL 3D screen saver or other system tweaks. The next time you find yourself in this situation, why not investigate some of Windows XP’s built-in animated pointer schemes?

Here’s how.

1. Go to Start | Control Panel and double-click the Mouse tool to access the Mouse Properties dialog box.

2. Select the Pointers tab.

3. In the Scheme drop-down list, select a scheme from the list. (Keep in mind that not all of the pointer schemes in the list are animated, and some of the pointer schemes are designed for Windows Accessibility features.)

4. Once you select a pointer scheme, you can view the various animated pointers in that scheme by scrolling through the Customize list and selecting the pointer. When you do, you’ll see the animation in a frame adjacent to the Scheme drop-down list.

5. Click OK.

If you wish, you can create your own animated scheme by double-clicking a pointer in the Customize list, selecting from one of the available pointers, and then clicking the Save As button in the Scheme panel and providing a unique name.
Simplify copy and paste operations in Windows XP

By Greg Shultz

Copying and pasting in Windows XP is simple enough—but how would you like to make it even easier? Teach some old keys new tricks and simplify the copy and paste process in both Professional and Home versions.

Do you spend a lot of time on your Windows XP machine researching IT-related topics on the Internet? If so, chances are that you probably spend time copying text from interesting Web sites and then pasting that text into word processing documents for later reference. That's four separate keyboard strokes—[Ctrl]C to copy and [Ctrl]V to paste—each time you want to save snippets of text. Wouldn't it be nice if you could reduce each operation to a single keystroke? Well, you can!

If you have a Microsoft keyboard that provides a special set of buttons across the top, you can use the IntelliType software to reassign any of the special buttons to perform the copy and paste operations.

Here's how.

1. Download and install the most current version of the IntelliType software for your keyboard from the Microsoft Hardware site (http://www.microsoft.com/hardware/downloads/default.mspx). (This step is optional because the IntelliType software you have installed will allow you to reassign the special buttons.)

2. Access the Control Panel and double-click the Keyboard icon to display the Keyboard Properties dialog box.

3. Select the Key Settings tab, choose a key in the list, and click the Edit button to launch the Reassign A Key wizard.

4. Select the Choose From A List Of Commands option button in the Custom section and click Next.

5. In the Select A Command From The List scrolling list box, select the Copy command and click Finish.

6. Repeat steps 3 through 5 and assign another key to the Paste command.

7. When you return to the Keyboard Properties dialog box, click OK.

Now, anytime you want to perform a copy or paste operation, all you have to do is press the buttons that you reassigned. Likewise for a paste-only operation.
Make the Windows XP Favorites menu more useful in Windows Explorer

By Greg Shultz

Your favorite menu just got better at dealing with your Favorites. This shortcut will let you cut through the maze of folders on your Windows XP machine running Windows Explorer. Note: This tip applies to both Windows XP Professional and Home.

Similar to Internet Explorer, the Favorites menu in Windows XP appears in Windows Explorer. This makes it easy for you to access the Internet from within Windows Explorer. However, it really serves no other purpose in Windows Explorer—even though it has the potential to do so much more.

You can make hard disk and network navigation much easier and more efficient if you use the Favorites menu as a place to keep shortcuts to deeply nested folders on your hard disk, as well as to network drives you access frequently. Doing so just takes a bit of rethinking about how you use and organize the Favorites menu.

Here's how.

1. Press [Windows]R to access the Run dialog box, type Favorites in the Open text box, and click OK to open the Favorites folder in Windows Explorer.

2. Use the Make A New Folder command in the File And Folder Tasks pane to create three new folders, naming them Internet, Local Folders, and Network Folders.

3. Move all of your Internet links, except the folder titled Links, into the newly created Internet folder.

4. Navigate to some of the deeply nested folders on your hard disk that you access frequently and use the Add To Favorites command on the Favorites menu to create links in the Local Folders folder.

5. Navigate to some of the network shares that you access frequently and use the Add To Favorites command to create links in the Network Folders folder.

Now, when you're in Windows Explorer you can use the Local Folders and Network Folders shortcuts on the Favorites menu to make quick work of your regular hard disk and network navigation.
Add a Safe Mode option to the Boot menu in Windows XP

By Greg Shultz

When you’re experiencing a problem with Windows XP, you may need to boot the system into Safe Mode more than once. However, doing so can be a tiresome process. When the Boot menu appears, you must press [F8], and then you must select Safe Mode from yet another menu.

Wouldn’t it be nice if Safe Mode were available from the Boot menu? In fact, it’s relatively easy to add a Safe Mode option to the Boot menu.

Here’s how.

2. On the Advanced tab, click the Settings button in the Startup And Recovery section.
3. In the System Startup section, click the Edit button.
4. When the Boot.ini file opens in Notepad, locate the line that ends with the /fastdetect switch.
5. Highlight and copy that line and paste it in the line below.
6. Change the section on the line that reads WINDOWS="Microsoft Windows XP Professional" to WINDOWS="Safe Mode."
7. Add the following to the end of the line:

   /safeboot:minimal /sos /bootlog
Modify the Open With list in Windows XP

By Greg Shultz

If you open certain types of files in more than one application, you probably use the Open With command. To do so, right-click a file, and select Open With from the resulting shortcut menu. This displays a secondary menu listing the programs that can open this type of file.

In most cases, the Open With list presents only those programs that you’ll want to use. But if the list contains programs that you never want to use, you can remove them with a simple registry edit. Note: Editing the registry is risky, so be sure you have a verified backup before making any changes.

Here’s how.

1. Launch the Registry Editor (Regedit.exe).
2. Navigate to HKEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Explorer\FileExts.
3. Double-click the key associated with the file extension of the file type whose Open With list you want to modify.
4. When that key opens, double-click the OpenWithList key.
5. Delete the value associated with the program that you want to remove from the list.
Switch to Windows’ basic search tool in XP

By Greg Shultz

As you probably know, the Windows XP Search Companion provides users with a lot of bells and whistles designed to make searching for files on hard drives much easier. But sometimes all of these extra features just get in the way.

If you’re longing for Windows 2000’s basic search tool, it doesn’t have to be in vain. The basic search tool is still available in Windows XP, and you can activate it with a quick registry edit. Note: Editing the registry is risky, so be sure you have a verified backup before making any changes.

Here’s how.

1. Open the Registry Editor (Regedit.exe).
2. Navigate to HKEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Explorer\CabinetState.
3. Go to Edit | New | String Value.
4. Name the new value Use Search Asst.
5. Double-click the new value, type no in the Value Data text box, and click OK.
6. Close the Registry Editor, and restart the system.

To switch back to the Search Companion, just go back to the Registry Editor, and change the Value Data to yes.
Add UNC information to the command prompt in XP

By Greg Shultz

If you’re like most system administrators, you more than likely prefer to perform common tasks using Windows XP’s vast array of command-line tools. If so, here’s another trick to add to your toolbox.

Did you know that you can configure the command prompt to display the full UNC of a mapped drive letter? The ability to tell at a glance which server a particular drive letter maps to can save you both time and frustration when working at the command line. All you have to do is add a special character to the Prompt command.

Here’s how.

2. On the Advanced tab, click the Environment Variables button.
3. In the System Variables section, click the New button.
4. Enter PROMPT in the Variable Name text box.
5. Enter $m$p$g in the Variable Value text box.
6. Click OK three times to close all open dialog boxes.

Now, when you open a command prompt and access a mapped drive letter, you’ll see the UNC path in the prompt.
Create a drive menu for My Computer

By Greg Shultz

By default, the My Computer item on the Start menu is configured to work like a standard folder window. If you need to access a specific drive, select My Computer from the Start menu, wait a moment for the window to appear, and then double-click the icon for the drive you need to access.

When you're in a hurry, this two-step procedure can be time-consuming and frustrating—especially if My Computer contains a large number of drive icons. However, Windows XP makes it easy for you to configure My Computer so it works like a menu, with each drive listed as a menu item.

Here's how.

1. Right-click the Start button, and select Properties.
2. Click Customize, which is adjacent to the Start Menu radio button, and select Advanced.
3. Scroll through the Start Menu Items list box until you see My Computer.
4. Select Display As A Menu, and click OK twice.

Now, when you select My Computer from the Start menu, you'll see a menu of individual drives. To access the contents of that drive, just select the drive letter from the menu.
Understand and exploit USB topology in Windows XP

By Greg Shultz

As long as you have enough power, attaching many USB devices to your Microsoft Windows XP system can't cause degradation in performance — even if you attach as many as 127 USB devices at one time.

While it's unlikely for that many devices to be connected at a time, that number is made possible by Windows XP's seven-tiered USB topology. The top, or tier number one, consists of the host controller or root hub, which is the USB hub built into the computer's motherboard. Tiers two through six are equipped to consist of a series of USB hubs (two or more at each tier) daisy chained together. Tier seven consists of any devices attached to the USB hub(s) at tier six.

While USB hubs can draw power from the root hub, the amount of power is limited to 100 milliamperes per port, and the hub can have only four ports. However, most USB hubs have their own external AC adapter and can provide up to 500 milliamperes of power per port on more than four ports.

Follow these steps to learn more about the root hub and the USB hubs attached to your system in Device Manager:

1. Go to Start, right-click My Computer, and select Manage.
2. Click Device Manager in the left pane.
3. Click Universal Serial Bus Controllers in Device Manager.
4. Double-click each root and USB hub and check the information on the tabs.

Note: This tip applies to both Windows XP Home and Windows XP Professional.
Use registry shortcuts to disable and enable screensavers in Win XP

By Greg Shultz

When you perform maintenance operations such as defragmenting or backing up the hard disk, you probably disable your screensaver before you begin to prevent it from interfering with the maintenance operation. However, disabling your screensaver manually is a multistep operation that involves accessing the Display Properties dialog box, navigating to the Screen Saver tab, and setting the screen saver to None. Then, you need to re-enable the screen saver after you complete the maintenance operation.

Fortunately, you can automate the disabling and enabling screen saver procedures with a couple of registry shortcuts. Note: Editing the registry is risky, so make sure you have a verified backup before making any changes.

Here's how.

1. Launch Notepad and type the following four lines. (Note: The second line must be blank.)

   Windows Registry Editor Version 5.00

   [HKEY_CURRENT_USER\Control Panel\Desktop]
   "ScreenSaveActive"="0"

2. Save the file to your desktop with the name Disable Screen Saver.reg.
3. Change the 0 to a 1 in the fourth line.
4. Save the file to your desktop with the name Enable Screen Saver.reg.

Now, when you need to disable the screen saver, just double-click the Disable Screen Saver.reg shortcut. To enable the screen saver, double-click the Enable Screen Saver.reg shortcut.

When you run either of these files, the Registry Editor will display two confirmation prompts—one before making the change and one after making the change.
Taking a fresh look at the Windows XP Task pane

By Greg Shultz

If you’re like most Windows XP aficionados, chances are good that you prefer the Folders pane in Windows Explorer to the Task pane that displays by default in My Computer. If that is the case, you probably avoid My Computer or simply click the Folders button on the toolbar each time you open My Computer. If so, you’ve probably never spent much time looking at the commands on the Task pane and may be missing many handy command shortcuts.

For example, how many times have you dug into the Control Panel to access Add/Remove Programs? If you use the Task pane in My Computer, you can simply click Add Or Remove Programs in the System Tasks section. Moreover, if you open a drive from My Computer, you will find another command that you frequently use in the Files and Folders section of the Task pane: the Make A New folder command.

When you select a folder, you can copy and move folders anywhere on your hard disk very easily by selecting the Copy This Folder or Move This Folder commands. When you do, a Browse dialog box will appear. This essentially serves as an alternate version of the Folders pane in Windows Explorer.

When you select a file, you can choose either the Copy This File or Move This File command and get the same Browse dialog box with a Folders pane.

Note: This tip applies to Windows XP Home and Windows XP Professional.
Alter Windows XP’s most frequently used programs list

By Greg Shultz

The Start menu in Windows XP features the most frequently used programs list, which is designed to provide you with quick access to the programs you use the most.

XP provides you with only two configuration options: the ability to completely clear the list and the ability to specify the maximum number of programs that can appear on this list at any one time. However, you may also want to prevent certain applications, such as Calculator and Notepad, from appearing on the list.

Fortunately, you can prevent an application from appearing in the Start menu’s most frequently used programs list by adding a special key to the registry. Here’s how:

1. Launch the Registry Editor (Regedit.exe).
2. Go to HKEY_CLASSES_ROOT\Applications.
3. Right-click on the Applications key and select New | Key.
4. Give the key the same name as the application’s executable file.
5. Right-click your new key and select New | String Value.
6. Name the string value NoStartPage.
7. Close the Registry Editor.
8. Reboot or log off and log back on for the change to take effect.

Note: Since editing the registry is risky, be sure you have a verified backup before saving any changes.
Remove clutter with Windows XP SP2’s Duplicate Finder tool

By Greg Shultz

Even if you’re a conscientious computer user (i.e., you regularly delete unnecessary files, empty the Recycle Bin, and run Disk Defragmenter), you may be unaware of a potentially big waster of hard disk space: duplicate files. Applications can litter your hard disk with duplicate files, and you can create duplicate files yourself by copying files from one folder to another.

Windows XP’s default installation doesn’t provide you with a decent utility for tracking down duplicate files. However, Microsoft does have a tool called Duplicate Finder, which is part of the Windows XP Service Pack 2 Support Tools. Here’s how to install and use the Duplicate Finder tool:


2. Open the Run dialog box by pressing [Windows]R.

3. Type DupFinder in the Open text box and click OK.

4. Once DupFinder loads, simply select the drive or folder to search and then click the Start Search button.

5. When DupFinder completes its search, you can scan through the list and examine the duplicate files.

Here are some tips for working with the list of duplicate files:

- Use either the Print Report or Export Data command on the File menu to create a permanent record of the duplicate files.
- Use the Sort command on the View menu to reorganize the list for better analysis.
- To get more detailed information about any file, select the file, pull down the File menu, and select the Info command.
- Leave duplicate files in the Windows folder and its subfolders alone.
- If you don’t recognize the duplicate file, it’s better to use the Rename or Move commands on the File menu rather than the Delete command.

Note: This tip applies to both Windows XP Home and Windows XP Professional.
Take advantage of the Windows XP Start menu’s pinned items list

By Greg Shultz

The left panel of the Start menu consists entirely of a divided list of programs that Windows XP thinks will come in handy for you: the pinned items list above the separator line and the most frequently used programs list, displayed below the line.

By default, Windows XP places links to your Internet browser and your e-mail application in the pinned items list and will place as many as 30 shortcuts to the programs you’ve recently used in the most frequently used programs list. (The most frequently used programs list is, by default, six shortcuts long.)

To really take advantage of the Start menu as a launching area for all the programs you use most often, you can configure the entire left panel as a pinned items list. Here’s how:

1. Right-click the Start button and select the Properties command to display the Taskbar and Start Menu Properties dialog box.

2. Click the Customize button adjacent to the Start Menu radio button to display the Customize Start Menu dialog box.

3. In the Programs panel, use the Spin button to set the Number Of Programs On The Start Menu setting to 0. Click the Clear List button.

4. In the Show On Start Menu panel, you can clear the Internet check box because the Internet Explorer icon already appears in the Quick Launch menu by default, and maybe even the E-mail check box, depending on how you launch your e-mail application.

5. Click OK twice—once to close the Customize Start Menu dialog box and once to close the Taskbar And Start Menu Properties dialog box.

6. Click the Start button and access the All Programs submenu.

7. Locate and right-click on the shortcut to a program you use often and select the Pin To Start Menu command.

You can pin as many as 30 of your most often used programs to the Start menu, depending on your screen resolution setting. With your actual favorite programs on the pinned items list, you can now really take advantage of the Start menu.

Note: This tip applies to both Windows XP Home and Windows XP Professional.
Implementing User Account Control-type protection in Windows XP

By Greg Shultz

To protect Windows Vista from malware and inadvertent disastrous mistakes, Microsoft endowed the operating system with the User Account Control (UAC) system. This system requires all users to use the standard user mode and then prompts for administrator credentials before performing an operation.

If you like the idea of the UAC system but you're not ready to upgrade to Windows Vista, you can use UAC's predecessor in Windows XP: the RunAs command. Here's how to use Windows XP's version of UAC:

1. Log in as the Administrator.
2. Launch User Accounts, locate your user account, and change your account type from Computer Administrator to a Limited account.
3. Log out of the Administrator account and log back in with your new Limited account.
4. Whenever you encounter a situation in which you need administrative credentials, press [Shift] as you right-click the application's executable file or its icon and select the RunAs command.
5. When you see the RunAs dialog box, choose The Following User option to select the Administrator account and then type in the password.
6. Click OK.

Now you can perform any operation that requires administrator credentials.

This tip is for both Windows XP Home and Professional.
Customize Windows XP’s General tab

By Greg Shultz

It’s easy to customize Windows XP’s General tab in the System Properties dialog box with your support contact information and your company’s logo just by using Notepad. Here’s how:

1. Launch Notepad and type the following text, replacing the dummy information shown here with your own:

   [General]
   Manufacturer=Jim’s Computers
   Model=5551212

   [Support Information]
   Line1=Call 555-1212 for technical support
   Line2=Call 555-1212 for technical support
   Line3=Call 555-1212 for technical support
   Line4=Call 555-1212 for technical support

2. Save the file in the C:\Windows\System32 folder as Oeminfo.ini.

3. To add your logo to the General tab, create a 256-color BMP file that is 96 by 96 pixels in size.

4. Save the file in the C:\Windows\System32 folder as Oemlogo.bmp.

After you create the files, you can check the results immediately by pressing [Windows][Break]. This will quickly bring up the System Properties dialog box.

This tip applies to Windows XP Home and Windows XP Professional.
How do I... set up multiple network interfaces in Windows XP?

By Scott Lowe

As more networks are rolled out and more computers are shipped with multiple connection methods, the need for a workstation to participate in more than one network is becoming more common. Working with multiple adapters in Microsoft Windows XP can be a little intimidating at first, but it gets easier once you get into it.

There are three scenarios that would require you to use more than one network interface on a machine. In the first, you're physically connected to two separate networks; this would obviously require multiple network adapters (Figure A).

In the second, you have two separate IP networks at the office and need to be able to access both of them (Figure B).

In the third, you have a single network adapter but are connected to multiple networks (Figure C). For example, you could have a remote small office network with a DHCP-assigned RFC 1918 address, but you would also need to connect to your network at the main office via a VPN connection. In any case, you'd need to set up XP to recognize any and all of the networks that you participate in.
The language

You can reduce possible confusion by keeping a couple of terms in mind while reading this article. An adapter is a piece of hardware that you install in your system or a piece of software that you install under XP that emulates a network adapter, such as the loopback network adapter. Connection describes an individual connection to a network. Depending on how your network is configured, this can include multiple addresses. I'll explain more about this later.

My configuration

I'm using a laptop with differing types of network adapters and connections so that I can show you a wide range of options. I have two physical network adapters installed — an 11-Mbps wireless adapter and a fixed 10/100 jack on the side of the laptop. I also have a modem with a dial-up connection that I use when I'm on the road. Other than that, I have a whole host of virtual adapters and connections that I will also explain.

Showing them all

In Windows XP, all network connections — dial-up, LAN, VPN, or FireWire (IEEE 1394) are shown in the Networking control panel.

You can see in Figure D that there are four categories of network interfaces under Windows XP. Dial-up connections are just that — connections to a dial-up ISP. I have only one, and I use it when I can't connect to anything faster. Next on the list are my LAN or high-speed Internet connections. I have two adapters: an Intel 10/100-M adapter and an 11-M bps 802.11b D-Link wireless Ethernet adapter.

Next are Network Bridge adapters, which include my FireWire and VMware bridge network connections. Network Bridge connections work a little differently from other connections because they're assigned addresses from a pool reserved by the actual bridge adapter, which is a piece of software. Often, bridge connections are used to communicate between the host (the Windows XP machine) and the remote end — a device such as a digital video camera or a certain kind of VMware session.

Finally, my VPN connections are listed. I almost always have one connection open to my work network when I'm working at home, and I keep Outlook running over it. (I've blacked
Two physical connections

I’ll first go over installing two separate network adapters in a Windows XP machine because they’re the easiest to understand and troubleshoot. This connection method corresponds to Figure A.

In this scenario, there is a physical adapter for each individual connection on the machine. On the laptop that I’m using to write this article, these adapters could be considered the two physical jacks — the wireless adapter and the one on the side of the machine.

I’ve configured the Intel adapter, which is wired directly to my home network, to use DHCP for its address and have provided a static address for the wireless adapter to use. However, I haven’t provided the wireless adapter with a default gateway. Providing multiple default gateways to a Windows 2000 or XP machine can seriously confuse network issues, because the machine won’t know which one is the real default gateway.

To see IP addressing information, I issue the command `ipconfig /all` at the command line. **Listing A** (on the next page) shows the results for the two physical network adapters in my machine.

This listing shows me the IP address, network mask, gateway, and almost all other information related to networking that I would need. Notice that the names of the connections correspond to the names in Figure D. I’m also told whether this is a DHCP-assigned address.

When I attempt to ping an address on either network, Windows XP will use the appropriate interface. When you try to traverse beyond the routers that connect the workstation to these networks, things become a little trickier. After the router, your Windows workstation has no way to determine what lies beyond. It only knows about what is directly connected to it, unless you provide it with static routes or install the RIP Listener Service. For this reason, one of your connections must include a default gateway. This is the device that your Windows XP workstation will consider its “next hop” on the network when you attempt to access services that are beyond your directly connected networks.

To modify an address on an adapter, bring up a list of network connections by selecting Start | Control Panel | Network Connections. If you’re using Windows XP’s default Category View, browse to Start | Control Panel | Network And Internet Connections | Network Connections.

Note: I will not be using Category View. I find it less efficient than the classic view of the Control Panel.

Next, double-click the connection you wish to work with and click the Properties button to bring up the information related to that adapter. This screen will look similar to the one shown in Figure E.
Listing A — Windows IP Configuration

Host Name . . . . . . . . . . . . . .  : slowe-nb
Primary Dns Suffix . . . . . . . .  :
Node Type . . . . . . . . . . . . . . : Unknown
IP Routing Enabled . . . . . . . .  : No
WINS Proxy Enabled . . . . . . . .  : No
Ethernet adapter Local Area Connection:
  Connection-specific DNS Suffix . . :
  Description . . . . . . . . . . . . . : Intel 8255x-based PCI Ethernet Adapter (10/100)
  Physical Address . . . . . . . . . . : 00-20-E0-69-7F-AD
  Dhcp Enabled . . . . . . . . . . . . : Yes
  Autoconfiguration Enabled . . . . : Yes
  IP Address . . . . . . . . . . . . . . : 192.168.1.102
  Subnet Mask . . . . . . . . . . . . . : 255.255.255.0
  Default Gateway . . . . . . . . . . : 192.168.1.1
  DHCP Server . . . . . . . . . . . . : 192.168.1.1
  DNS Servers . . . . . . . . . . . . . : 209.183.205.35
      209.183.192.65
  Lease Obtained . . . . . . . . . . : Sunday, July 28, 2002 4:45:53 PM
  Lease Expires . . . . . . . . . . . : Wednesday, July 31, 2002 4:45:53 PM
Ethernet adapter Local Area Connection 5:
  Connection-specific DNS Suffix . . :
  Description . . . . . . . . . . . . . : D-Link DWL-650 11Mbps WLAN Adapter
  Physical Address . . . . . . . . . . : 00-05-5D-D9-69-30
  Dhcpenabled . . . . . . . . . . . . : No
  IP Address . . . . . . . . . . . . . . : 10.10.10.2
  Subnet Mask . . . . . . . . . . . . . : 255.255.255.0
  Default Gateway . . . . . . . . . . :
NetBIOS over Tcpip . . . . . . . . : Disabled
To bring up the TCP/IP properties, click TCP/IP and then click the Properties button. You will see a screen similar to the one shown in Figure F.

To change the TCP/IP address, enter the information you need and click OK.

Single NIC, multiple networks
Next on the list of complexity is connecting a workstation to two logically separate but physically connected networks, as shown in Figure B. This setup might occur, for example, if (1) you have separate departments using separate address spaces, (2) certain users need to be able to connect to services offered by both departments, and (3) everything is connected via switches with routers only at the edge of the network. This setup may also be done for security reasons, particularly when sensitive information is put on the network address space that isn’t connected to the router that goes out to the Internet.

In any case, you’d need to be able to get workstations attached to both networks, which is actually a very easy task. First, decide which connection will have the default gateway. For the same reasons I mentioned earlier, using more than one gateway can be problematic. I always use the router with the connection out to the Internet as the default gateway because it lets me avoid adding routes to every host on the Internet — that wouldn’t be much fun.

Second, the address for the network connected to the Internet router must be assigned. When you assign multiple addresses to a NIC, they all must use static addressing. For my example, I’m going to use my wireless adapter and work with the IP addressing. I’ll then statically assign the second address.

To accomplish this, I’ll use a single network adapter with multiple network addresses. (You may have heard the terms “multihoming” or “binding multiple addresses” associated with this action.) To perform the action, bring up the TCP/IP properties for the network adapter that you wish to work with. On my system, the screen shown in Figure G shows my current configuration, with a single address assigned to the network adapter.

To add an address, click the Advanced button, which will bring up a second properties screen, as shown in Figure H.

You need to work with three areas. The first is the IP Addresses section, which is where you’ll add the second...
**Listing B**

Ethernet adapter Local Area Connection 5:
Connection-specific DNS Suffix :  
Description ............ : D-Link DWL-650 11M bps WLAN Adapter  
Physical Address .......... : 00-05-5D-D9-69-30  
Dhcp Enabled .......... : No  
IP Address ............ : 10.10.11.2  
Subnet Mask ............ : 255.255.255.0  
IP Address ............ : 10.10.10.2  
Subnet Mask ............ : 255.255.255.0  
Default Gateway ........ : 10.10.10.1
IP address. You can see in Figure H that there is already one address assigned. The second section lists the default gateways currently defined on the machine. You can see that a single gateway is already defined. Finally, the network metrics section defines the order in which network information will be used. This information can be used to alleviate problems with multiple default gateways, but it isn’t always 100 percent reliable.

Adding a second address
To add the second address, click the Add button in the IP Addresses section of the window. You’ll be presented with a window that asks for the IP address and subnet mask for the new address, as shown in Figure I.

That’s all you need to begin accessing resources on the second network. Listing B shows the network parameters from an ipconfig /all command for this adapter. Notice that there are two entries for IP address now listed. This shows that Windows XP can communicate with both the 10.10.10 and the 10.10.11 networks over this single physical network connection.

NetBIOS over TCP/IP
NetBIOS over TCP/IP is enabled by default. This type of connection makes use of the IP connection to provide compatibility for older applications and protocols. Windows XP can also work with other types of connections, such as VPN adapters, as evidenced by Figure D. In essence, these types of connections make use of one of the actual physical connections but show up as a separate, virtual connection, as shown in Figure C.

In the example shown in Figure D, a VPN connection was established over the WAN Miniport (PPTP) to a specific IP address. The WAN Miniport is a virtual port established in XP for just this purpose. The ipconfig /all listing for this connection is visible in Listing C. The IP addressing information in Listing C is DHCP assigned from the VPN server in my office, as are the remaining parameters, such as DNS servers and WINS information. Other than the fact that it is a software adapter and uses a real adapter to do its work, the VPN adapter works like the other adapters I have shown you.

System tray tip
Finally, I find it useful to enable icons in the system tray to get at-a-glance information about my network connections without having to open the Networking control panel (Figure J).

This information is more useful if you rename the network connections with something more descriptive than Local Network Connection. You can enable a system tray icon for any adapter — hardware- or software-based — by selecting the Show Icon In Notification Area When Connected check box on the properties page for the adapter.
Put your applications into a tabbed user interface with WinTabber

By Greg Shultz

If you've been using Mozilla Firefox or Internet Explorer 7.0, chances are that you've fallen in love with having a tabbed user interface in your Web browser. Keeping each site that you connect to during a heavy surfing session on separate tabs is very efficient use of screen real estate and provides a great experience.

As such, you've probably found yourself in situations where you're working with other applications or even certain operating system components and wished that the user interface had tabs.

For example, suppose that you're working with multiple copies of Windows Explorer and simultaneously working with files and folders on your hard disk and mapped network drives. Maybe you're working with multiple text files and have several copies of Notepad open at the same time. Sure the Taskbar is designed for these sort of operations as is the task switcher ([Alt]+[Tab]), but having multiple windows in a single tabbed interface sure would be nice.

The folks at WinTabber have created a FREE tool that will allow you to easily transform your multiple windows into a single tabbed user interface. Once you have WinTabber up and running, you can open multiple windows, and then with the click of a button, you can add each window to WinTabber. Once in WinTabber, each window becomes a tab (Figure A) and you can begin clicking tabs to switch between the windows.

Note: This tip applies to both Windows XP Home and Windows XP Professional.

Figure A

Each window becomes a tab
Use photos in Windows XP’s 3D Flying Objects

By Greg Shultz

If you’re familiar with Windows XP’s My Pictures Slideshow screen saver to display photos of loved ones, here’s a twist that you might find interesting — you can use a photo for the texture in the 3D Flying Objects screen saver. Here’s how:

1. Locate the photo you want to use in this screen saver, load it into a graphics program, and save it as a BMP file. (BMP is the only file type the 3D Flying Objects screen saver will allow you to select.)

2. Right-click on the desktop, select Properties, select the Screen Saver tab, and select 3D Flying Objects from the Screen Saver drop-down list.

3. Click the Settings button and select Textured Flag from the Style drop-down list.

4. Click the Texture button and use the Choose Texture File dialog box to locate and select your photo.

5. Crank up Resolution and Size sliders to the Max setting and click OK to close the 3D Flying Objects Setting dialog box.

6. Click the Preview button to test your new screen saver, then click OK to enable it.

Note: This tip applies to Windows XP Home and Windows XP Professional.
Configure Windows Explorer to display Windows XP disk drives

By Greg Shultz

When you double-click the My Computer icon in Windows XP, you see a list of all the drives on your hard disk. However, when you launch Windows Explorer, it displays the contents of My Documents in the right panel. If you like the way that the My Computer view displays all the disk drives when you first launch it, but prefer the Windows Explorer view, here's how you can get the best of both views.

1. Right-click on the desktop.
2. Select New | Shortcut.
3. Type `C:\Windows\Explorer.exe /n, /e, /select, C:\` in the text box, then click Next.
4. Type My Explorer in the text box and click Finish.

Using the /Select switch with C:\ as the object causes Windows Explorer open a My Computer view of your system. Now, when you select your new shortcut, your window will look more like the My Computer view.

Note: This tip applies to Windows XP Home and Windows XP Professional.
Illustrated walk-through: Creating a bootable USB flash drive for Windows XP

By Greg Shultz

The ability to boot Windows XP from a USB Flash Drive (UFD) offers endless possibilities. For example, you might make an easy-to-use troubleshooting tool for booting and analyzing seemingly dead PCs. Or you could transport your favorite applications back and forth from home to work without having to install them on both PCs.

However, before you can create a bootable UFD, you must clear a few hurdles. You saw that one coming didn’t you?

The first hurdle is having a PC in which the BIOS will allow you to configure the USB port to act as a bootable device. The second hurdle is having a UFD that will work as a bootable device and that’s large enough and fast enough to boot an operating system such as Windows XP. The third hurdle is finding a way to condense and install Windows XP on a UFD.

If you have a PC that was manufactured in the last several years, chances are that its BIOS will allow you to configure the USB port to act as a bootable device. If you have a good quality UFD that’s at least 512 KB and that was manufactured in the last couple of years, you’ve probably cleared the second hurdle. And once you’ve cleared those first two hurdles, the third one is a piece of cake. All you have to do is download and run some free software to create the bootable UFD.

I’ll start by showing you how to determine whether your PC’s BIOS will support booting from USB and explain how to configure it to do so. Then, I’ll show you how to download and use the free software to create a bootable UFD running Windows XP Professional.

The UFD hurdle

You probably noticed that I didn’t mention how to determine if your UFD would support being configured as a bootable device, except that it must be a good quality unit of recent manufacture. Well, I’ve discovered that when it comes to the actual UFD, you’ll just have to try it and see what happens. As long as you have a PC with a BIOS that will allow you to configure the USB port to act as a bootable device and you have configured the installation correctly, it should work. If it doesn’t, you probably have a UFD that can’t boot.

I tested three UFDs on two new computers and had mixed success. First, I attempted to use a 128 MB PNY Attache but received an error message that said “Invalid or damaged Bootable partition” on both PCs. Next, I tried a 1GB Gateway UFD and it worked on both PCs. Then, I tried a 256 MB Lexar JumpDrive Pro and it worked on only one of the PCs. You can find lists of UFD brands that others have had success with on the Internet.
Checking the BIOS

Not every new BIOS will allow you to configure the USB port to act as a bootable device. And some that do allow it don't make it easy. On one of my example systems, it was a no-brainer. On the other, the UFD had to be connected to the USB port before it was apparent that I could configure it as a bootable device. Let's take a closer look.

On the test system with a PhoenixBIOS version 62.04, I accessed the BIOS, went to the boot screen, and found that USB Storage Stick was one of the options. I then moved it to the top of the list, as shown in Figure A, thus making it the first device to check during the boot sequence. (This particular BIOS also allowed me to press the [F10] key during the boot sequence and select any one of the available bootable devices, so it really wasn't necessary to move it to the top.)

On the test system with an AMI BIOS version 2.59, I accessed the BIOS, went to the Boot Sequence screen, and didn't find a USB boot option, as shown in Figure B. I then went one step further and checked the Hard Disk Drives screen and still didn't find a USB boot option, as shown in Figure C.

I then plugged a UFD into the USB port, booted up the system, and accessed the BIOS. When I checked the Hard Disk Drives screen, the UFD appeared in the list and I could select it as the first drive (Figure D).

When I returned to the Boot Sequence screen, the UFD was indeed set as the first bootable device (Figure E).

Figure A
The settings on the Boot Screen of the PhoenixBIOS made it a no-brainer to select the device.

Figure B
A USB boot option didn't appear on the Boot Sequence screen.

Figure C
The Hard Disk Drives screen only showed the SATA hard disk.

Figure D
With the UFD plugged into the USB port, I could configure the UFD as a bootable device.

Figure E
As the Boot Sequence screen indicates, the UFD was set to be the first bootable device.
Rounding up the software

To condense and install Windows XP on a UFD, you’ll need a program called PE Builder by Bart Lagerweij. You’ll also need two files from the Windows Server 2003 Service Pack 1. And of course, you need to have a Windows XP Professional CD.

You can download PE Builder from Bart’s Web site (http://www.nu2.nu/pebuilder). At the time of this writing, the most current version of PE Builder was 3.1.10a.

You can download Windows Server 2003 SP1 by following the link in the Knowledge Base article “How to obtain the latest service pack for Windows Server 2003” (http://support.microsoft.com/kb/889100/). Be sure to get the 32-bit version!

Keep in mind that at 329 MB, Windows Server 2003 SP1 will take some time to download. And although you need just two small files, the only way to get them is to download the entire package.

Preparing the software

Installing PE Builder is quick and easy. Just run the installation program and follow the onscreen instructions. To make things simpler, I installed the program in the root directory in a folder called PEBUILDER3110a.

Once PE Builder is installed, you’ll need to create a folder in C:\PEBUILDER3110a called SRSP1, as shown in Figure F. This is the folder in which PE Builder will look for the extracted Windows Server 2003 SP1 files.

Now, you can begin extracting the two needed files from Windows Server 2003 SP1. When you download the Windows Server 2003 SP1, the executable file will have a long name: WindowsServer2003-KB889101-SP1-ENU.exe. To save on typing, you can rename the file to something shorter, such as WS-SP1.exe.

To begin, open a Command Prompt window and use the CD command to change to the folder in which you downloaded the Windows Server 2003 SP1 executable file. I downloaded the file to a folder called Downloads. Now, to extract the files contained in SP1, type the command

WS-SP1.exe -x

Warning

Do not run the Windows Server 2003 SP1 executable file! Doing so will completely corrupt Windows XP. We will use a set of special commands to extract the two files and then delete the rest of the package.
You’ll immediately see a dialog box that prompts you to select a folder in which to extract the files and can type the name of the same folder, as shown in **Figure G**. Click OK to proceed with the extraction procedure. When the procedure is complete, just leave the Command Prompt window open.

The extraction procedure will create a subdirectory called i386 and extract all the Windows Server 2003 SP1 files there. Use the CD command to change to the i386 folder and then copy the setupldr.bin file to the SRSP1 folder with the command:

```
copy setupldr.bin c:\pebuilder3110a\srsp1
```

Expand the ramdisk.sys file to the SRSP1 folder with the command:

```
expand -r ramdisk.sys c:\pebuilder3110a\srsp1
```

These three steps are illustrated in **Figure H**.

Now, using Windows Explorer, verify that the two necessary files are in the SRSP1 folder, as shown in **Figure I**. Once you do so, you can delete all the Windows Server 2003 SP1 files.

### Running PE Builder

Now that you’ve extracted the necessary files from the Windows Server 2003 SP1 package, you’re ready to use PE Builder to create a compressed version of Windows XP. To begin, place your Windows XP Professional CD into the drive and hold down the [Shift] key to prevent Autostart from launching the CD. Then, launch PE Builder.

**Figure G**

You can extract the files into the same folder containing the Windows Server 2003 SP1 executable file.

**Figure H**

You’ll copy and expand the two necessary files to the SRSP1 folder.

**Figure I**

You’ll want to verify that the setupldr.bin and ramdisk.sys files are in the SRSP1 folder.
In the Source field on the main PE Builder screen, simply type the letter of drive in which you put the Windows XP Professional CD, as shown in Figure J. Make sure that the Output box contains BartPE and that the None option is selected in the Media Output panel. Then, click the Build button.

As PE Builder compresses Windows XP Professional into a bootable image, you'll see a detailed progress dialog box. When the operation is complete, as shown in Figure K, click the Close button.

Preparing the UFD to boot Windows XP

At this point, you're ready to format and copy the Windows XP Professional bootable image to the UFD with the BartPE USB Installer. To do so, open a Command Prompt window and use the CD command to change to the pebuilder3110a folder. Then, insert your UFD into a USB port and take note of the drive letter that it is assigned. On my example system, the UFD was assigned drive E.

Now, type the command

```
pe2usb -f e:
```

You'll then be prompted to confirm this part of the operation, as shown in Figure L. While the operation is underway, you'll see progress indicators.

Once the BartPE USB Installer finishes its job, you'll be prompted press any key to exit the program. Now you can use your UFD to boot your computer into the BartPE interface for Windows XP, as shown in Figure M.

You can find a list of specialized applications on Bart's Web site, which you can install on your UFD as Plugins. For example, you can find such things as Firefox or McAfee command-line virus scanner.
Conclusion

Booting Windows XP from a UFD requires that your PC’s BIOS support booting from USB and that you have a UFD that can be formatted as a bootable device. If you can meet these two requirements, all you need is PE Builder, a couple of files from the Windows Server 2003 Service Pack 1, and a little effort to configure a UFD to boot the BartPE interface to Windows XP.

Figure L

You’ll be prompted to confirm that you want to format your UFD.

Figure M

The BartPE interface provides you with a pared down version of Windows XP.
How do I... stop Windows XP from nagging me about updates?

By Mark Kaelin

Microsoft's Patch Tuesdays (the second Tuesday of every month) are an important part of every user's regular Windows operating system maintenance. In fact, regular fixes, patches, and updates should be part of every user's regular routine, no matter which operating system they use.

But sometimes Windows XP gets stuck in update mode. It will continue to show the flashing yellow shield in the System Tray suggesting you need to download and install important security patches. Windows may even display a chat bubble reminding you there is a system patch available. This may appear even after you have already applied all the patches — Windows just doesn't recognize its current status.

Or, as in the case of TechRepublic member Riggy001, Windows may be telling you that SP3 is available, even though you have decided you don't want to apply it right now or in the near future. This is the dilemma Riggy001 described in a TechRepublic Discussion Thread. To relieve this annoyance, Riggy001 called Microsoft support and finagled a procedure to reset the Windows update management system.

Resetting Windows

1. Click Start | Control Panel and then double-click Administrative Tools.
2. Click on Services to open the dialog box (Figure A).
3. From the list of services, right-click and then click Stop for the following services:
   a. Automatic Updates
   b. Background Intelligent Transfer Service
   c. Cryptographic Services
4. Next click Start | My Computer.
5. Double-click the drive where XP is installed, usually C:.
7. Right-click on the file folder SoftwareDistribution and rename it SoftwareDistribution.old.
9. Right-click on the folder Catroot2 and rename it Catroot2.old.

Figure A

Services dialog box
10. Right-click on the folder \SoftwareDistribution and rename it SoftwareDistribution.old.


12. Now, go back to the Services folder, right-click and then start the following services:
   a. Automatic Updates
   b. Background Intelligent Transfer Service (unless it was originally set to manual and you never had to stop the service in the beginning)
   c. Cryptographic Services

13. Close the Services Window and go to the Administrative Tools window (which should still be open).

14. Click the Back Button on your toolbar to get back to the Control Panel.

15. Double-click Automatic Updates (Figure B).

16. Select “Notify Me but Don’t Automatically Download or Install Them” radio button and then click the OK button.

17. Close the Control Panel and resume computing.

One annoyance gone

This procedure forces Windows to reset the files that track what updates you have installed. This means that the automatic update will stop nagging you to update even though you already have. For Riggy001, this procedure means Windows will stop trying to download and install SP3.

One word of warning though, in general Windows updates are important not only for your security and peace of mind but also for the security of everyone else. I highly recommend that you apply the patches as soon as you can.
Fun Stuff
Find and download new fonts for Windows XP

By Greg Shultz

Windows XP provides a host of fonts that you can use to enhance your documents both onscreen and in printed form. When you install certain applications, you'll find that even more fonts have been added to your operating system. Even so, you may still have a longing for more fonts.

Check out Dafont, which offers a huge repository of fonts available as freeware, shareware, demo versions, or public domain, that you can download and install at will. If you know what you want, you'll appreciate the fact that the fonts are sorted alphabetically, by author, and by themes. If you're just browsing, check out the new fonts and top 100 sections. What makes this site even more intriguing is that you can type in your own text and see what it looks like in any of the available fonts.

Note: This tip applies to both Windows XP Home and Windows XP Professional.
Add multiple desktops to Vista and XP with the Vista/XP Virtual Desktop Manager

By John Sheesley

Microsoft has really taken a lot of heat over the Aero desktop in Windows Vista, most of it pretty well deserved. It had a golden opportunity to radically shake up the Windows UI, but the most we got to show for it is Flip 3D. One GUI element missing from Windows Vista but included in other operating systems, especially Linux, is that of the virtual desktop.

If you’re running KDE or GNOME, you can have multiple desktops running simultaneously in Linux. Apple released a similar feature with the Leopard iteration of Mac OS X. In Leopard, virtual desktops are referred to as Spaces.

Microsoft never included such a feature in Windows XP. Even though they did do some things with Aero under Vista, like I said, this is an area they forgot to include. However, you can add virtual desktops to Windows Vista as well as Windows XP by using the Vista/XP Virtual Desktop Manager. Here’s how.

Why would you want multiple desktops to begin with? If you never worked with multiple desktops, the advantage may not be immediately obvious. You can organize applications and data across multiple desktops, quickly switch between them, and get work done a little more efficiently.

Granted, having multiple monitors is more efficient than having multiple virtual desktops. The problem is that not everyone had multiple displays nor the video card capable of driving multiple displays to begin with.

Likewise, you can move from application to application by merely selecting it from the taskbar or just pressing [Alt][Tab]. If you’re like me, however, and can have literally dozens of windows open at the same time doing various things, there’s an awful lot of clutter to [Alt][Tab] or click through. Spreading the screens across multiple desktops makes it much easier to organize data and applications, along with switching between multiple views.

The Vista/XP Virtual Desktop Manager is a freeware program hosted at CodePlex. It’s a development community hosted by Microsoft for the development of open source programs. Think of it as being MS SourceForge.

You can get the Vista/XP Virtual Desktop Manager from the project’s home page. Currently, the code is at Release Candidate stage, which means that they haven’t created the final version. I downloaded and installed 0.9 RC for this article. There doesn’t appear to be any significant bugs or problems so far, but if you’re not comfortable running pre-1.0 code, you might want to wait a few months.

The installation program is amazingly small in this day and age of near-gigabyte installs. The executable file is a little over 1 MB in size. As a prerequisite, you must have .NET Framework 2.0 installed on your workstation. Installing the desktop manager is like installing every
other Windows program you've ever used. There aren't any gotchas to watch for during the installation. When it's done, you'll find the icon to launch the All Programs listing. I set the Virtual Desktop Manager to start every time my XP box boots by adding it to the Startup folder.

Running Virtual Desktop Manager
When Virtual Desktop Manager loads, you'll notice a new icon in the System Tray (Figure A).

This icon controls Virtual Desktop Manager, which lets you change desktops or change the way that Virtual Desktop Manager behaves.

If you hover the mouse over the icon, you'll see a small switcher window appear (Figure B).

From here you can select the desktop you want to switch to by clicking it. As you can see, the mini-switcher displays icons to represent some of the programs running on that desktop.

If you press [Win][Z], you'll get a full-screen switcher window (Figure C).

This window shows more detail about what programs are running in each desktop.

Finally, you can also use the mini-toolbar to switch windows. It appears on every desktop and rides on top of all active programs. I've noticed it even floats on top of and is useful if you're running Virtual PC sessions full screen. It looks like this Figure D.

The mini-toolbar can be a little slow sometimes. I've noticed that it can sometimes take up to five seconds to switch windows after clicking the number. My test machine is a 2.8 Ghz P4 Dell with 1GB of RAM. The slowness is probably due to the fact that this is still 0.9 code and that I sometimes can have dozens of windows open.

To see the configuration screens for Vista/XP Virtual Desktop Manager, check out the Vista/XP Virtual Desktop Manager Photo Gallery.
Who needs to upgrade from XP?

One of the nicest things about Vista/XP Virtual Desktop Manager is that it works on Windows XP as well as Vista. This gives you the ability to get GUI features from modern OSs like Linux and Mac OS X without leaving the relative comfort of Windows XP. You don't even need to make the jump to Vista to get a desktop feature that Microsoft forgot!
Create your own special characters in Windows XP

By Greg Shultz

If you've ever wanted to create your own font or maybe just a special character — for example, a character showing your initials for when you wish to approve documents with your "signature" — you can easily create your own special characters using a hidden Windows XP tool called the Private Character Editor. Here's how:

2. Type eudcedit in the Open text box and click OK.
3. When the Private Character Editor launches, you'll see the Select Code dialog box. Click OK.
4. A user interface that looks and works very much like Paint will appear. From this, you may use standard tools to create your characters.
5. When you finish, select the Save Character command on the Edit menu.

Once you save your new character, you can access it using the Character Map tool. Here's how:

2. Type charmap in the Open text box and click OK.
3. When the Character Map appears, select the Font drop-down list and select All Fonts (Private Characters).
4. Select your character, click the Select button, and then click the Copy button.

You can now paste your font character in any document that you want.
Off hours: Put your name in the Windows XP notification area

By Greg Shultz

During those times when the urgent need for high powered technical intelligence wanes a bit—especially on a slow Friday afternoon—try this fun trick and amaze your colleagues. Here's how to make your “own” time by putting your name in the notification area next to the time.

1. Access the Control Panel from the Start menu.
2. Double click Regional and Language Options.
3. Click the Customize button in the Standards And Formats panel of the Regional Options tab.
4. When the Customize Regional Options dialog box appears, select the Time tab.
5. In the AM Symbol and PM Symbol boxes, you can replace that text with your name or whatever word you want, as long as it is no longer than 12 characters.
6. To complete the operation, click OK twice—once to close the Customize Regional Options dialog box and once to close the Regional And Language Options dialog box.

You'll instantly see your name appear in the notification area right next to the time.
Use Microsoft Media Player for your Windows XP apps

By Greg Shultz

Windows XP’s original multimedia player, Microsoft Media Player 5.1, still remains on the operating system despite various updates (Windows Media Player 11 is the most current version of Microsoft’s multimedia player). While Microsoft Media Player is pretty basic by today’s standards, it still serves a purpose.

Microsoft Media Player can still play a number of multimedia file types such as AVI, WMA, WMV, MID, and WAV, so you may want to be able to use it in situations where you don’t need the full power of Windows Media Player. To use Microsoft Media Player, add it to the SendTo menu by following these steps:

2. Type SendTo in the Open box and click OK.
3. When the SendTo folder appears, right-click the folder, and select the New | Shortcut command.
4. When the Create Shortcut wizard appears, type C:\Windows\system32\Mplay32.exe /Play in the text box and click Next.
5. Name the shortcut Microsoft Media Player and then click Finish.

Now when you encounter an AVI, WMA, WMV, MID, or WAV file and you just want to sample it, you can right-click the file and select the SendTo | Microsoft Media Player command.

Note: This tip applies to Windows XP Home and Windows XP Professional.
Change the font Windows XP displays in Windows Explorer

By Greg Shultz

Windows Explorer and My Computer display the same font that Windows XP uses for icon titles on your desktop: Tahoma, 8 point. If you want to change the font or font size used in Windows Explorer, follow these steps:

1. Access the Display Properties dialog box by right-clicking the desktop and selecting the Properties command.
2. Select the Appearance tab and click the Advanced button.
3. Select Icon from the Item drop-down list.
4. Use the Font drop-down arrow to select a font from the list.
5. Click OK twice -- once to close the Advanced Appearance dialog box and once to close the Display Properties dialog box.

You can see the new font by launching Windows Explorer or My Computer. If you don't like what you see, repeat the steps and select a different font.

Note: This tip is for both Windows XP Home and Professional.
Create an old-time monochrome command prompt in Windows XP

By Greg Shultz

In what some may call the olden days, before there were fancy graphical user interfaces and RGB monitors, early computer monitors were monochrome, meaning that they displayed only one color on a black background. Monochrome monitors were available in three colors: green, amber, and white.

When you open up a Command prompt in its default configuration, it comes up in a white monochrome configuration with white text on a black background. If you’re like most command line users, you’ve changed the color scheme from the Color tab on the Command Prompt Properties dialog box to make the screen more appealing.

However, if you’re ever feeling nostalgic when working from a Command Prompt, you can change the settings on the Color tab to emulate the old green monochrome or amber monochrome monitors. Here’s how:

1. Open a Command Prompt window.
2. Right the title bar and select the Properties command.
3. Select the Colors tab.
4. Select the Screen Background button and select the black box in the color palette.
5. Select the Screen Text button.
6. To emulate an old green monochrome monitor, select the green box in the color palette, and then in the Selected Color Values panel use the spin button for the Green setting to move the number up to 255. Make sure that the settings for the Red and Blue remain at 0.
7. To emulate an old amber monochrome monitor, select the green box in the color palette, and then in the Selected Color Values panel use the spin button for the Red setting to move the number up to 185. Make sure that the settings for the Green remains at 128 and Blue remains at 0.

Note: This tip applies to both Windows XP Home and Windows XP Professional.
Games in Windows XP such as Solitaire, FreeCell, and Minesweeper are nice distractions — nothing blows off steam like a good round of 3D Pinball for Windows, especially in full screen mode with the volume cranked all the way up!

3D Pinball for Windows has nine rank levels, ranging from Cadet to Fleet Admiral. Complete each mission and advance to the next rank, but you go back to Cadet at the beginning of each game. Here are a few secret codes to get more enjoyment out of 3D Pinball. Note that the 3D Pinball window must be active for these codes to work.

- Regain your old rank from a previous game by starting a new game and immediately typing rmax. Each time you type this secret command, you'll advance one rank level.
- Get an extra ball while the Awaiting Deployment message displays by typing 1max.
- Activate the Gravity Well by starting a new game and immediately typing gmax.
- Get an unlimited number of balls and essentially play for as long as you like by starting a new game and immediately typing bmax. Each time you lose a ball, a new one will appear. (While playing with an unlimited number of balls, none of the other tricks will work.)
- Control the ball with your mouse by starting a new game and immediately typing hidden test. When you do, you can click the ball with your left mouse button and essentially drag it anywhere you want and rack up an unbelievable number of points.

Keep in mind that there isn't a text box into which you enter these secret codes — you simply type them.

Note: This tip applies to both Windows XP Home and Windows XP Professional.