



personal:professional:data server:advanced server

Microsoft Windows XP



The expert's guide to XP

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So Windows XP is finally here and you've heard all the hype about its new features, but we dig deeper to give you three workshops and go through the nitty gritty of how this latest operating system from Microsoft can help you

Windows XP entered beta testing about a year ago, in November 2000. Originally codenamed Whistler, Windows XP forms the core of a family of operating systems, which will be available in Personal, Professional, Data Server and Advanced Server versions, not to mention a 64bit version for the Intel Itanium processor. Windows XP is undoubtedly the most important operating system released by Microsoft as, for the first time, it unites the old NT and Windows 98/Me codebases into a single entity. For the first time in its history Microsoft has a single, unified Windows platform for every level of deployment, from the home user right up to the corporate server farm.

Although a single codebase had been on Microsoft's wish list for many moons, Windows XP wasn't originally going to be the

OS to achieve that goal. As recently as early 2000, Microsoft had two separate OS development projects on the boil: Odyssey and Neptune. Neptune was to be the consumer-based OS, based on Windows NT, while Odyssey was to be Microsoft's next-stage business OS. But by the end of the year both projects had been canned, only to be reborn as a single OS project, Whistler.

Put crudely, Windows XP represents a shotgun wedding between Windows 2000 Professional and Windows Me. It gains the rock solid attributes of the former plus the usability, wide driver support and consumer-friendly apps found in the latter. The best of both worlds, in other words.

Two versions

Although there's only one Windows codebase from now on, the so-called Windows Engine, two versions of Windows XP will be

WINDOWS PRODUCT ACTIVATION



Windows Product Activation (WPA) is a technology used to enable or activate a copy of Windows XP for a specific PC. When you activate Windows XP, it analyses key components on your computer and creates an internal value that is combined with your product ID code. This produces a 50-digit number called the Installation ID. The number is then transmitted to Microsoft in exchange for a 42-digit Activation ID that activates Windows XP. You will not be able to activate a copy of Windows XP from another machine.

You will have up to 60 days to activate Windows XP. You'll then be periodically reminded and after the grace period expires, Windows XP won't allow you to do anything but perform the activation process. Activating Windows XP takes only a minute or so when you have an Internet connection, or approximately 5-10 minutes depending on call volume if you phone in your activation.

The reason Microsoft has introduced WPA in Windows XP is to deter casual copying. Software activation isn't unique but what

is different about WPA is its ability to uniquely identify your PC via its hardware and to regularly check for changes. If your machine changes too much, Windows XP requires reactivation.

And how much is too much? It seems that Windows XP tracks 10 types of hardware and if a total of six types are changed then reactivation will be required. The changes can be in one go or cumulative but once you hit six you'll need to reactivate. Most times this can be done transparently over the Internet, but if you reactivate too frequently perhaps every third time could require phone activation. This intrusiveness is tempered by Microsoft's intention to 'wipe the activation slate' every 120 days, but this won't necessarily mean that you can install the same copy of Windows XP on multiple machines so long as they're done 120 days apart.

If you reinstall Windows XP on the same PC, without hardware changes, you can reactivate as many times as you want, without question, without problem. Additional hardware you add won't trigger

reactivation either, for instance if you add a second hard drive or a CD-RW drive. If you just reformat your existing hardware, you can reactivate an infinite number of times. Likewise, if you change one component repeatedly, such as putting in a new graphics card five times, it only counts as one change. XP's built-in restoration feature doesn't preserve the activation. If you trash your system and do a system restore, you'll still have to reactivate, even if you didn't change any hardware. Don't forget you can use the 60-day grace period to experimentally install new hardware – as long as you don't activate, you can remove the hardware and reactivate with no questions asked.

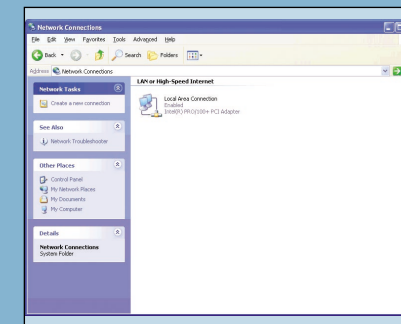
Two classes of Windows XP will be spared WPA. Pre-installed versions of Windows XP on new PCs will be pre-activated – users of these machines can change their hardware to their hearts' content. This is because their copy of Windows XP will be 'locked' to that machine's BIOS and can't be installed on other PCs. Corporate 'volume' licences will not require activation either.

available: one for the consumer market, called Home Edition, and one for the business user, the Professional Edition. The latter is a superset of the former – any feature in the Home Edition will also be found in the Professional Edition. Compared to Windows 2000, Windows XP Home Edition will offer some significant improvements, including a new user interface featuring context-sensitive, task-oriented web views, enhanced support for digital media (including Windows Movie Maker and Media Player for XP), DirectX 8.1 multimedia libraries for gaming, improved software and hardware compatibility, simplified security and fast user switching. Of the two sorts of user Windows XP is aimed at, it appears that the consumer has the most to gain.

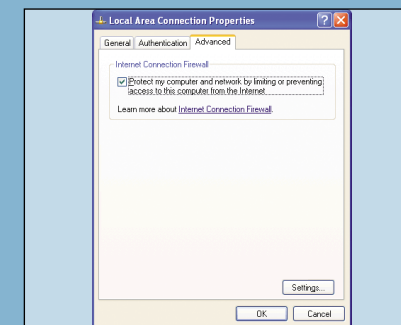
The Professional Edition includes features that are deemed unsuitable or too complex for the typical home user.

The most obvious difference is security, which is vastly simplified in Home Edition. Each interactive user in XP Home Edition is assumed to be a member of the Owner's local group, which is the Windows XP equivalent of the Windows 2000 Administrator account: this means that anyone who logs on to a Home Edition machine has full control. Likewise, the Backup Operators, Power Users, and Replicator groups from Windows 2000/XP Pro are missing from Home Edition, and a new group, called Restricted Users, is added. Hidden administrative shares (C\$, etc) are also unavailable in Home Edition. Also omitted are features such as Remote Desktop (which allows a help desk to remotely connect to a client desktop for troubleshooting purposes) and SMP support – Windows XP Pro supports up to two CPUs, while Home Edition supports only one. Backup and Automated System

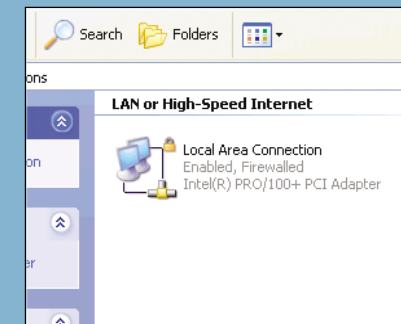
HOW TO ACTIVATE THE INTERNET CONNECTION FIREWALL



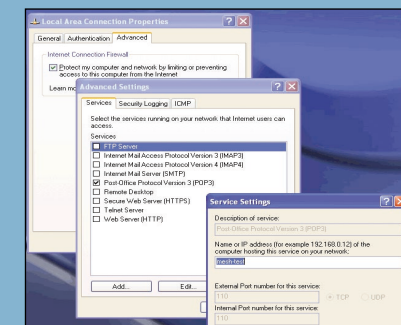
1 For the first time, Microsoft has built a firewall into an OS. The Internet Connection Firewall (ICF) is a welcome admission that significant numbers of Microsoft users have always-on Internet connections, which make them easy targets for malicious hackers. Security experts agree that the OS is the logical place to bundle a firewall. ICF is a powerful packet firewall, but lacks the features and functionality of an enterprise solution. Its purpose is to protect standalone systems with broadband Internet connections.



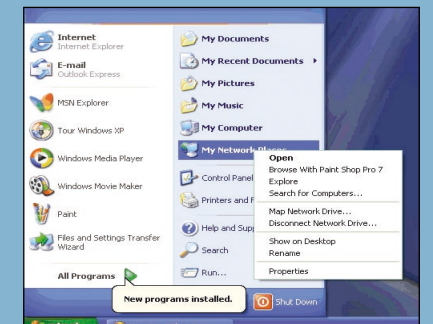
4 Right-click on your Internet Connection icon and once again choose Properties. Now click on the 'Advanced' tab and you should see where you enable or disable the ICF. If there isn't already a check mark to protect your computer, tick that check box now. At the bottom of this box there is a button labelled 'Settings'. When you click on the 'Settings' button you will see a list of configuration options.



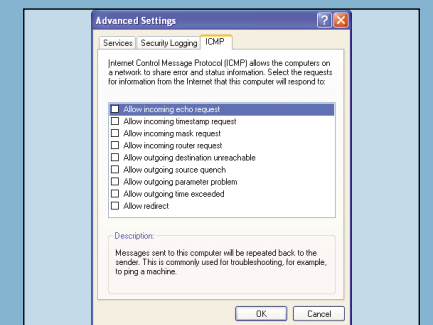
2 You enable the ICF feature on the Properties sheet of the network connection for which you want to add protection, or run the networking wizard. Basic setup is done by clicking a checkbox. More advanced configuration, such as allowing incoming traffic on specific ports for servers, requires selecting the services in question from a list and supplying more information. You can tell if the firewall is active by looking at your network connections – protected ones sport a tiny padlock icon.



5 If you wish to run a web server, email server, remote desktop or Telnet server, you can set up your ICF to allow these services. Keep in mind that the more ports you have open, the more at risk your computer is from attack. Remember that ICF doesn't stop outbound Internet connections. This is important because if you should happen to accidentally open a Trojan horse that was located in an email attachment, ICF would not stop it from making a connection out from your computer.



3 Setting up and configuring ICF is pretty simple and since it is enabled by default there isn't much setting up to do. A big plus is that ICF is part of an integrated panel that consolidates most of the security settings, a change from past versions of Windows, where a user had to go through a maze of menus to find and switch on all the optimal security features. To get to the ICF right-click on 'My Network Places' and choose 'Properties'. If you have more than one network connection, choose your Internet connection.



6 Under 'Security Logging' you can set up ICF to log dropped packets and successful connections. The ICMP tab will let you customise your ICMP settings to allow or disallow services as you see fit. For the most part you will want to leave these settings in the default unchecked position for increased security. While it's no substitute for a dedicated two-way firewall product such as ZoneAlarm, Windows XP's Personal Firewall feature isn't a bad basic line of defence.

Recovery have also been cut from the Home Edition – users will have to rely on System Restore to get them out of trouble. There's no fax or personal web server either. Finally, business users gain support for large LAN-based services such as Active Directory, IntelliMirror and new C2 security features.

XP: a new UI

The most obvious change in XP is its user interface, previously codenamed Luna. Apparently, Microsoft had planned separate user interfaces for the Home and Professional Editions but everybody preferred the former, so the Pro version was

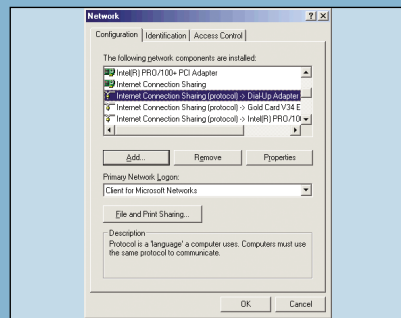
scrapped. The new UI, though based on the Explorer shell, is more extensible and easier to upgrade later. It also allows the user to apply various visual styles, each giving a unique look and feel, while retaining the users' familiarity with the old UI.

The first thing you'll notice about the UI is how bright and colourful it is – Microsoft has taken onboard the fact that everyone now has at least 24bit colour graphics cards and XP takes full advantage of the subtleties such a gamut of colour can provide. This is further enhanced by a set of brand new icons, which are beautifully designed. Three colour schemes are available – the default blue, a classy looking

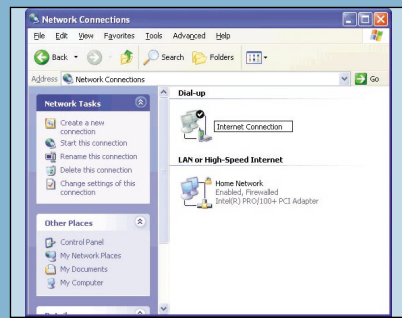
QUICK TIP

To display your familiar Quick Launch toolbar simply right-click an empty area on the taskbar, click Toolbars, and then click Quick Launch. To add items to your Quick Launch toolbar, click the icon for the program you want to add, and drag it to the Quick Launch portion of the taskbar.

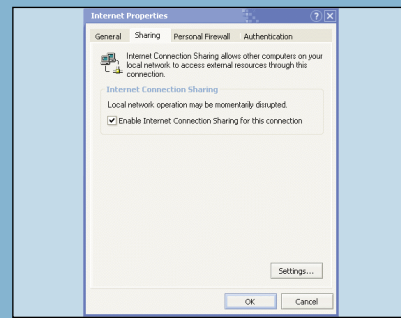
HOW TO SET UP INTERNET CONNECTION SHARING



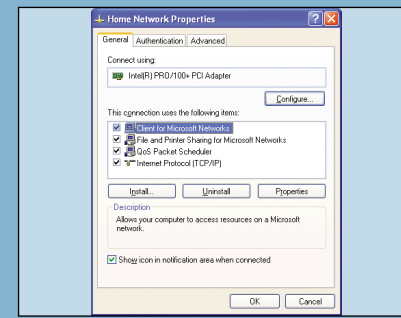
1 Internet Connection Sharing (ICS) has been around ever since the release of Windows 98 Second Edition. It was 'pinched' from the Windows 2000 goodie bag, so it's no surprise to see it reappear in Windows XP. With more and more people using ADSL and cable modems to connect to the Internet at high speed, it makes sense to share these connections among several users. ICS will still work, however, even if you use a mere 56K modem to connect to the Internet.



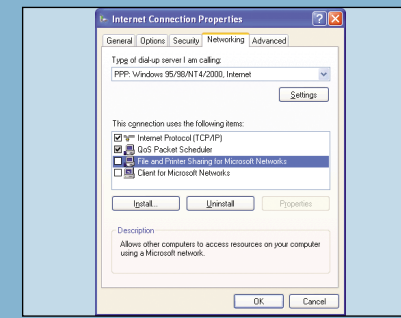
2 If you already have a working network established and a connection to the Internet set up and working properly, the first thing you should do is rename your network connections to something meaningful. You might want to rename your dial-up connection 'Internet', while your local area connection could be 'Home Network'. Click the Start menu, right-click on 'My Network Places' and select Properties to rename your existing connections.



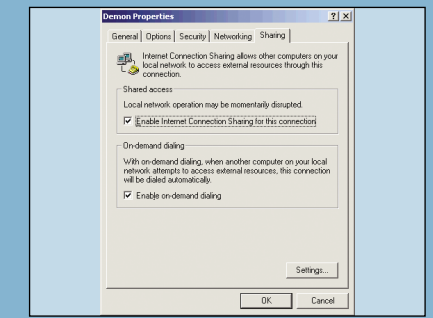
3 Installing ICS on Windows 98 and Me used to involve installing additional software – not so with Windows XP. ICS is pre-installed, so all you have to do is turn it on. Right-click on your newly named Internet connection and select Properties. Click the 'Sharing' tab at the top of the window. Next click on the only checkbox available, 'Enable Internet Connection Sharing...'. Click OK, then 'Yes' on the dialog box that appears explaining your new IP schema.



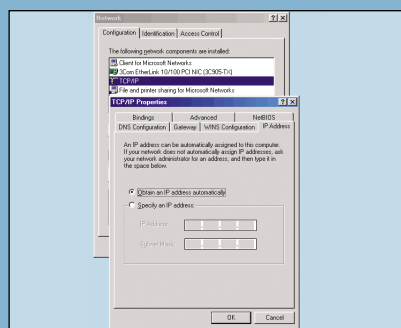
4 Note that you must be logged on as an administrator or a member of the administrator's group to complete this procedure. For security reasons, Microsoft File Sharing should never be 'bound' to any network adaptor that talks directly to the Internet. In the current state of your system, 'File and Print Sharing' could be exposing your computer to hackers on the Internet. It is very important that you follow the next steps.



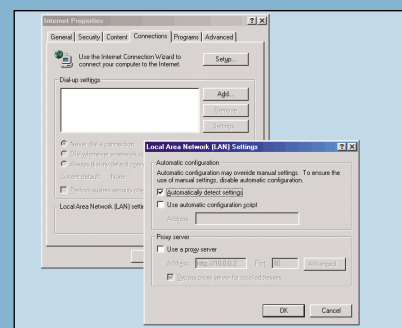
5 Go back to your Network Connections, right-click on the 'Internet' connection and click Properties. Uncheck the boxes next to 'File and Print Sharing for Microsoft Networks' and 'Client for Microsoft Networks'. Your computer is now a bit more secure. Leave 'Client for Microsoft Networks' and 'File and Print Sharing' checked on your home network connection. Ensure the ICF is turned off for the home network connection – ICS and ICF can't both be enabled for incoming connections.



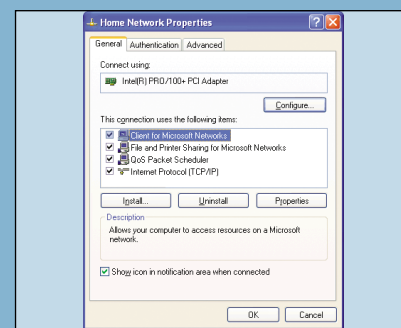
6 Check the 'Establish a dial-up connection whenever a computer on my network attempts to access the Internet' box, if that's what you want it to do, and make a similar choice with regards to the 'Allow other network users to control or disable the shared Internet connection' box. Select any adaptor connecting the main computer to the others in the Home networking connection of ICS.



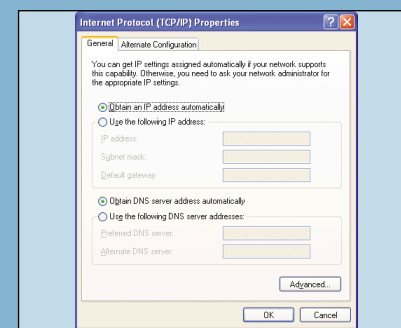
7 We need to configure other networked computers (hereafter ICS clients). Under Windows 9x/Me, check Network Properties contains each of these: network adaptor, TCP/IP, NetBEUI, File and Printer Sharing for Microsoft Networks. Select TCP/IP, click Properties and set to obtain IP address automatically, set Gateway 192.168.0.1 or blank, check bindings for Client for Microsoft Networks and File/Print Sharing. OK and reboot.



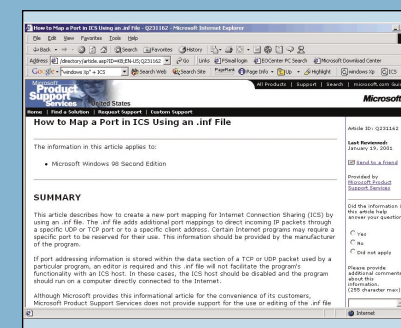
8 Next, close all copies of Internet Explorer. Right-click on the Internet Explorer icon on your desktop and click Properties. Select the Connections tab. If you can, select 'Never dial a connection'. Next, click the LAN Settings tab and clear all check boxes here. Your new configuration does not require a proxy server. For ICS Discovery and Control to work on Windows 98, 98 Second Edition, and Me computers, Internet Explorer version 5.0 or later must be installed.



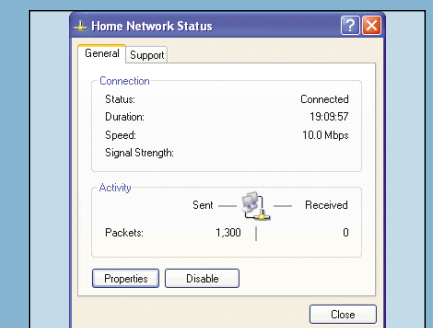
9 To configure a Windows XP client to use ICS click the Start menu and right-click on the 'My Network Places' icon to bring up your Network Connections folder. Right-click on your 'Local Area Network' connection and select 'Properties'. Install any components from this list that you are missing: Client for Microsoft Networks; File and Printer Sharing for Microsoft Networks; Internet Protocol (TCP/IP); NetBEUI – for peer to peer networking; Optionally, the QoS Packet Scheduler.



10 Select TCP/IP and click Properties. On this screen, select 'Obtain an IP address automatically' and 'Obtain DNS server address automatically'. Click OK and the computer may ask you to reboot. Open Internet Explorer and select 'Internet Options...' from the 'Tools' menu bar. Next, select the Connections tab. If you can, select 'Never dial a connection'. Next, click the LAN Settings tab and clear all check boxes here. Your new configuration does not require a proxy server.



11 Some apps, games in particular, may not work properly because ICS hasn't opened the right TCP/IP port for them to use. It is possible to configure ICS to open additional ports but it requires you to specify the revised port mapping in a special inf text file. The .inf file adds extra port mappings to direct incoming IP packets through a specific UDP or TCP port or to a specific client address. More on this inf file is on the Microsoft KnowledgeBase – look for Q231162.



12 One useful network diagnostics tool is the Status dialog, which gives you basic information about your network connection – to view it right-click the Network Connection icon and select Status from the pop-up menu. Another useful indicator is the connection monitor icon in the system notification area – you'll have one for your network connection and one for your Internet connection. To turn these on, right-click each network connection, select Properties and check the 'Show icon...' box.

QUICK TIP

The default speed of the Start Menu is pretty slow, but you can fix that by editing a Registry key. Fire up the Registry Editor and navigate to the following key: HKEY_CURRENT_USER \ Control Panel \ Desktop \ MenuShowDelay. By default, the value is 400, but changing it to a smaller value, such as 0, will speed it up.

silver and a rather dreary olive green. And if all this is scary, you can revert to a classic UI that roughly emulates the Windows 2000 UI. But it's not to be recommended.

Under the hood Explorer has been revamped to simplify OS tasks. Windows 98 made a start, with its web pane views in each Explorer window. In Windows XP, these panes have been substantially revised and made context sensitive – they now list tasks relevant to the current folder. So, a music folder will display tasks for playing music and ordering music online, while clicking on an individual icon reveals choices specific to that file type. This feature alone makes the new OS significantly easier to use than its predecessors.

You've always been able to sort files displayed in an Explorer window, eg by size or date, but a new category, groups, has been added. For example, you can select group files by name in alphabetic order. You can select by size, and see the files grouped by size categories such as Tiny, Small, Medium and Large. You can select modification date and see the files grouped by time periods such as Today, Two weeks ago, and Last month, to name but a few. If you open a Music folder, you could group MP3s by Artist or Year, and when you use My Pictures, you can view all your pictures in the folder in a slide show. This means that you no longer need a separate application to view your pictures quickly.

Big changes have been made to the Start menu, which has now absorbed some of the duties previously undertaken by the desktop. It's been turned into a two-pane design that provides quick access to your most important documents, applications and other OS features. This new format uses a task-oriented design to make the Start menu more efficient and user friendly. In fact, many items you're used to finding on the desktop are now within easy reach on the Start menu.

Now you don't have to worry about open windows obscuring things like My Computer or My Network Places, as they're always available on the Start menu. Similarly, the Taskbar and tray notification area have been significantly

updated as well. Under XP, multiple Taskbar buttons are organised into single logical groups. If you have four Internet Explorer windows open, there will only be one, not four Taskbar IE buttons. When you click on that button, a list will extend up from the button, allowing you to choose which window you'd like. In the tray, a surfeit of icons reduced the length of the Taskbar – now, under XP, unused tray icons are hidden.

Other major changes

Although available separately for download, Windows XP includes the latest version of Internet Explorer, version 6. IE6, like its predecessors, is tightly integrated with the OS

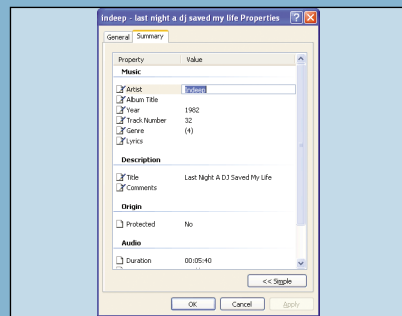
QUICK TIP

A new configuration tool is the Local Group Policy Editor, or gpedit for short. To invoke this editor, select Start and then Run, then type the following: gpedit.msc. After you hit ENTER, you'll be greeted by the Group Editor, which lets you modify virtually every feature in Windows XP without having to resort to RegEdit.

HOW TO SET UP WINDOWS MEDIA PLAYER FOR WINDOWS XP



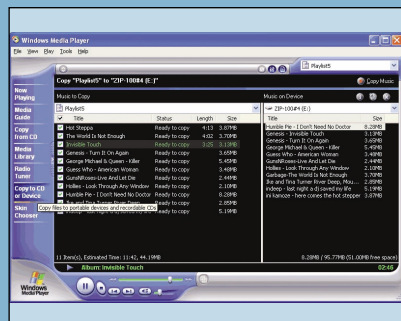
1 Although it was a major upgrade over the previous rather basic Media Player 6.4, the most recent version, Windows Media Player 7 was buggy, unstable, and slow to load. Windows XP ships with version 8 of what's now called Media Player for Windows XP. The new Media Player offers a significant improvement over WMP7, both in terms of stability and features. It won't be available for free download, however – you'll have to make do with Media Player 7.1.



2 Although not strictly part of WMP8, one good improvement of the Explorer is the ability to directly edit the contents of the ID3 meta data that MP3 audio files contain; track titles, artist names and even lyrics can all be stored here. Open the folder containing your MP3s, select the Detailed view and you'll see the current ID3 data listed for each MP3. Right-click the filename and select Properties. Next, select the Summary tab and simply click the Value entry for each category to amend it.



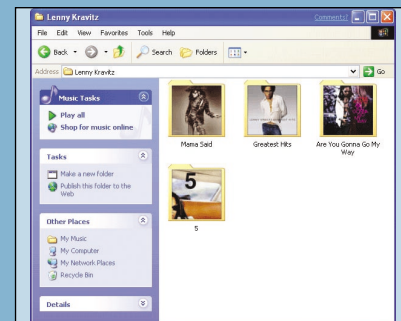
3 Down the left side of the WMP8 window there's a row of self-explanatory buttons for browsing the main functions. Among others, 'Now Playing' brings up the current selection. 'Copy from CD' is the CD player and ripper option. 'Media Library' brings up a list of all the media on your PC. 'Radio Tuner' maintains a list of Internet-based radio stations. 'Copy to CD or device' transfers your media files to a CD or a portable media player. Click on the 'Hide' button and this row of buttons disappears.



7 Microsoft has also made huge gains with CD-R and CD-RW recording. In Windows Media Player 7, the rather feeble CD burning functionality was provided via an Adaptec plug-in that limited burn speeds to two-speed, regardless of the capabilities of your CD-R drive. In Windows XP, CD burning happens at full speed: if you've got 24-speed writing capabilities, WMP8 will do it. And as speeds go up in the future, the burning speed in XP will go up as well.



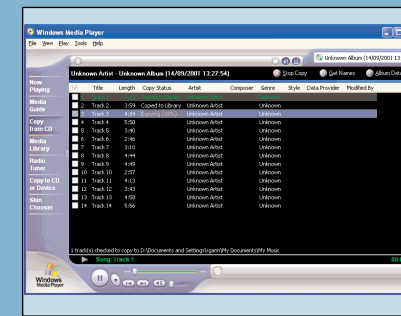
8 To say that WMP8 is web-enabled is an understatement – web-dependent would be more accurate. WMP8 really can't function properly without a decent permanent Internet connection to download CD track listings, automatically download and install new codecs, check for updates, download new skins and last, but not least, to access Internet radio sites. There's a huge range of stations to choose from and some broadcast at rates up to 100Kbits/sec, producing a fairly pleasant audio quality.



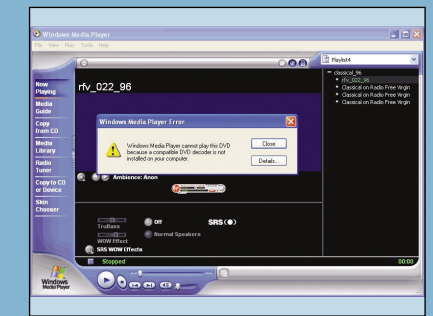
9 Tighter shell integration is another new feature of Windows XP – the My Pictures and My Music folders have been elevated to special 'shell folder' status; this means that they are directly accessible from the Start Menu, alongside My Documents. This change acknowledges the importance users place on being able to work easily with digital media as well as documents. It's now easy to display files and folders as you wish, eg by artist or year, or apply thumbnails of album covers to folders that contain music.



4 The new Media Player 7.1 sports a new default UI. As with MP, the one that ships with XP also has a highly customisable interface, although it apparently doesn't use the same XML technology employed throughout XP to vary its look and feel. The same 'skins' as in its predecessor are in the new version plus one or two new ones. To change WMP8's appearance, click on Skin Chooser and select the skin you want to use. Some have such bizarre interfaces you might have trouble finding your way about!



5 Ripping a CD to MP3 as well as WMA is now supported. You simply click on the Copy from CD button, pop in an audio CD and select the tracks you want to rip. A warning message advises you that content protection is currently 'on' but can be switched off. A percentage 'progress' is shown against each track. The Options setting lets you select both format and audio quality – MP3 supports a maximum bit rate of 192Kbits/sec but fancy options, such as variable bit rate, are not available.



6 DVD playback is also supported but, unless you have some kind of decoder, you can't natively play DVDs in WMP8 – the codec is excluded for copyright reasons, although Microsoft has said it will offer three DVD packs from various manufacturers to add this capability to XP. DVD playback in WMP8 includes a full screen mode and integration with the player's Playlist so that you can access DVD chapters directly from the UI without navigating the DVD's menu.

QUICK TIP

You can download album cover art from sites such as www.cdnnow.com, and then use the new Windows XP folder customise feature to display the proper image for each folder. When you download the album cover art from the web, just save the images as folder.jpg each time and place them in the appropriate folder.

and naturally adopts the new look and feel of XP. There isn't a tremendously long list of new features in IE6. At the front of the queue is a new Media Bar, a feature seemingly lifted from MSN Explorer. The integrated Media Bar lets you play back audio and video without opening a separate application using Windows Media technologies – a convenient time saver.

What else is new? An automatic image-resizing feature causes oversized images to shrink to fit the browser window so that you can view it without scrolling. A small floating button lets you toggle such images between shrunken and normal views. An optional Image toolbar can also be enabled: when you move your mouse over images, the toolbar

appears next to the mouse, giving you access to one-click save, print, and email access; it also lets you open the My Pictures folder.

However, one fairly important feature is missing – Java. As a result of an out of court settlement with Sun back in February, Microsoft has decided to not offer the Java Virtual Machine as standard with Internet Explorer 6. If you want it (and many will), you'll be able to download it from the Microsoft website. Sun has an updated version of Java for XP in the pipeline.

Standard support is improved – IE6 fully supports the Document Object Model (DOM) Level 1, SMIL 2 and

Cascading Style Sheets (CSS) Level 1. It has also adopted the P3P (Platform for Privacy Preferences) privacy draft recommendations and IE6 users will be able to prevent access from third-party cookies and other unwanted intrusion using accessible tools.

Another web tool to get a major revamp is Windows Messenger, which replaces MSN Messenger. This was a basic online chat tool that additionally allowed file transfer and latterly Voice over IP. At first glance, the new Messenger closely resembles the old, but it now incorporates much of the functionality of NetMeeting and so adds two-way audio and videoconferencing, plus application sharing and

whiteboarding. It also integrates with the Remote Assistance help facility.

Windows Messenger relies on the newly expanded Microsoft Passport service. Windows XP now lets you integrate your Windows logon with Passport and Windows Messenger so that you're automatically logged onto Passport-compatible websites when you connect to Windows.

Windows Messenger is actually a key component of Microsoft's upcoming .Net technology. Microsoft is reported to be adding a range of .Net related features to Messenger, letting it act as a focal point for services such as MSN Alerts and MSN Calendar.

QUICK TIP

To change the location of the My Music or My Pictures folders, open a My Computer window and navigate to the new location for your file. Open the My Documents folder in a different window. Drag the My Music (or My Pictures) folder to the other window, and all references to that folder will be updated to the new location.