Double trouble

Windows 3.x programs running under Win95 is not a happy marriage, but don't despair —
Panicos Georghiades and Gabriel Jacobs explain how you can have the best of both worlds.

The good thing about new versions of software is that they are usually better than their older counterparts. This was undoubtedly the case with Windows over DOS, as it is with Windows 95 over Windows 3.x. But we are talking here about general use rather than specific applications which, in some cases, do run better on an older operating system.

The bad points about upgrading to new versions (apart from the cost) are that newer software is more likely to have bugs, and your machine and peripherals may also need upgrading. There's also the fact that not everyone is upgrading overnight; it's a gradual process sometimes taking years to complete, by which time an even newer version is on the way.

It would have been great if, say, on the 24th August 1995, every hardware and software manufacturer on earth had Windows 95 versions and drivers available. We could all have upgraded immediately, and painlessly. This didn't happen, of course, and even a year and a half later, there's hardware out there which doesn't have Windows 95 drivers, and software which will never be upgraded to Windows 95.

Microsoft may boast that Windows 95 has sold more copies than Michael Jackson's "Thriller", yet the reality is that the majority of Windows users have stuck with 3.x (usually 3.1). Many large organisations have been holding back because they know that the cost, in time, of solving incompatibility problems from new software is often much higher than that of buying the new software in the first place.

So, if you're not fascinated by solving problems, we recommend that you run Windows 3.x programs under Windows 3.x,

and dedicated Windows 95 native 32-bit programs under Win95.

We're not saying that Windows 3.x programs don't run under 95, but problems arise with non-Windows 95 drivers for hardware, old Win95 drivers, and some program installation procedures. Even if a Windows 3.x program doesn't depend on drivers, its installation procedure, designed for 3.x, may cause problems under Windows 95. It may replace files with older versions, or it may install things like Video for Windows and other MCI Windows 3.1 code not needed in Win95. It may mess up your Win95 installation, to a point where your machine simply will not start.

In general, play safe: you're far better off running programs on the operating systems for which they were designed. On the other hand, Windows 95, like Mount Everest, is there. So the solution is to have the best of both worlds. If your machine runs 3.x and is not up to Windows 95, don't upgrade it. Keep it as a Windows 3.x and DOS machine to run your old software, and put the money you save towards a new Windows 95 machine.

If your machine is up to running Windows 95 and you have a large hard disk (1Gb or preferably 2Gb as hard disks are very cheap nowadays), it is possible to keep your old DOS/Windows 3.x installation as well as a new Win95 installation, on the same machine. This is fairly easy to do, and you can have both working in harmony (but not simultaneously) provided you watch out for certain things.

Here's what you have to do, although you can only do it with versions of MSDOS 5 or later (see Fig 1 for the technical reasons why):

■ When you install Windows 95 and you are asked in which directory to install it, choose a different directory name from the one that Windows 3.x is using.

If you are starting from scratch (which is not a bad idea) you can use names like Win31 and Win95. You will then be warned that you will have to re-install your applications — you will have to do that with your new Windows 95 programs anyway.

■ Go ahead with the Windows 95 installation as normal. Windows 95 will copy some of your MSDOS files (scandisk,

Fig 1 Boot room

Why can't you have a double boot (Windows 3.x and Windows 95) with DOS versions earlier than 5.0?

The answer is that Windows 3.x sits on top of DOS, and in the earlier versions of MSDOS, the first three sectors of the io.sys file has to be placed in the first three sectors of the data area of the hard disk. Following version 5.0, this constraint was removed from DOS.

When you install Windows 95 on a PC running DOS 5.0 or later, the setup routine actually keeps your previous io.sys, msdos.sys, command.com, autoexec.bat and config.sys files after renaming them with a .DOS extension (io.dos, msdos.dos, and so on).

If you install Windows 95 in a new folder, the line "BootMulti=1" is automatically added to msdos.sys, after which you can have a double-boot configuration. But if you delete io.dos, msdos.dos or command.dos, or if they get damaged in some way, or even if you simply move them to any other directory except the root directory of the boot drive, you can't boot under DOS, and therefore you can't run Windows 3.x.
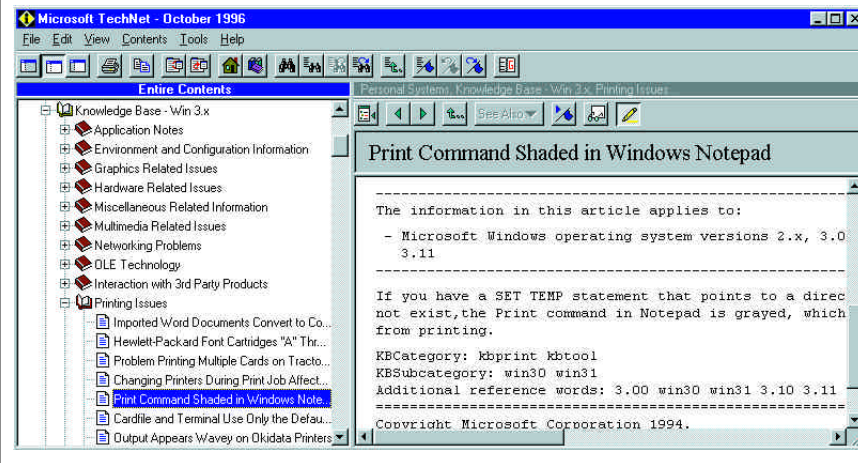
Microsoft Technet: our productivity product of the month

There are many books, CD-ROMs, videotapes and all kinds of courses on Windows 3.x and DOS. However, the richest mine of information is to be found on Technet (Technical Information Network), a subscription CD-ROM from Microsoft. This monthly set of CD-ROMs contains specifications, updated drivers, press releases, lists of problems and their solutions, as well as hints and tips from the developers and technical support people at Microsoft on

not only Microsoft products but some third-party products, too. There are literally thousands of articles through which you can browse by using either an Explorer or File Manager tree-type structure, or the built-in search facility.

If you are working in a support department, or are simply interested to find out about how to get the best from your system, this is the tops.

■ See "PCW Contacts" *box for details.*

defrag, etc) into its own directories and replace them with batch files (Fig 2, below). It will also rename some of your DOS system files (see Fig 1) and will leave your Windows 3.x installation alone.

■ After Windows 95 has been installed, press the F8 key during boot-up (very shortly before the message "Starting Windows 95"). This will give you a menu with a number of options for starting up. One of them will be "Start your Previous Operating System".

If you select this, your machine will start as before under your DOS/Windows 3.x operating system. In other words, you should be able to run DOS and Windows 3.x as if Windows 95 were not there. The Windows 95 directory and programs will be

visible on your hard disk, but file and directory names will be shown in the DOS eight-characters-plus-three-characters format (using the ~ character) instead of the long filenames.

For example, the Windows 95 directory Program Files will look like this (see also, Fig 3):

`Progra~1`

■ After the message "Now loading your previous version of MS-DOS, please wait", you may get one of the following error messages:

`Your previous MS-DOS version is not supported. MS-DOS startup failed.`

or, you could get

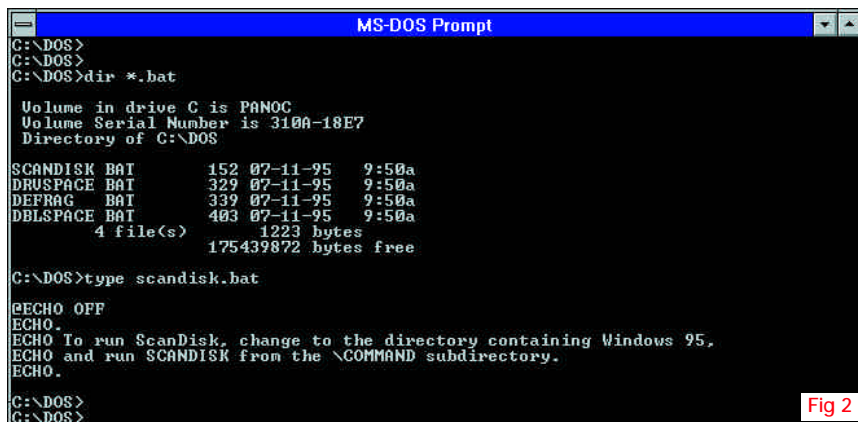`Your previous MS-DOS files were not found. MS-DOS startup failed.`
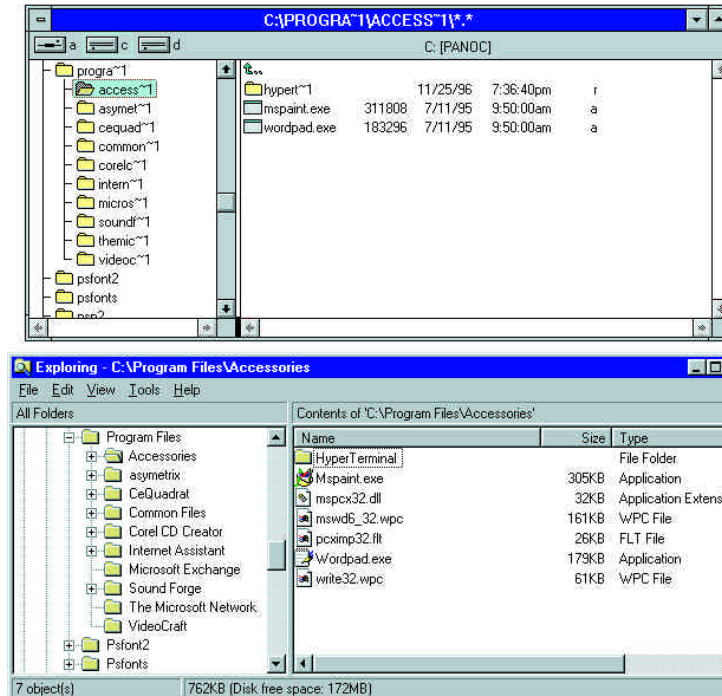

Fig 2

Fig 3
If you run Windows 3.1 and Windows 95 on the same machine, this is how the long filenames will look. This is normal

If you do receive one of these messages, you need to check whether the line

`BootMulti=1`

is present in the msdos.sys file in the root directory of your boot drive.

■ If it isn't there, you will have to edit the file and add that line. But take note that even though msdos.sys is a text file (and can thus be edited in Notepad) it is also a read-only, hidden system file so you'll need to change its attributes to modify it. You can

do this in Windows 3.x File Manager, or Windows 95 Explorer, or by using the ATTRIB command at the DOS prompt.

Things to watch out for
This multi-boot option requires you to restart your machine (either a three-fingered warm reboot with Ctrl+Alt+Del, or Reset will do) as you can't switch between one operating system and another just like that. And, by the way, make sure Windows 95
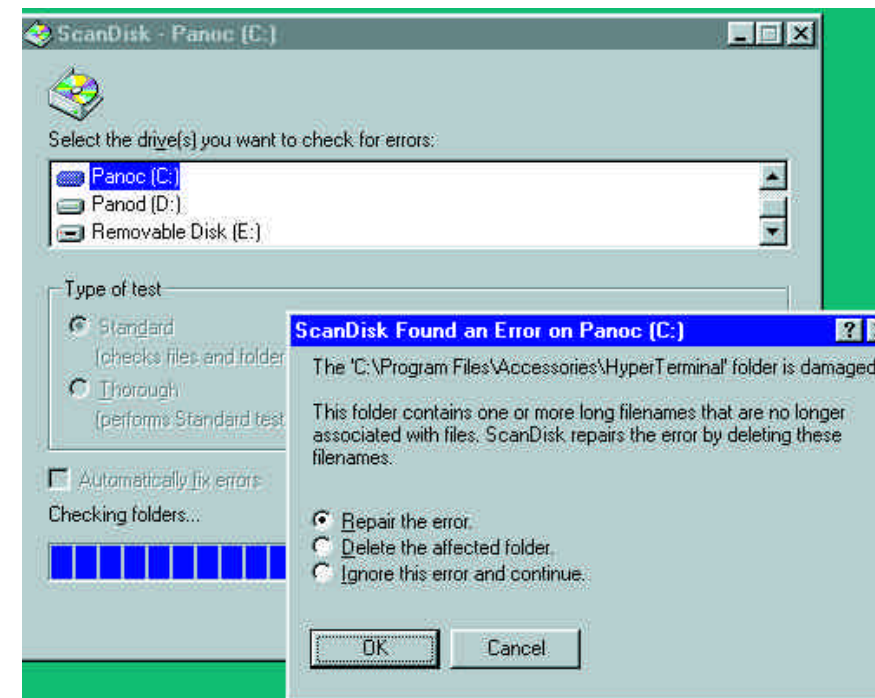
always shuts down properly first.

Most PC manufacturers do not install Windows 95 over MSDOS, so if you have bought a machine with this standard type of Windows 95 installation, DOS system files will not be on it and you will not be able to have the dual boot unless you re-install everything yourself.

On top of all that, even though you can share data files and even run some programs under both operating systems, there are a few things of which you should be careful.

1. Configuration settings: Programs that keep their configuration (INI) files in the Windows directory, rather than their own, may create two configurations and may run differently under the two operating systems. Don't expect the same settings to be available to you.

2. Long filenames: Use only the eight-plus-three format for any data files you intend to use under DOS and Windows 3.x. If you re-save or re-name a file (in Win95) created with a long filename, under Windows 3.x or DOS the name will be truncated and your long filename will no longer be available in your next Windows 95 session.

3. Disk manipulations (the importance of which cannot be over-emphasised): You should carry out all disk manipulations — defragmentation and scandisk operations, and as many file deletions and clearance sessions as possible — under Windows 95 instead of 3.x (Fig 4). At the very least, do not delete files with long filenames in a DOS or Windows 3.x session.

4. Last but truly not least: Do not use DOS and 3.1 disk tools (such as old versions of Norton and other, similar, programs) if you have Windows 95 in your machine. You may damage the Windows 95 installation.

■ Panicos Georghiades and Gabriel Jacobs have now taken up the mantle of Hands On Windows 3.1 from Tim Nott. In addition to writing his Windows 95 column as usual, Tim can also be found presenting Hands On Word Processing.

Fig 4 If you delete files with long names in Windows 3.1 or DOS, you may well encounter problems when running Windows 95