Divide and rule

Partitioning your hard disk could optimise your computer's perfomance. Tim Nott shows you how.

Last month we started to look at disk and partition organisation. In terms of disk management, there are four types of file on your PC:

1. There are files that stay constant — program and operating-system files, together with their DLLs, help files, and other supporting items.

2. The files you create and edit in applications — documents, spreadsheets, graphics and so on.

3. A whole range of files that are frequently changed without explicit saves. These include the registry, other settings files, user dictionaries for spell-checkers, mailboxes, and various logs — to name but a few.

4. The ultra-volatile stuff such as temporary files and the Windows swap file.

In an ideal world you'd be able to segregate these across four partitions. This would make backing up work files and settings easy, and would also mean that the partition with your programs on, which gets the highest amount of disk activity, never got fragmented.

Dream on: this ideal has become increasingly unattainable over the last few years. For a start, those 'unchanging' program files are anything but: if you have an internet connection, you'll find yourself frequently downloading upgrades and add-ons — often automatically.

We'll come back to the second category, but within the third lies utter chaos. For example, you can specify a location for your MS Office user dictionary, but not the Autocorrect file which resides inconveniently in the Windows folder. Microsoft is also responsible for a subfolder of Windows named 'Application Data' which contains all sorts of constantly changing files, such as your address book.

Then there's the registry, where most of Windows and application custom settings live — and there's much, much more.

Moving on to the last category, there's the constantly changing contents of your web-browser cache and history folders, and those ultra-ephemeral temporary files such as those used to hold data being sent to the printer or 'undo' information, and the Windows Virtual Memory swap file.

Virtual memory is one of those ideas that seemed very good at the time — that time being the days of Windows 3.0.
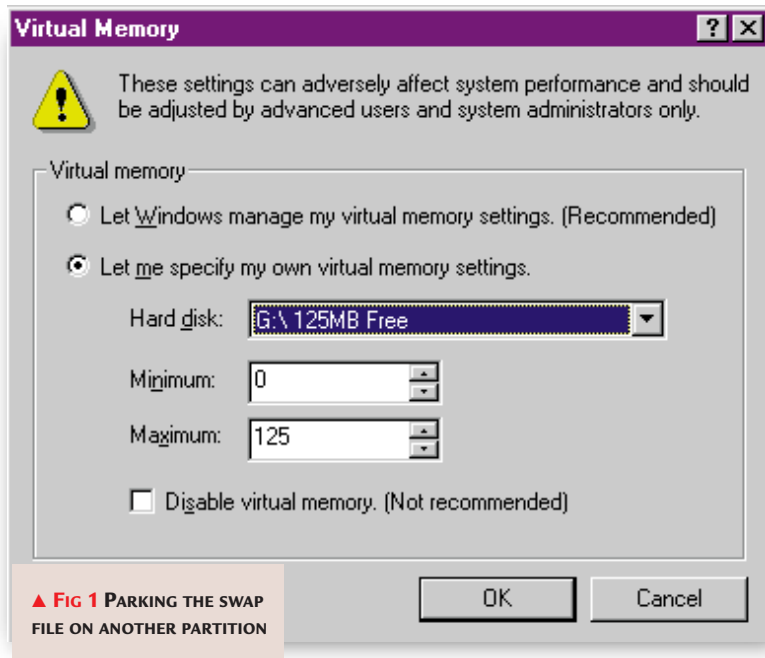
Most PCs came with only one or two megabytes of memory, so the Windows programmers borrowed a mainframe trick of using a part of the hard disk as if it were RAM: you could run more programs simultaneously than the physical memory would normally allow.
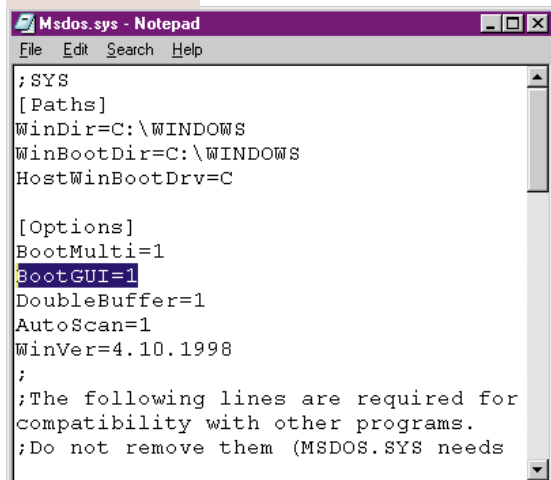
Now, you'd think, given that entry-level PCs come with 32 or 64 megabytes of the real thing, that you wouldn't really need virtual memory any more; but this is not the case. Furthermore, the more real RAM you have, the more virtual memory you seem to need: the figure commonly bandied about is two-and-a-half times the installed RAM, but I've never seen any official confirmation of this, nor been able to understand the logic of it.
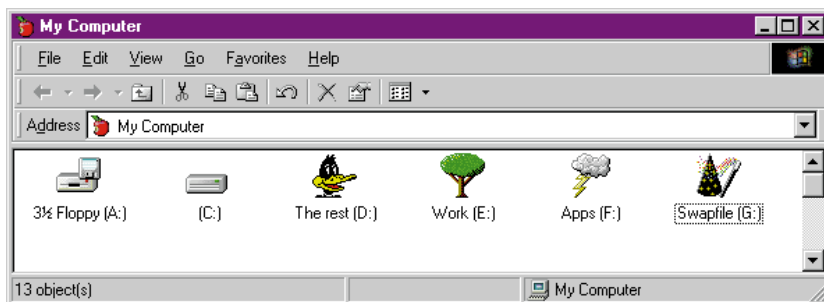
☛ **Swapping sizes**

Windows 3.x could use a fixed-size swap file; Windows 95 and 98 use a dynamic

Virtual memory is one of those ideas that seemed very good — at the time

▲ **FIG 1 PARKING THE SWAP FILE ON ANOTHER PARTITION**

▼ **FIG 2 BOOTING STRAIGHT INTO WINDOWS**

swap file that grows and shrinks as needed. If the disk on which it resides is fragmented, then obviously this is going to slow down performance. Which is why it's a good idea to put the swap file on a partition on its own, or at least one with files that seldom change.

A second reason is that if disk space on the default C:\ drive is getting tight, and there's insufficient room for the swap and temporary files, you'll get a whole variety of problems ranging from Out of Memory messages to print failures.

If you have a suitable partition, then this isn't hard to do. Open the System Properties page, either from Control Panel or by right-clicking on the My Computer desktop icon, then Properties. Click on the Performance tab, then the Virtual Memory button. Throwing caution to the wind, select the non-recommended 'Let me specify...' option. You'll then be able to select a different drive.

The maximum size will default to the amount of current free space on the disk, the minimum to zero. OK out, and hit the Virtual Memory button again. You should find that — surprise, surprise — Windows is once again managing virtual memory settings, and the only change is the now greyed-out hard disk letter. OK back out, defy the grim warning, close System Properties and agree to the restart prompt. If you have more than one physical disk, make sure the swap file is on the fastest [Fig 1].

☛A permanent temp-file solution
Having got that out of the way, what next? It's possible to move the folder that holds temporary files, though this is a little more complicated. First you need to create the folder on the desired partition — say, F:\TEMP.

Next, you have to edit the file Autoexec.bat in C:\ using Notepad. Add the following lines:

```
SET TEMP=F:\TEMP
SET TMP=F:\TEMP
```

substituting the path to the folder you've created. Once again, you'll have to reboot for the change to become effective [Fig 2].

☛ Split personality
As I mentioned last month, I have five drives on my PC. The main disk is partitioned into four — drives C:, E:, F:, and G: [Fig 3]. The second physical disk, D:, a relic of the last upgrade, is left as one partition. The rather strange order, by the way, isn't my choice: physical drive letters are always listed before extra partitions. I try to keep C: as uncluttered as possible, reserving it just for Windows and Internet Explorer.

This means not only is there space for the inevitable updates and add-ins, but also that it's relatively simple to back up the entire Windows installation and common files. E: is where I keep all my work and my mail database. F: is where all my regular applications reside, G: is home to the swap file, and D: is used as a first-stop backup for E: (on the grounds that two physical disks are unlikely to fail simultaneously) as well as a repository for odds and ends that don't really fit anywhere else.

The big problem is keeping C: uncluttered. We've already seen how to relocate the swap file and temporary files; next month we'll look at other possibilities for segregation. ➤

THE GANG SHOW EGGS YOU ON

And now for a bit of light relief: the Internet Explorer 5 gang screen. Open Notepad, and type
`<!– introducing the Trident team –>`
Save this as Eggy.htm and close Notepad. Double-click on it, or drag it into IE5 — you don't have to be online. You'll see a series of names wafting around the screen, starting with Bill Gates and working down.

If this leaves you gasping for more, then try this. Open IE5. Click the Languages button on Tools, Internet Options, General. Click the Add button. In the User Defined box, type **ie-ee**, then use the Move Up button to move this entry to the top of the language list. OK out back into IE, then click on the Search icon on the toolbar. When the Search pane opens on the left, click about for more wacky programmers' humour. There are photos, links to finding the perfect gift, the perfect someone or yourself, and a hatching dinosaur.

Personally, I've had more fun cleaning my teeth; but then, I do have an electric toothbrush. Do make sure you remove the custom language when you've exhausted the fun possibilities: there's an option in the Egg itself to do this, or you can go back to the Languages button, highlight the entry and hit the Remove button.

Questions & answers

Q How do I insert a legal notice into the logon in Windows 98? I want to prompt all users to take notice of not installing any software that isn't licensed. I've done it in NT4 with a Registry edit (and some coaching). Can you help?
SUZANNE MARTIN

a Yes. You need to run Regedit and go to HkeyLocalMachine\Software\ Microsoft\Windows\ CurrentVersion\WinLogon. There should be two entries in the right-hand pane with the following titles:
```
LegalNoticeCaption = ""
LegalNoticeText = ""
```
If they don't exist, create them by right-clicking in the right-hand pane and selecting New, String value. Double-click on each to enter the title and text of your choice.

Q I've been following your VBScript articles with interest. Is there any way of producing a 'self-cancelling' message box, i.e. one that doesn't require any interaction from the user?
DOUG SALTER

a As you may have gathered, I'm by no means an expert on VBScript or Windows scripting, but in a desperate attempt to keep one jump ahead of the readers, I dug around and came up with the following:
```
WshShell.Popup
"Message text", n,
"Title", constant
```
(read as one line).
The number n controls the time, in seconds, before the message disappears of its own accord, though you can OK or Cancel before it times out. The constant uses the same

standard as MsgBox(): for example, 64 gives a standard Info icon with OK and Cancel buttons.

Q Each time I reboot, I have to reset the wave volume to maximum (in order to play Tomb Raider III properly!). Once shut down and restarted, the volume is reset to about halfway up the scale and I have to set it again. Why is this?
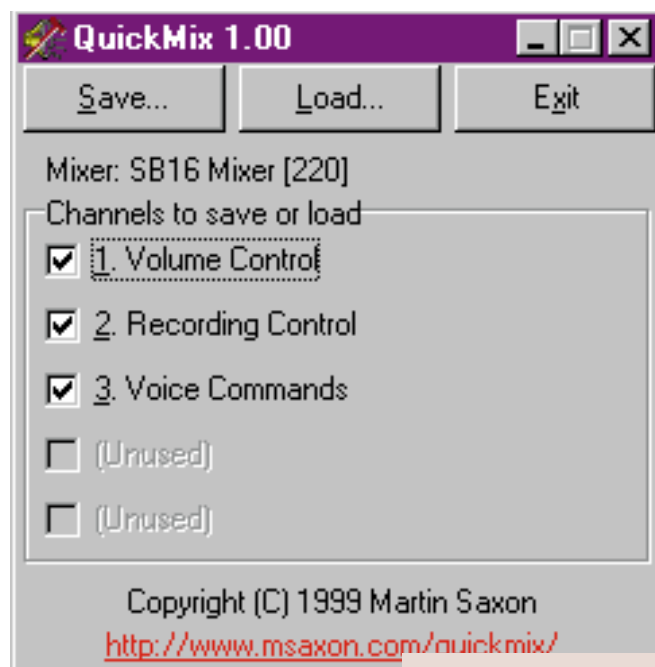**DAVID PRESS**

a It's a common problem, but one I've never been able to solve satisfactorily. It can be caused by 'legacy' entries relating to the sound card in Autoexec.bat, Config.sys or System.ini after upgrading from Windows 3.1. The best way to deal with these is to disable the entry by putting 'Rem' at the beginning of the line. However, it also seems to happen on new Windows 95/98 installations — and I've never found out why. Good news, however, comes in the form of Martin Saxon's QuickMix. This freeware utility will save the current state of your audio mixer controls to a file, which you can then reload when you need it. So, with a suitable shortcut in the StartUp group, you can boot up with your own rather than Windows' choice of settings. QuickMix is included in the Hands On Windows section of this month's cover CD, or you can find it at *www.msaxon.com*.

Q Is it possible to change a 'branded' version of IE5 — i.e. one that has a third-party name in the title bar — to the standard 'Microsoft Internet Explorer'?
MADELEINE WARNER

a Yes — it's a simple registry edit. Back up the

QUICKMIX: A SOUND SOLUTION TO A LONG-STANDING PROBLEM

registry as per the usual disclaimer, then run Regedit. Go to HkeyLocalMachine\ Software\Microsoft\Internet Explorer\Main, and look in the right-hand pane for a string value (i.e. one with the 'ab' icon) named 'Window Title'. If you delete this it will revert to normal, or you can double-click on it to edit the text.

Q Ever since a recent crash, when I boot up, Windows 95 gets me to a point where I have a DOS prompt and Windows 95 doesn't run automatically. If I type 'win' then Enter, it will run — just like the old days! Could you please tell me how to make Windows 95 start all by itself again?
GORDON BAIN

a It sounds as if you might be stuck in MS-DOS mode. When you restart in this mode, Windows substitutes different versions of Autoexec.bat and Config.sys. If you type 'exit' when the machine boots to a DOS prompt, instead of 'win', it should restore the normal versions. Another possibility is

that the file Msdos.sys (also in the root of your boot drive) has been changed. You may need to turn on 'View all files' from Explorer, View, (Folder) Options, View to see this. Right-click on the file, select Properties, and clear the Read-only checkbox. Load the file into Notepad (it's a plain text file despite the .sys extension). Verify that in the [Options] section, BootGUI is set to = 1. Save, exit Notepad and re-apply the Read-only flag to msdos.sys.

Q Have you any hints on 'extending' the trial period of Paint Shop Pro 5?
ADAM CRAIG

a Yes — it's easy, really. Pay the registration fee.