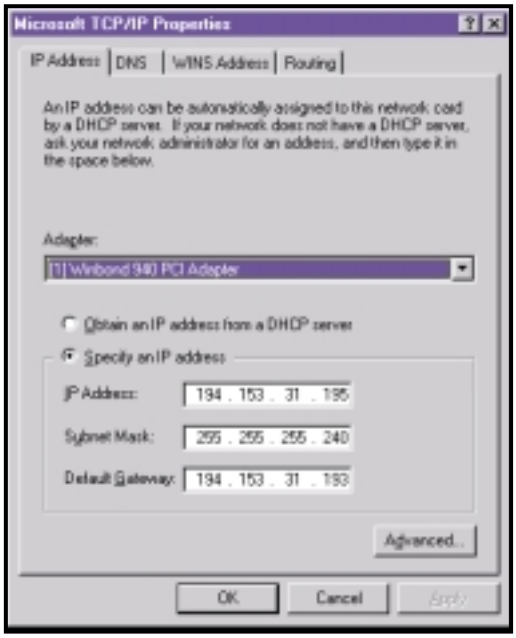
Rescue mission

Andrew Ward goes in search of a CD Drive that's missing in action somewhere on the network.

Back in the February issue, I suggested that Martin Goose's inability to see a shared CD-ROM drive across the network – resulting in the 'Not enough server storage' error message – was probably down to not installing the latest service pack. In fact, Martin assures me that this wasn't the case, and that he has finally located the true cause of the problem.

The giveaway was the following message in the event log: 'The server's configuration parameter "irpstacksize" is too small for the server to use a local device. Please increase the value of this parameter.' What had happened is that Martin has made various other changes to his system. In particular, he's altered the network bindings, to make his system more secure when it's attached to the Internet. As a result, the IRPStackSize registry setting needs increasing.

Martin is already using Service Pack 4 (SP4) and, according to Microsoft's website, this problem shouldn't still occur with SP4 and later, but it obviously does. Martin found that increasing the value IRPStackSize from the default 6 to the maximum of 12 at the following registry key solved the problem:

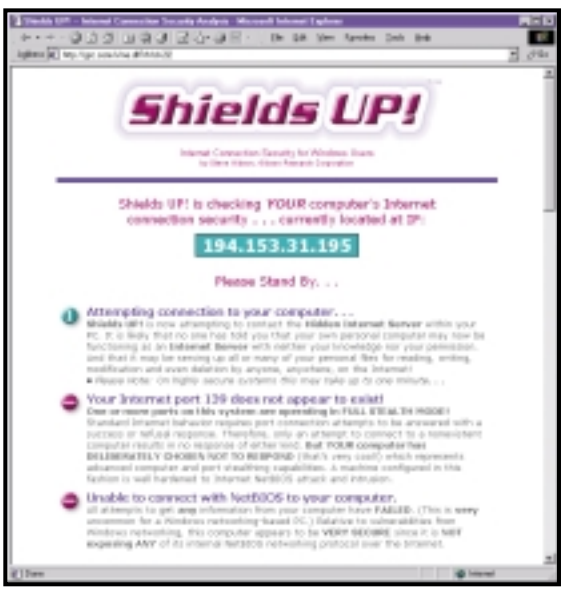


Rebooting is a thing of the past when making changes to TCP/IP settings

HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\LanmanServer\Parameters.

However, Microsoft's Knowledge Base articles suggest that it is not always advisable to wind up the IRPStackSize value all the way to 12 – indeed, setting it too high may also cause the problem. Instead, it suggests that you should increase it one step at a time, until the problem goes away.

However, Microsoft warns that this error message may occur after installing or uninstalling virus-scanning software, and suggests either removing the virus-scanning software or increasing the IRPStackSize.



Unless your Windows NT system is protected by a firewall, it's unlikely to be this secure against attack

No reboot needed

From at least Service Pack 5 onwards, if you make changes to the TCP/IP network settings within the Network Control Panel, you don't then need to reboot the machine before the changes take effect. This includes changing to and from using a DHCP server, or altering a system's IP address, and will be particularly welcomed by many readers involved in networking.

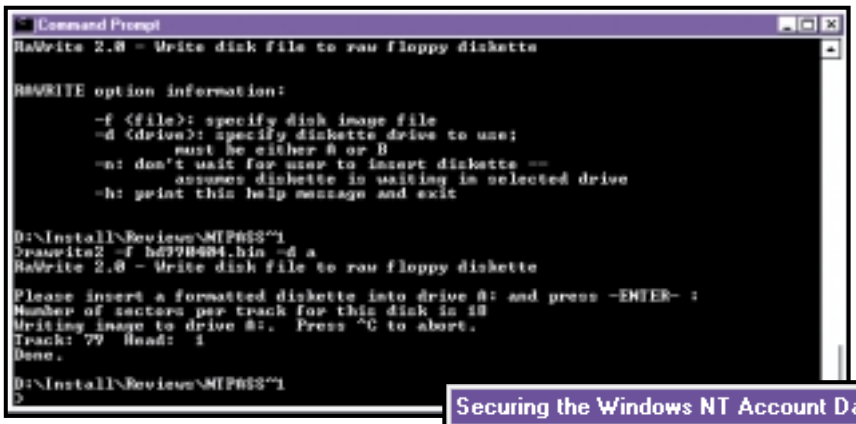
Remember that you can check IP settings with the command-line program IPCONFIG if you want to be certain that your changes have taken effect. If you are making changes to your DHCP server (for example, to specify a different range of addresses to be handed out) you do not need to reconfigure the TCP/IP settings in the Network Control Panel, assuming that your systems are already configured for DHCP. Instead, you can use the following command to force a renewal of your lease: IPCONFIG /renew.

The /release option is also useful, to release the IP address currently in use by a workstation: IPCONFIG /release.

Improved net security

The changes that Martin Goose has made to his system bindings were done to increase security while his computer is connected to the Internet. The default configuration when you first install Windows NT leaves certain services running that are vulnerable to attack. If you want to test the security of your own system, check out the Shields UP! link on the website http://grc.com. You may be surprised at what your system is sharing across the Internet. Thanks for alerting us to this, Martin.

To secure your system if you aren't on a LAN, simply remove all bindings except between TCP/IP and your dialup adaptor, or cable modem/DSL connection. Remove any bindings to Client for Microsoft Networks or File and Printer Sharing for Microsoft Network. If you do have a LAN, then install the non-routable NetBEUI transport protocol



Creating a boot disk containing Linux to change lost admin passwords

Securing your system with syskey makes it more difficult to defeat SAM security

and bind the Microsoft client and file and printer sharing to that instead.

Slowing FoxPro

Mark Machin offers further advice on how to slow down a fast system, to get FoxPro to behave on fast machines under Windows NT. He offers several pieces of advice, starting with the observation that the problem doesn't exist at all with the DOS version of FoxPro, but only affects the 16bit Windows versions 2.5 and 2.6. However, Sean Johnson suggests the reverse – that the Windows problem can be overcome by downloading the latest version of FOXW2600.ESL from the Microsoft website, but that the issue remains with the DOS version.

In any case, Mark has tracked this down to a timing issue that only occurs when FoxPro starts up. He offers two more solutions. FoxStart11.exe slows down the initial speed of FoxPro, but doesn't affect its speed at runtime. His second solution is an alternative to downloading the corrected FOXW2600.ESL from Microsoft. DZPATCH.PRG is a FoxPro program that you can use to patch FOXW2600.ESL and FOXPROW.EXE yourself.

This problem arises because the program is executing a timing loop, and counts how many loops it can do in a millisecond. It does this until 110ms have passed, and then divides the result by 110. With fast machines, this produces a divide overflow.

Mark also provided SlowStart13.exe, which will slow down any 16bit application that refuses to run on a system with a clock speed of 333MHz.

Please note, These programs take the EXE filename of the program you want to run as their command-line parameter. So, if you wanted to start WORD.EXE slowly, your command would be: slowstart13 word.exe

All these files are provided on the cover CD. SlowStart.zip contains SlowStart13.exe, FoxStart.zip contains FoxStart11.exe and Dzpatch.zip contains DZPATCH.PRG.

Lost admin password

Donald McKerrigan was particularly interested in my recent mention of ways to overcome lost admin passwords for Windows NT, since he had inherited over 100 PCs, but didn't have the passwords for them. Spurred on by the article, he then went on to find a much better method of resetting passwords than the ones that I had proposed.

The program NTpassword is actually a bootable copy of Linux, complete with code to interpret the NTFS filing system and the SAM (user account information) database. First you have to create a bootable floppy, and a special utility is provided to copy the necessary disk image onto the floppy.

When you boot the system, Linux loads, and then a utility attempts to determine which disk partitions are NTFS partitions. You have to type in the name of the partition that is actually the one that you want, or hit return to accept the first (default) one. Then, the SAM database is inspected, and all the user account names listed. When prompted, simply type in the name of the account for which you want to change the password. You can then change its password.

On some occasions, the administrator password is blank, but you simply don't know the name of the administrator account – that's often true on new systems, if the supplier has chosen an unusual name for the administrator account and you've lost the bit of paper! NTpassword will list all user accounts set up on the system, and tell you which have blank passwords. You can probably work out which is the administrator account.

For anyone used to the GUI interface of NT, the Linux interface may be a bit strange, but the on-screen prompts are quite helpful. The default answers to questions appear in square brackets, and these provide a useful guide to the format you need to follow with your reply, if it differs from the default.

To download NTpassword, visit http://home.eunet.no/~pnordahl/ntpasswd. Please note that NTpassword won't work if you've secured your SAM database using syskey.exe. Syskey was supplied in Service Pack 3 and later, and is also available as a hotfix. It uses a 128bit cryptographically random key to protect the password data. Only password information is strongly encrypted in the database, not the entire account database. Every system using the strong encryption option will have a unique password encryption key, which is itself encrypted with a System Key, and defined using syskey.exe.

Net Time

John Gray would like to know if it's possible to change the date and time

formats used by the Net Time command, which by default uses US formatting. Under Windows NT 3.51, on a workstation configured with UK as the locale, Net Time returns the date and time in UK format, as expected. This doesn't work under Windows NT4.

John suggests using a batch file to alter the date and time. An example is shown in Figure 1. If anyone knows whether it's possible to persuade Net Time to display the time correctly formatted according to the workstation's locale, please let me know!

Physical memory size

In March we were talking about a batch file that reports the physical memory size of a remote system. John has come up with a workaround to the problem of the batch file only working as a CMD file and not a BAT file. He replaced this line:

```
IF ERRORLEVEL 1 GOTO EXIT
```

with this one:

```
IF "%memsz%"=="" GOTO EXIT
```

In any case, this is probably more reliable than checking the error level after multiple FIND statements.

A further improvement idea from John relates to the accuracy of the value returned. Apparently, the file underestimates the memory size by around 648KB, although this value isn't consistent. The following code will correct the value and then round it to MB, so any remaining error will usually conveniently disappear:

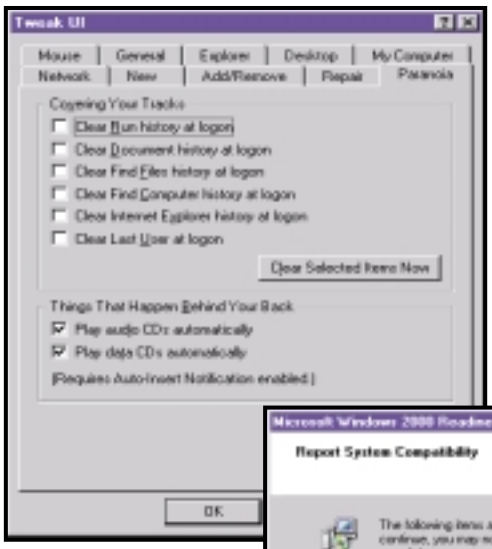
```
set /a memsz = memsz + 648
set /a memsz = memsz / 1024
```

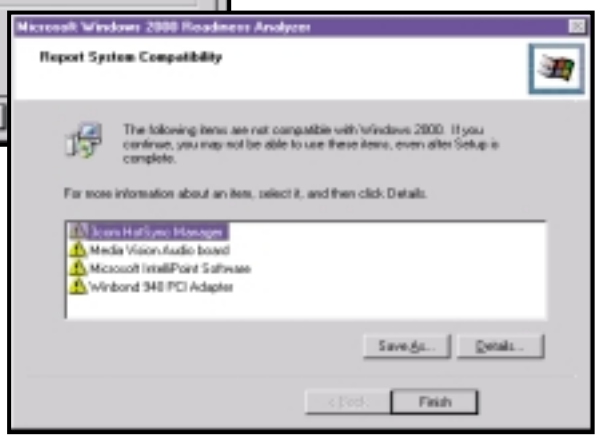
FIG 1

Converting Net Time to UK format

```
@echo off
setlocal

for /f "eol=T tokens=4" %%a ↙
in ('net time') do set pc=%%a

for /f "eol=T tokens=6-8 ↙
delims=/ " %%a in ('net ↙
time') do set ↙
ddmmyy=%%b/%%a/%%c

for /f "eol=T tokens=7,8 ↙
delims=: " %%a in ('net ↙
time') do (set hh=%%a) & ↙
(set mm=%%b)

:: add leading zero to hours
if %hh% LSS 10 set hh=0%hh%

set hhmm=%hh%:%mm%

echo Current time at %pc% ↙
is %ddmmyy% %hhmm%

endlocal
```

(*Key:* ↙ *code string continues*)





Above: TweakUI provides an easy way to disable Autorun for CDs
Right: Is your NT system ready for upgrading to Windows 2000?

No Autorun, thanks

William Macalpine isn't the only one to ask how to disable Autorun on the CD drive in Windows NT4. You can hold down the shift key when you insert the CD (which usually works), but if you want to turn it off permanently then you have two options – either edit the registry, or use TweakUI to make the change for you. Obviously, the latter course of action is a great deal safer, and also more fun.

TweakUI is available from: www.microsoft.com/ntworkstation/downloads/PowerToys/Networking/NTTweakUI.asp.

Ready for Windows 2000?

Naturally, several people have asked about upgrading from Windows NT to Windows 2000, and whether there are likely to be any hardware or software compatibility issues. In theory, Windows 2000 offers a much broader range of hardware support, so compatibility problems should be less, rather than more. Unfortunately, many existing NT systems will naturally be using older hardware, which isn't likely to be supported by Win2K.

If you want to test an NT system for compatibility issues, you can run the Microsoft readiness-checking tool chkupgrd.exe on the cover CD.

Paging files

Joseph Stroller wonders if he really needs a paging file size of 167MB, having upgraded his system RAM to 128MB. There's no right answer – the paging file needs to be the right size for the applications you run. However, a page file of this size on Joseph's system will only fit on two partitions. That's fine if the partitions are on different physical drives – your system can potentially be faster – but not so good if they're on the same physical drive. In that case, it would actually slow down.

Setting the page file to a smaller level is probably a good idea, and it's not too risky on a desktop system – you simply get a warning message that the system is running low on virtual memory. If you really want to be accurate about setting the page file size, then setting the Performance Monitor to observe Process: Page File Bytes: _Total will allow you to see exactly what percentage of the file gets used.

CONTACTS

PCW welcomes your comments on the Windows NT column. Contact us via the *PCW* editorial office or email **nt@pcw.co.uk**