On the SUBST bench

For home games — or, setting up user directories — SUBST scores. Andrew Ward commentates.

Revisiting the issue of how to set up home directories for different users effectively, a number of people, including Jolyon Shotton, have written in to point out that the SUBST command still works in Windows NT. Those of you who weren't brought up with DOS will probably not have the faintest idea what I'm on about, so for your benefit, here's a brief description.

To all intents and purposes, what SUBST does is to map drives but from the command line — the same as the "map drive" button in the Explorer toolbar. That reminds me: I don't think the Map Drive and Disconnect buttons are turned on as standard in the Explorer toolbar. You can of course achieve the same thing from drop-down menus in the left-hand Explorer pane, but if you do want to use the buttons, this is how you turn them on.

Select View / Folder Options from the menu and go for the View tab. Under Advanced Settings, Files And Folders, tick the item called Shop Map Network Drive Button In Toolbar.

Back to SUBST. The syntax is SUBST d: pathname, where d: is the drive letter you want to map and pathname is the directory path you're interested in. But what's particularly interesting is that %username% works with SUBST, so all users can execute the same SUBST command on start-up, yet end up with their own directories mapped. For example, if you wish to map user directories to drive X:, a suitable SUBST command might be [read as one line]:

```
subst x:\\VEGAS\users\
%username%
```

One option would then be to place this command in a .cmd file in the All Users start-up profile at:

```
%systemroot%\Profiles\All
Users\Start Menu\Programs\
Startup
```

Route planning

When I used to use dial-up networking, I often found that the routing went awry. In theory, by using the route command, it ought to be possible to manually fix the routing table. In reality, it's just not worth the trouble. If you delete the entire table using this command:

```
route delete *
```

then the important bits are rebuilt automatically. Don't try this if you don't use dial-up networking, as you are likely to find that routes you really need, no longer work — until you next reboot.

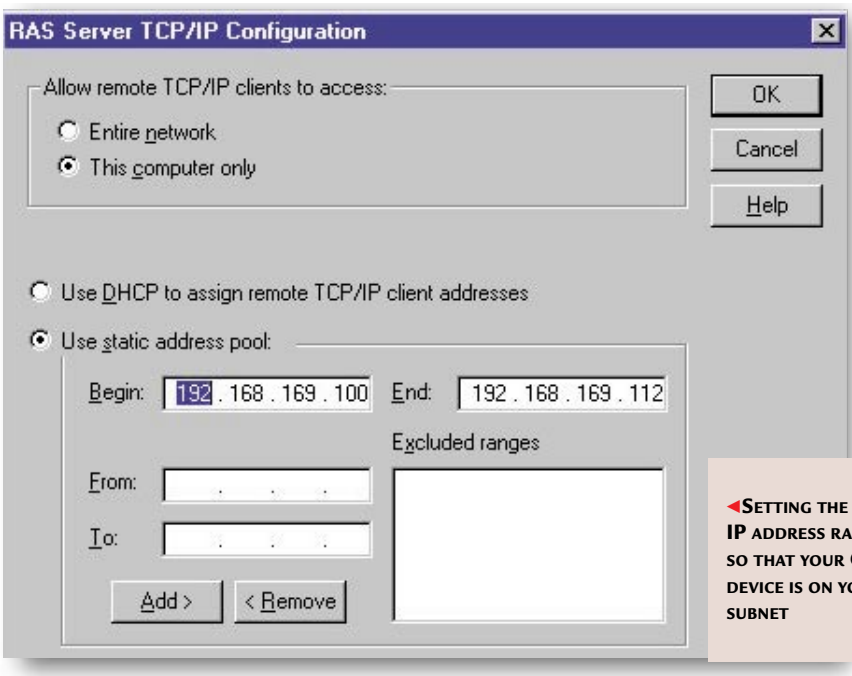
Here's some more information on why the Windows CE Services cause additional routing problems. Specifically, they generate off-subnet IP traffic which may cause your internet connection device (LAN modem, ISDN router, or whatever) to bring up your connection unnecessarily.

Firstly, installing the Windows CE Services causes RAS to be re-installed. Whenever RAS is installed, it enables the Remote Access Autodial Manager service, which in turn causes off-network traffic to be generated each time a user logs on. So, the first thing to do is go to the Services Control Panel and set the Remote Access Autodial Manager to be disabled.

You are likely to find that routes you really need, no longer work

The next problem is that whenever your Windows CE device is turned off or disconnected from the PC, off-network traffic is once again generated. This is because the Windows CE Services use IP to talk to the Windows CE device, and they've chosen the address 192.168.55.100 as the default for the handheld device. Hence, whenever the services look to see if the device is there, off-network traffic is generated (assuming that 192.168.55 isn't your subnet). Unhelpfully, the advice given by Microsoft in the accompanying help files is simply to turn off RAS autodial (it is not suggested what you should do if you have a LAN modem or ISDN router).

Of course, a far more sensible suggestion is to change the IP address of the handheld device so it's actually on your own subnet. In my case, this meant moving it to 192.168.169.100. First of all, within Windows NT, go to the Network Control Panel, select the Services tab and highlight Remote Access Service. Click on Properties. Eventually you'll see a



◄SETTING THE RAS IP ADDRESS RANGE SO THAT YOUR CE DEVICE IS ON YOUR SUBNET

list of ports and devices: highlight the entry for Dial-Up Networking Serial Cable and hit Network... Then select Configure... (for TCP/IP), choose Use Static Address Pool and change the range to 192.168.169.100-192.168.169.112. Then click OK, OK, Continue and Close.

No changes to the palm-sized PC device are necessary, since it should be set to use a server-assigned IP address already.

Making a splash

I like the easy ones. Eric Adler asks whether it is possible to change the splash screen you get on start-up with Windows NT. Actually, this is very easy, since it's simply stored in a BMP file. My memory suggested this would be called LANMAN.BMP, but something must have been updated at some time because the new name is WINNT.BMP, or WINNT256.BMP for displays capable of 256 colours or greater. You'll find these files at:

```
%systemroot%\winnt.bmp
%systemroot%\winnt256.bmp
```

You can, I believe, delete or rename these files to prevent them being shown at all. But if you want your own image displayed, then just rename your file (it must be in BMP format and in the %systemroot% directory) as winnt256.bmp or winnt.bmp as appropriate (depending on the number of colours in the file and the display). If you want to do this properly, you'll have to make two image files or keep the number of colours to 16 or below.

POP GOES THE NTMAIL

For those of you who want a mail server but don't really fancy biting the Exchange Server bullet, NTMail version 4 is well worthy of consideration. It provides SMTP, POP3, IMAP4rev1, Finger, PASSWD and HTTP Proxy Internet services. Mailboxes themselves may be accessed via POP3, IMAP4 and even a web browser.

I must confess that I don't like NTMail quite so much as MDaemon, which is particularly good at fetching mail from external POP3 sources and automatically working out which internal mailboxes to redistribute it to, but there's nothing wrong with it. I have found that the web-based system administration is particularly useful, saving the need to physically access the server on which it is installed, to perform administrative tasks.

Service Pack 4 at last

Service Pack 4 was released at long last just a couple of days before I wrote this column. Early indications are good, with "rock solid" being the typical comment from users. There are a few glitches however, most notably that Windows NT tries to run TIPS.EXE, part of the Microsoft IntelliPoint mouse software, which causes a GPF. To stop this happening, just delete the registry entry that runs TIPS.EXE.

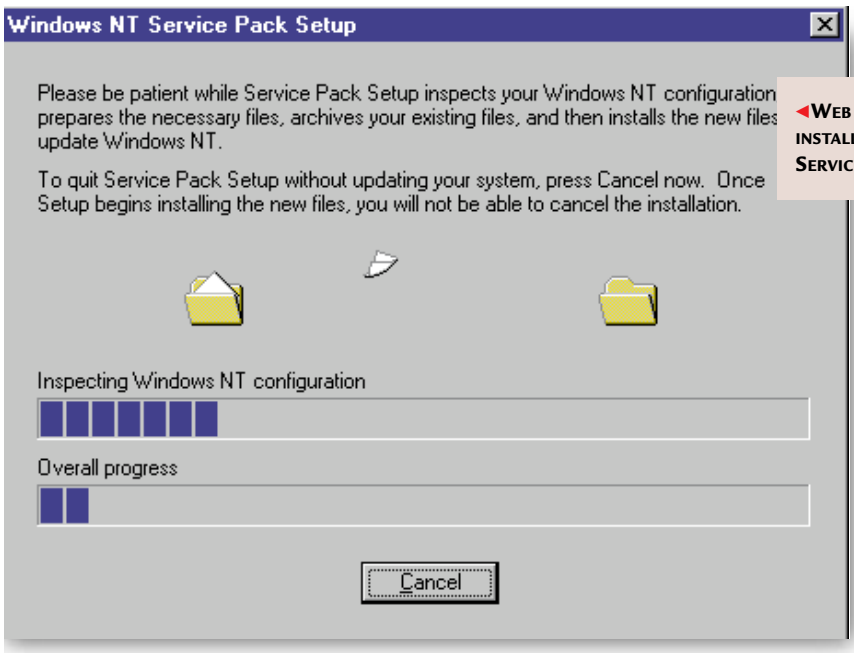
As predicted, SP4 is available in two versions: either the full download or a web-based patch install. The latter course is by far the most preferable for home users who only have one system to patch and aren't likely to change their configuration often.

Remember that if you ever make any change to the system that involves copying files from the original NT install disk, you must reapply the service pack; so if you make frequent changes, then downloading the full 31Mb (42Mb Alpha) is the best way for you. Otherwise, you'd have to go online to re-patch your system every time.

Microsoft terms these two install modes the Traditional and Optimised modes respectively. For the Optimised mode to work, you probably need Internet Explorer 3.02 or later, so if you use Netscape Navigator or Communicator, download the Traditional installation and run it in the usual way.

You can find both Service Pack 4 versions at the following location: www.eu.microsoft.com/windows/downloads/contents/Updates/NT4SvcPk4.

Note that it is the same service pack whether you have Windows NT Workstation 4.0, Windows NT Server 4.0 or Windows NT Server 4.0 (Enterprise Edition) installed. Fixes to the Windows NT 4.0 Option pack are also included, but remember that there are different service packs for Intel and Alpha processor versions.



◄WEB INSTALLATION FOR SERVICE PACK 4

Y2K concerns

Service Pack 4 contains bug fixes, as usual, but there are also changes in two other important areas. Most significantly, all known Year 2000 (Y2K) updates are included, but that's not enough to make your system Y2K

compliant. There are other Microsoft software components you might well have installed, such as the MDAC (Microsoft Data Access Components, or ODBC to you and me) and Internet Explorer 4, which could also have Y2K issues. Therefore, what Microsoft has done is to include a Y2K utility within the service pack which checks the rest of your system for Y2K problems. It doesn't look at separately available application packages like Microsoft Office, just the free add-ons you might consider to be part of the operating system.

Ringing the changes

The other important set of changes is enhanced functionality, specifically in these areas:

- Routing Information Protocol (RIP) Listener
- Telephony Application Programming Interface (TAPI) 2.1
- Microsoft File and Print Service for NetWare (FPNW) Support for Client32
- Active Accessibility Support
- DCOM/HTTP Tunnelling
- Visual Studio-MICS
- Remote Procedure Calls (RPC) Enhancements for Visual Basic (VB)
- Remote Winsock (DNS/Port 53)
- IP Helper API (IPHLPAPI)
- InternetGroup Management Protocol (IGMP) version 2
- Euro Key Patch
- CryptoAPI and Authenticode
- Profile Quotas (Proquota.exe)
- Microsoft Routing and Remote Access Service (RRAS)
- PPTP Performance and Security Update
- CHKDSK Enhancements (new /C and /I switches)
- New functionality with NBTSTAT.EXE (new /RR switch to renew WINS client registrations)

That's what you get if you download the service pack or patch your system over the web. But for those who get their hands on the CD, there's a whole lot more in store:

- Compaq Fibre Storage Driver
- Web-Based Enterprise Management (WBEM)
- Message Queue (MSMQ) for Windows 95 Client
- Security Configuration Manager (SCM)
- Windows NT Server NetShow Services
- Windows Media Player
- Windows NT 4.0 Resource Kit Support Tools
- Site Server Express 3.0 (Upgrade Only)
- Microsoft Internet Explorer 4.01 Service Pack 1
- Microsoft Data Access Components 2.0 Service Pack 1
- Windows NT 4.0 Resource Kit Support Tools
- Year 2000

However, before you embark on a Service Pack 4 installation, your best bet is to run the Year 2000 Service Pack 4 utility. If this finds problems with other components, you may well be better off downloading the full Year 2000 Service Pack 4. This is over 70Mb, but as well as the standard service pack it will detect and upgrade Internet Explorer 4.01 SP1, Microsoft Data Access Components (MDAC) 2.0 Service Pack 1, and/or Site Server Express 3.0 (if earlier versions exist on the system) to fix Y2K problems.

If you just install the standard service pack, don't worry. When your system restarts, you are automatically told whether or not there are other components which need Y2K upgrades. In theory it's possible to do this then and there, although I haven't seen it work yet. Note that there is no uninstall option for Y2K corrections.

START AND STOP

Thanks to Mark Lambourne for pointing out the drawbacks of my suggested method of shutting down services from the command prompt using NET STOP. Mark says the NET STOP command doesn't wait as long for services to stop as the Services Control Panel does, with the result that it will time out with an error like "The selected service could not be stopped". This leaves the service somewhere between running and not running, with the result that the Services Control Panel would report the service as Stopped, but any attempt to click the Start button produces another error: "The selected service has already been started". Attempting to sort this out by restarting or shutting down the system then results in a shutdown procedure which takes even longer than normal, thus defeating the entire object. Mark has observed that proxy server services appear to be the worst offenders.

DIRECTORY COMPLETION

I wrote a while ago about how you can turn on command completion, so that if you type-in just the first letter or two of a directory or filename, then pressing the TAB key can complete the whole name for you. Umer Nalla writes to point out that if you type CD followed by a space and then hit TAB, the command window will automatically cycle through the directory names for you. Append a backslash (\) and repeat the process to traverse further levels. But what Umer points out that I didn't know, is that you can drag a directory or a file from NT Explorer into a Command Prompt window to save typing in the path and filename. Just remember to type a double-quote symbol first if the pathname is going to contain spaces, otherwise it won't work. Thanks for that one!

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