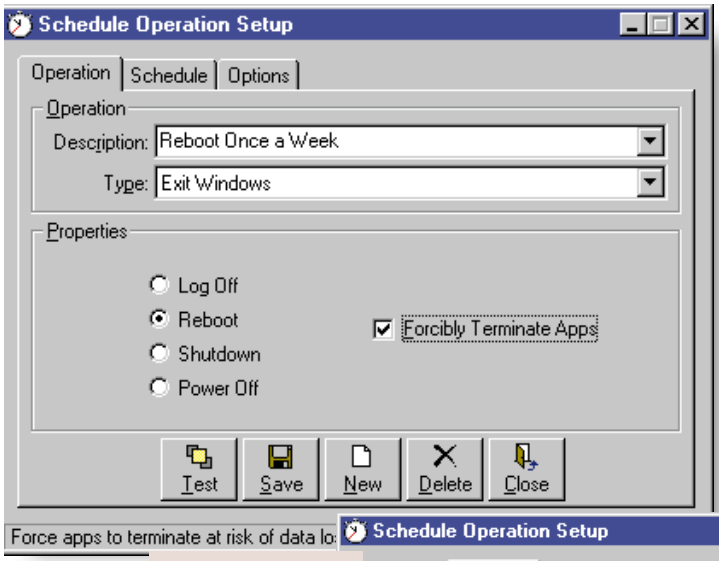
Kinky reboots

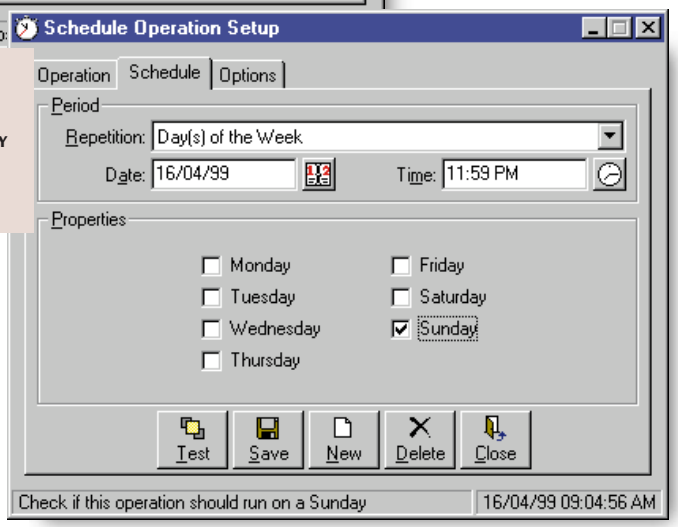
Andrew Ward takes a look at the options for scheduling shutdowns.

Reader Jimmy Sumar asks whether it is possible to schedule an automatic reboot once a week for a Windows NT machine? The answer is 'yes', but it's a bit of a fiddle if you use the built-in scheduler and in any case you will also need the Windows NT Resource Kit in order to provide the Shutdown program.

Fortunately, there are a number of easier ways to achieve a scheduled reboot, using readily-available third-party utilities.

First of all, why would you want to reboot a system once a week? Well, even if you don't have any applications with memory leak bugs, Windows NT performance can degrade over time under some circumstances, due in part to memory fragmentation. In the shorter term, though, performance actually improves over time.





▲ WITH THE NT RESOURCE KIT INSTALLED IT IS EASY SET UP A ONCE-A-WEEK REBOOT ▶

To regularly reboot your system the hard way, you will first need to start the schedule service, as Windows NT doesn't start it by default. Users often complain of problems trying to get the schedule service going. Usually it's because there's something wrong with the account that it's configured to log into, so it makes sense to set up a dedicated account.

First, go to the User Manager and make a new user account called Shutdown. Tick both the 'User Cannot Change Password' and 'Password Never Expires' boxes. Clear the 'User Must Change Password At Next Logon' box and then choose and enter a password — make sure you record it somewhere. To give the account administrator rights you will need to shut the system down and restart it. Click on Groups and then add Administrators to the groups of which the shutdown user is a member.

Now, start the shutdown service by going to the Services control panel. Select the schedule service, click on Startup and set the startup type to automatic. Tick the 'Log On As This Account' box, choose the Shutdown account and be sure to enter the password correctly.

Windows NT performance can degrade over time

At last, you are in a position to use the AT schedule command. This command-line utility is the way in which you specify the tasks that the schedule service carries out, and the times it should execute them.

First, we need to make a batch file to run the Resource Kit shutdown command. Make a batch file called 'reboot.bat' containing the following:

```
shutdown /R /C /L
 /Y /T:0
```

The options specified are: /L specifies that shutdown works on the local machine; /R specifies a reboot after shutdown; and /C forces running applications to close.

If you don't specify /C and an application is left open, the system may not shut down. For example, you may have left Microsoft Word running with an open file. When you return, you'll find Word prompting you to save the file. Of course, if you do specify the /C option, you'll lose any changed data associated with an open file. If in doubt, don't specify this option.

/Y automatically answers any questions raised by Shutdown with Yes, otherwise you'll come back to find a question like 'are you sure?' on your screen. /T:0 specifies an immediate shutdown.

These settings are only suitable for a single-user desktop system where the shutdown is scheduled to occur at a time when no one is using it. With a server you will probably want to issue messages to

users, allow plenty of warning time, and you definitely will not want the /C option.

To schedule reboot.bat to be executed once a week, type a command like this:

```
at 23:59 /every:Saturday
 "c:\wherever\reboot.bat"
```

If that all seems like too much trouble, try downloading Schedule from Evans Programming. Not only can it reboot the system on a regular basis, it can do a lot more besides. As well as shutting down, it can simply log the user off, or run Windows or DOS programs.

You can also close specific windows and programs and even record keystroke sequences to send to windows. So, it can be used as a general-purpose controller for a huge variety of tasks. Schedule is available for purchase over the internet from www.evans-programming.com/schdl.htm and costs $29. You can download and try it for 30 days, free of charge.

WinDown is another utility. Like Schedule, it can be used to log off, shut down, restart or power-off — if your xhardware supports it — but WinDown is simply a command-line utility. You can download it from www.widomaker.com/~tedwindown.html.

However, it doesn't fulfil the requirement that I have, which is for a program that will simply close all running programs and then stop. I don't want it to shut down or log off because what I want to do next is take a backup. Some backup programs will automatically do this for you but not the one I want to use. So, if anyone knows of a utility like WinDown that will simply shut all open windows and stop there, please let me know!

Jaz it up

Reader Mark Baugh complains that when installing Autoroute 2000, an attempt to load the 16-bit subsystem fails, with the following message: 'Hidden console of WOW VDMD: \WINNT\SYSTEM32\CONFIG.NT. The system file is not suitable for running MS-DOS and Microsoft Windows applications. Choose 'Close' to terminate the application.'

YEAR 2000 UPDATE

Let's return to the Year 2000 issue. Reader Shtej Bhatt asks what is the current state of play with Windows NT, and what fixes should be applied?

One of the problems is that there are many different possible installations of Windows NT, using a wide range of supplementary software products that became available later — such as those in the Option Pack.

At one time, Microsoft produced a Y2KSETUP .EXE program in order to automatically check on the compliance status of Site Server Express, IE 4.01 and Microsoft Data Access Components but this has since been withdrawn.

Service Pack 4 was supposed to fix all known Year 2000 issues — but a new one was found in March. It is highly likely that further problems will pop up from time to time. Many of these are cosmetic and relate to date display in obscure applications. In any case, before starting to check on BIOS, operating system or application compliance, first assess what are your critical business processes, and the likely effect on your business of computer system failure — if you use NT at home to play Quake, say, you probably do not need to worry.

There are two possible causes for this, that I know of. The first is if you were to configure a removable drive, such as an Iomega Jaz drive, as the boot device. If you ignore the error you are returned to the DOS prompt and your program won't run. The reason for getting this message is that the pagefile cannot reside on a removable drive. To get around the problem, move the pagefile to a fixed disk drive. If you don't have one, you cannot run 16-bit MS-DOS applications.

The pagefile cannot reside on a removable drive

The other reason could be that %SystemRoot%\System32\COMMAND.COM has been removed or renamed, although the message is slightly different: '16-bit MS-DOS Subsystem: config.nt. The system file is not suitable for running MS-DOS and Microsoft Windows applications.'

To correct this, you need to restore COMMAND.COM. Either copy it from another system which has the same version and service pack of Windows NT, or expand COMMAND.CO_ from the NT CD-ROM disk to %SystemRoot%\SYSTEM32\COMMAND.COM. Otherwise, you can go through the Windows NT Emergency Repair process and verify system files — this will re-install COMMAND.COM for you. You will then need to re-apply the latest service pack, restart the system and try the application again.

Give the CD the boot

Reader Andrew Butler offers a very clear explanation of why booting from CD is tricky with Windows NT. During boot-up, the BIOS (assuming of course that you have a BIOS capable of booting from CD) will read the CD to check that it is a bootable disk. If so, the bootable image is then mapped as drive A while the rest of the CD is accessed via the standard CD drive letter. However, for the rest of the CD to be accessible, DOS CD drivers and MSCDEX must be loaded from the CD boot image. (The floppy is remapped as drive B during this process).

To create the CD boot image, you need to make a bootable floppy image, since the process simulates the floppy boot process. Remember that the objective of this is to repair a faulty system, so what we are trying to achieve is to be able to boot the emergency repair process which consists of the three setup floppies and the emergency repair disk, but from CD. However, Andrew points out that NT Setup does not allow you to type the path in for the second and subsequent disk, so the whole idea is a non-starter.

Copying drives

Reader Steven Jeffery kindly points out that when extolling the virtues of Server-Magic to copy from one drive to another when upgrading the hard drive, I overlooked the much cheaper DriveCopy product, also from PowerQuest. Expect to pay around £23 for DriveCopy.

DriveCopy supports NTFS as well as FAT formats, so it can be used on Windows NT drives. Since DriveCopy runs from a bootable floppy, it will work with any NTFS partition whether it contains NT Workstation or Server (ServerMagic, by contrast, will only work with Windows NT Server). DriveCopy will copy an entire hard drive, or individual partitions, and will do optional resizing if desired.

Phantom menace

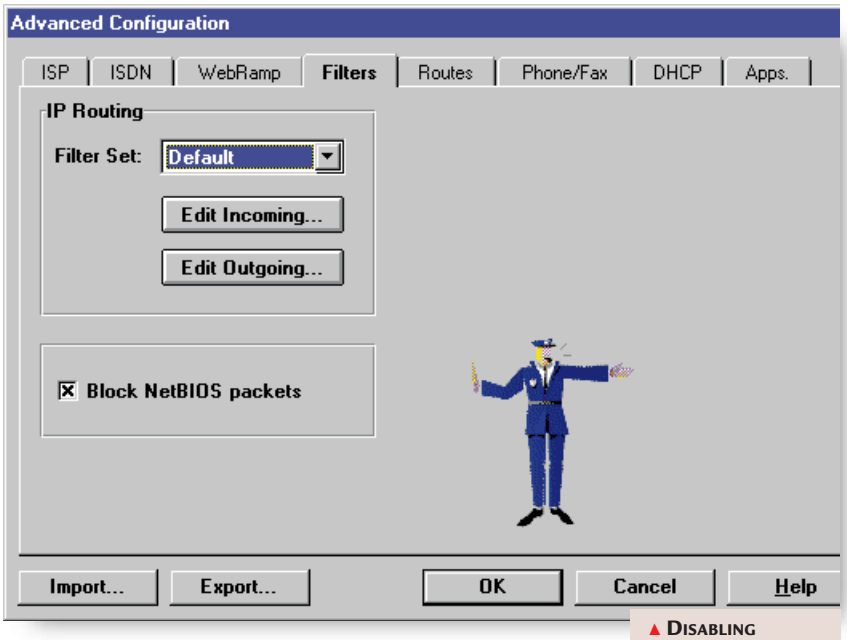
Windows NT has such a propensity to generate phantom calls over an ISDN router that a number of Microsoft knowledge-base articles cover this subject.

First, let's clarify the problem. There are two distinct sets of circumstances where you might be using a router. The first and most common is where you have a few NT desktop systems and are using the router for internet access. Usually, the router will be designed for this use and the default setting will be to ignore NetBIOS packets and UDP broadcasts, thus cutting out many of the causes of phantom calls. Ensure that the router is configured for internet access rather than as a 'traditional' IP WAN router.

In this environment, the causes of phantom calls are usually services — and I've already mentioned RAS and the Windows CE services in previous articles — or rogue applications. It's perfectly possible to go around all the PCs on a network and, one-by-one, track down the application or service that's causing your unnecessarily large telephone bill. Not only is that hard work, but someone somewhere is bound to change a configuration or install a new application tomorrow, and then you'll have the problem all over again.

In this environment, the causes of phantom calls are usually services

So, I particularly like the solution that has been suggested by various people, which is to provide a manual means of enabling and disabling the router's automatic dialling. Effectively, what you end up with is a couple of icons on the desktop: one to turn the feature on and another to turn it off. Before using the internet, you turn it on — it's only a click, so it's not too much trouble — and afterwards you turn it off again. It might not be appropriate for heavy use, but for occasional use it's not too bad.



▲ DISABLING NETBIOS FORWARDING WILL REMOVE MANY PHANTOM CALLS OVER AN ISDN ROUTER

You will have to carry out the following procedure on every desktop connected to the system, though. It necessitates making two batch files and works on the principle of manually adding the router's address as the default gateway on the network. So, in addition to doing this, you'll need to first remove the gateway address from the NT network configuration.

Go to the Network control panel, Protocols, TCP/IP, Properties and select the IP Address property sheet. Click on the Advanced tab and remove the entry from the Gateways section. If you use the router's DHCP server you have more of a problem: you either have to stop using DHCP, or remove the gateway in a batch file that is run at startup time.

Let us call our first batch file ISDNON .BAT. It should contain the single command:

```
route ADD 0.0.0.0 MASK 0.0.0.0 192.168.169.1
```

where the IP number on the end of the line is the router's address. Make a second batch file called ISDNOFF.BAT, and just include the following line:

```
route DELETE 0.0.0.0
```

In the second set of circumstances, where you are using the ISDN router as a WAN link to connect two domains, you have a much bigger problem. As shipped, NT is quite chatty and there are a number of things that generate unnecessary traffic.

A good starting point is the Microsoft Knowledge Base article Q142692, Minimising Wan Traffic. This deals with a wide range of issues and refers to several other Knowledge Base articles which provide information on how to reduce specific causes of traffic generated by Windows NT Domain Controllers. In general, the fixes involve registry tweaks.

One of the causes applies to both Workstation and Server. When you share a printer, the spooler broadcasts a message on all the print server's installed protocols — so that will usually include TCP/IP — to all Windows NT print servers, informing them of the new print share. Each of these servers adds the new print share name to its local printer browse list, and re-broadcasts the list to all print servers every ten minutes. Although this ensures that all the Windows NT print servers have current browse lists, it causes extensive network traffic.

For details of how to disable this feature, check out the knowledge base article Q131902, Printer Browse Thread May Cause Extensive Network Traffic.

PCW CONTACTS

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