Bin there, done that

The Recycle Bin can't always regurgitate inadvertently trashed files, so Network Undelete is a godsend for harassed administrators. Andrew Ward explains why. And, share and share alike, provided you have permission.

I don't tend to delete files I want to keep. Indeed, with hard-drive capacity as big as it is today I don't tend to delete files at all. But it seems that other users do. If you're the administrator for a Windows NT network, you're likely to be plagued with demands by users to restore inadvertently trashed files.

The Recycle Bin goes some way towards resolving the issue, but if the purpose of deleting files is to free-up hard drive space, then users will either use Shift-Delete (to carry out a permanent deletion) or go and empty the Recycle Bin anyway. And in any case, the Recycle Bin doesn't catch files deleted in a variety of ways (from the command prompt, for instance).

A product designed to address this issue is Executive Software's Network Undelete and, as the name suggests, not only does it work on an individual client or server system, but even across the network. It's ideal for harassed administrators.

Road to recovery

Following installation of Network Undelete, your Recycle Bin disappears altogether, to be replaced by a Recovery Bin. This seems to catch files no matter how they are deleted — even those removed by software de-installation programs. In fact, there's a danger that Undelete will go too far and catch all sorts of rubbish that you couldn't possibly want again.

Recognising this, Network Undelete supports an exclusion feature [Fig 1] which allows you to specify certain file types, file names or even folders that you *don't* want to be able to recover. As standard, the exclusion list contains such things as the file extensions typically associated with temporary files.

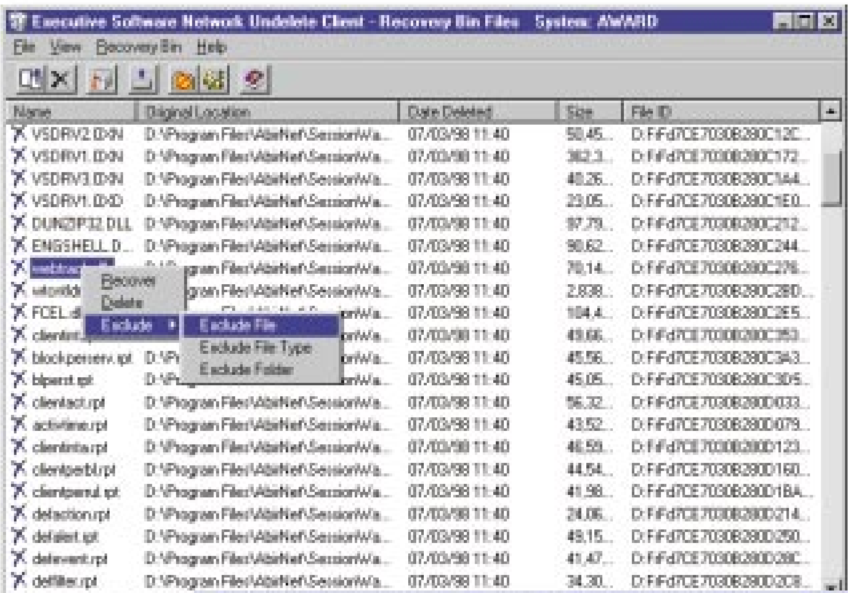
By default, the recovery bin size is set to 20 percent of your drive but you can easily change that. You can also opt to have a single recovery bin for all drives, rather than one per drive, and turn off the feature on a per-drive basis which is useful if you've adopted the advice of this column and set up an entire drive for handling temporary files.

The right stuff

Installation of the product is straightforward (although it does require a reboot) and recovery itself couldn't really be easier: just right-click the name of a file in the recovery bin and select Recover from the drop-down menu.

Network Undelete will even restore files that have really been deleted: for example, if you clear the recovery bin of files that have been excluded from recovery bin processing. It will even find files that were deleted before Network Undelete was installed [Fig 2]. However, on NTFS partitions, you cannot restore completely deleted files that are large or really huge (files that have more than one record in the MFT).

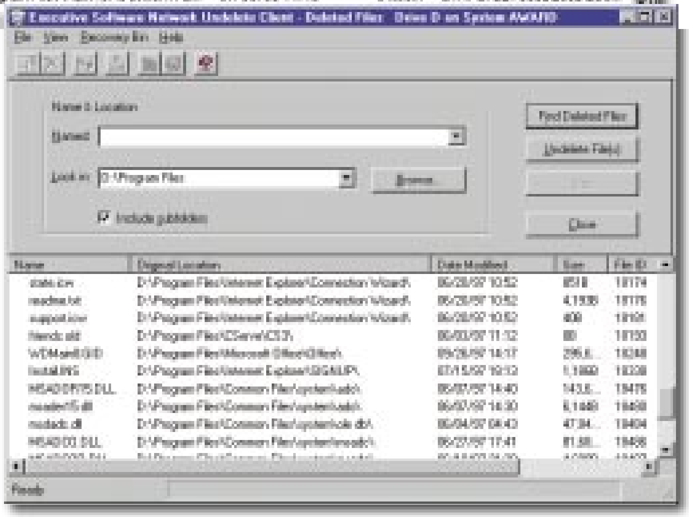
I'm sure that none of you would ever keep questionable content on your ➡



Executive Software Network Undelete Client - Recovery Bin Files System: AWARD

Name	Original Location	Date Deleted	Size	File ID
VSDRV2.DXN	D:\Program Files\AtlaNet\SessionWa...	07/03/98 11:40	50,45...	D:FiFd7CE7030B280C12C...
VSDRV1.DXN	D:\Program Files\AtlaNet\SessionWa...	07/03/98 11:40	362,3...	D:FiFd7CE7030B280C172...
VSDRV3.DXN	D:\Program Files\AtlaNet\SessionWa...	07/03/98 11:40	40,26...	D:FiFd7CE7030B280C1A4...
VSDRV1.DXD	D:\Program Files\AtlaNet\SessionWa...	07/03/98 11:40	23,05...	D:FiFd7CE7030B280C1E0...
DUNDP32.DLL	D:\Program Files\AtlaNet\SessionWa...	07/03/98 11:40	97,79...	D:FiFd7CE7030B280C212...
ENGSHELL.D...	D:\Program Files\AtlaNet\SessionWa...	07/03/98 11:40	90,62...	D:FiFd7CE7030B280C244...
webtrac...	...gram Files\AtlaNet\SessionWa...	07/03/98 11:40	70,14...	D:FiFd7CE7030B280C276...
wtorldd...	...gram Files\AtlaNet\SessionWa...	07/03/98 11:40	2,838...	D:FiFd7CE7030B280C28D...
FCEL.d...	...onWa...	07/03/98 11:40	104,4...	D:FiFd7CE7030B280C2E5...
clientint...	...onWa...	07/03/98 11:40	49,66...	D:FiFd7CE7030B280C353...
blockpenenv.rpt	D:\Pr... ...onWa...	07/03/98 11:40	45,56...	D:FiFd7CE7030B280C343...
blpenit.rpt	D:\Pr... ...onWa...	07/03/98 11:40	45,05...	D:FiFd7CE7030B280C3D5...
clientact.rpt	D:\Program Files\AtlaNet\SessionWa...	07/03/98 11:40	56,32...	D:FiFd7CE7030B280D033...
activtime.rpt	D:\Program Files\AtlaNet\SessionWa...	07/03/98 11:40	43,52...	D:FiFd7CE7030B280D079...
clientinta.rpt	D:\Program Files\AtlaNet\SessionWa...	07/03/98 11:40	46,59...	D:FiFd7CE7030B280D123...
clientperbl.rpt	D:\Program Files\AtlaNet\SessionWa...	07/03/98 11:40	44,54...	D:FiFd7CE7030B280D160...
clientpenul.rpt	D:\Program Files\AtlaNet\SessionWa...	07/03/98 11:40	41,98...	D:FiFd7CE7030B280D1BA...
defaction.rpt	D:\Program Files\AtlaNet\SessionWa...	07/03/98 11:40	24,06...	D:FiFd7CE7030B280D214...
defalert.rpt	D:\Program Files\AtlaNet\SessionWa...	07/03/98 11:40	49,15...	D:FiFd7CE7030B280D250...
defevent.rpt	D:\Program Files\AtlaNet\SessionWa...	07/03/98 11:40	41,47...	D:FiFd7CE7030B280D28C...
deffiler.rpt	D:\Program Files\AtlaNet\SessionWa...	07/03/98 11:40	34,30...	D:FiFd7CE7030B280D2C8...

▲ Fig 1 If Network Undelete becomes tiresome, you can exclude files from being recoverable



Executive Software Network Undelete Client - Deleted Files Drive D on System AWARD

Named:
Look in: D:\Program Files
☑ Include subfolders

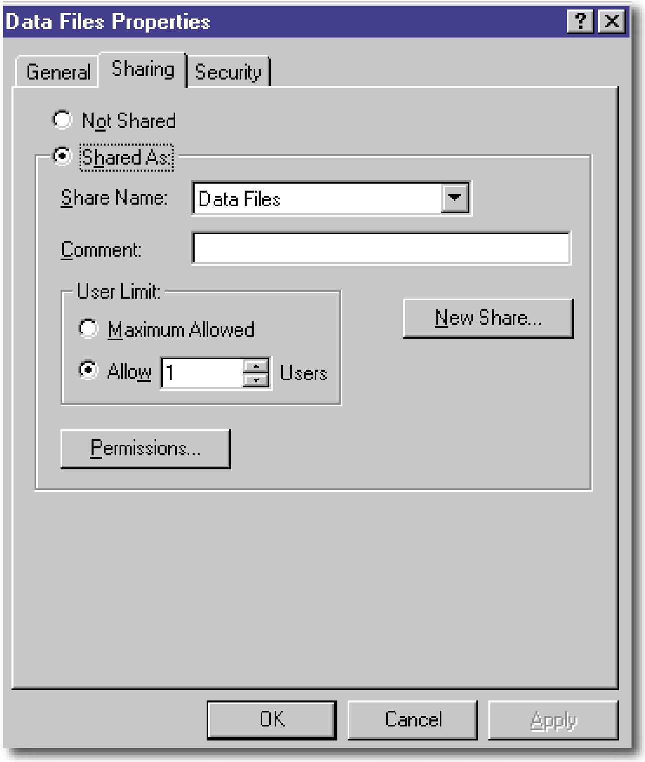
Name	Original Location	Date Modified	Size	File ID
state.icw	D:\Program Files\Internet Explorer\Connection Wizard\	06/28/97 10:52	851B	18174
readme.txt	D:\Program Files\Internet Explorer\Connection Wizard\	06/28/97 10:52	4,193B	18178
support.icw	D:\Program Files\Internet Explorer\Connection Wizard\	06/28/97 10:52	409	18191
friends.all	D:\Program Files\CServe\CS3\	06/03/97 11:12	80	18150
WDMan60.GID	D:\Program Files\Microsoft Office\Office\	09/29/97 14:17	296,8...	18248
install.INS	D:\Program Files\Internet Explorer\SIGNUP\	07/15/97 19:13	1,189B	18308
MSADDRT5.DLL	D:\Program Files\Common Files\system\ado\	06/07/97 14:40	143,6...	18475
msader15.dll	D:\Program Files\Common Files\system\ado\	06/07/97 14:30	6,144B	18468
msdadc.dll	D:\Program Files\Common Files\system\ole db\	06/04/97 04:43	47,34...	18404
MSADDO.DLL	D:\Program Files\Common Files\system\msadc\	06/27/97 17:41	81,58...	18488

▶ Fig 2 Network Undelete will even find files you thought had disappeared years ago hard drive so you wouldn't be worried about the implications of this product. Nevertheless, from a security point of view only someone with administrator rights, or the original owner of a file, can recover it. A single end-user client copy of Network Undelete is £35 (ex VAT) and the administrator version is £140 (ex VAT). There's a starter pack of one administrator plus five client copies for £235 (ex VAT) and Network Undelete should be available from software resellers.

Good question

Reader Gordon Bamber has raised a very good question: what exactly are the differences between share-level permissions and directory-level file permissions, and when should you use one or the other? First, a bit of history. Share-level permissions are a feature of Microsoft networking and have been around for longer than Windows NT. But with the advent of NTFS, the ability to set file- and directory-level permissions has also become possible (to add security, say, in the case where a single desktop computer is used by two or more people). File and directory permissions are intrinsic to the machine itself and thus add a new layer of security beneath the share permissions. As you might expect, both layers of security work (one is not negated by the other) so it's easy enough to fathom out what would happen in any particular set of circumstances. For instance, there's a user directory on my system called "Andrew", which is not currently shared. I'm the only user who can access the directory. If I then decide to share that directory, regardless of what share permissions I do or do not specify, I'm still the only user who can access that directory. If I set up a share that only a user called "Linda" can access, then even though she can get to the share, she can't get to the directory. And across the network I can't get to the share at all, because only Linda is allowed access to it. Thus, in a normal networked environment it seems to make sense to use only the share-level permissions, and for most applications just ignore the fact that NTFS also supports file and directory permissions.

▶FIG 3 SHARE-LEVEL PERMISSIONS ARE SET VIA THE SHARING TAB, AND DIRECTORY AND FILE PERMISSIONS VIA THE SECURITY TAB


Data Files Properties

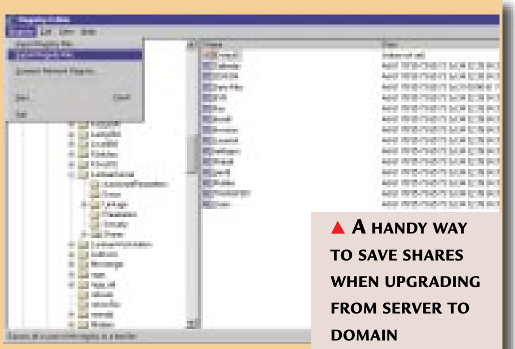
○ Not Shared
● Shared As:
Share Name: Data Files
Comment:
User Limit:
○ Maximum Allowed
● Allow 1 Users

No place like home

There's one important exception and that is networked home directories. If you had many hundreds of users and shared all their home directories, you'd create an absurdly large browse list. But by creating one directory called "Users" and sharing it, you can create sub-directories for every user and set directory-level permissions [Fig 3] on those so that only a user can access their own home directory. ➜

UNWANTED SHARES

A final word on the subject of getting rid of unwanted shares. When, in the June issue column, I first suggested that one way of deleting them was to use the registry error, there was actually an error in the registry path I showed, which was spotted by Julius Clayton. Instead of:



▲ A HANDY WAY TO SAVE SHARES WHEN UPGRADING FROM SERVER TO DOMAIN CONTROLLER

```
HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Services\➜
LanmanServer\Shares
```

I should of course have specified;

```
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\➜
LanmanServer\Shares
```

because ControlSet001 may not be the one currently in use.

(Key : ➜ Code continued on next line)

Julius also points out a valuable use of this key. Changing an NT system from a domain controller to a server, or vice-versa, requires a fresh install of NT. And what happens when you reinstall NT? Well, you lose all your shares, which, as Julius says, can be rather annoying if you have hundreds of them. But by saving the key before you carry out the installation you can later import it again, which will recreate the shares and share permissions for you (following a reboot).

● To save the key, run REGEDIT, navigate to the appropriate key, then select Registry / Export Registry File... from the menu (and Import Registry File subsequently, to re-import it).

HERE'S AN APOLOGY. A while ago I wrote about Service Pack 4 (SP4) thinking that by the time my article appeared (*PCW*, August) SP4 would have hit the streets. After all this time, you would have thought that I would realise Microsoft never moves quite as fast as we'd like. In fact, it may be that SP4 is not even out by the time you read *this*, although I do have Frank Utermoehlen, Microsoft's OEM marketing manager (Europe), on record as having said that SP4 would be released "this summer". (He also said that NT 5.0 would be out around April next year, but I'm not sure I believe that, either.) If I do wait for the service pack to come out before telling you about it, there's a delay of two or three months. What you can be certain of is that as soon as SP4 is available it will appear on our *PCW* cover disc (provided there is room for it and that Microsoft is forthcoming with permission).

Simon Corner raises the question of whether they should be installed at all? With Windows NT, the answer is usually yes — Microsoft generally manages to fix far more problems than it introduces. Most significantly, security holes are frequently being found in Windows NT, and each new service pack fixes all those that are known at the time. And yes, new software does expect the latest service pack. Plenty of application software for Windows NT 4 specifies Service Pack 3 as a prerequisite. Oh, and you also only ever need to install the latest version because it includes previous fixes.

THE YEAR 2000 AND WINDOWS NT

Readers have asked for more information on Windows NT 4.0's non-compliance as regards the year 2000. The place to look is www.microsoft.com/ithome/topics/year2k/product/WinNt40wks.htm, but these are the four areas of non-compliance that Microsoft has found so far:

1. THE USER MANAGER does not recognise the year 2000 as a leap year and will not accept 29 February 2000 as a valid date to expire an account.

2. THE CONTROL PANEL Date/Time applet's date displayed may jump ahead one more day than expected (although the system date is still correct).

3. WHEN THE PROPERTIES of Office files are modified from the shell, only 2-digit years are allowed, and they are assumed to be in the 1900 century.

4. THERE ARE DATE ENTRY fields in the Start Menu / Find / Files or Folders / Date Modified tab that will show non-numeric data if the year is greater than 1999.

To fix these problems, download the patches from http://backoffice.microsoft.com/downtrial/moreinfo/y2kfixes.asp or wait for Service Pack 4.

I won't embarrass those who have written in suggesting that the year 2000 is not a leap year after all, by mentioning their names. But for their benefit, here is Section II of the 1751 "Act substituting the Gregorian for the Julian Calendar" [24 Geo. II cap. 23]:

"That the several years of our Lord 1800, 1900, 2100, 2200, 2300, or any other hundredth year of our Lord, which shall happen in time to come, except only every four hundredth year of our Lord, whereof the year of our Lord 2000 shall be the first, shall not be esteemed or taken to be bissextile or leap years, but shall be taken to be common years, consisting of 365 days, and no more; and the years of our Lord 2000, 2400, 2800, and every four hundred year of our Lord, from the year of our Lord 2000 inclusive, and also all other years of our Lord, which by the present supputation are esteemed to be bissextile or leap years, shall for the future, and in all times to come, be esteemed and taken to be bissextile or leap years, consisting of 366 days, in the same sort or manner as is now used with respect to every fourth year of our Lord."

For those whose linguistic skills and/or attention span are challenged by long sentences, what it says is that every hundredth year is not a leap year, except for every four hundredth year, which is, starting with the year 2000.

What the Act failed to take into account, of course, is the fact that the year 4000 should not be a leap year – so anyone currently writing software has to work on the principle that it is, knowing that a new Act will be passed at some point and that it will all change again. By which time there will be hundreds of computers per inhabitant of the world, and trillions of different pieces of code, all busy miscalculating leap years.

PROCESSOR STEPPING

Elliot Moore runs Windows NT 4.0 Server on a dual Pentium 133 SMP system with two different processor steppings but has no problems at all. According to WinMSD, one of the processors is Family 5 Model 2 Stepping 12 and the other is Family 5 Model 2 Stepping 11. Intel provides some information on mixing steppings at http://support.intel.com/support/processors/pentium/KBDL567U.htm. There's a compatibility chart which highlights any problems or workarounds that might be necessary (for almost any combination, pipelining must be turned off).

And fairly obviously, both processors must be running at the same frequencies and at the same bus/core fractions.

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