

Re: Hard disk data recovery.

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- *From:* "prg" <rdgentry1@xxxxxxxxxxxxxxx>
 - *Date:* 8 Feb 2006 09:29:19 -0800
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b173@xxxxxxxxxxxxx wrote:

Grant wrote:

[forgive the snip]

The Windows 2000 machine says that the drive is there, but it isn't formatted. Now there's a lot of important stuff on that drive that needs to be salvaged. I've tried rolling back the registry etc... blah.

You're screwed? Why? You did not immediately remove the drive from Win2k access. Win2k silently does things to visible hard drives, not the best way to attempt data recovery (or the original transfer).

So now I want a real solution.

To what? Just start over and do it properly.

The solution that I wanted was to recover the data that is on the (now) unformatted disk. As far as "doing it properly" goes... I think I just learned that lesson :)

First thing is to decide what caused the failure as best you can. I would be concerned that the hard disk you were writing to encountered a hardware/firmware problem.

the disk but it doesn't know what filesystem type it is. I think it might be FAT32 but it could be NTFS.

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Being so vague, how can you expect any data transfer to not also be vague --> inaccurate, non-trustworthy, a total waste of time.

didn't mean to be vague, I just didn't know. The fdisk output says FAT32, I'm inclined to believe it.

Any suggestions? I really want to recover this data, it would be great if linux could be my hero :)

Just how important? How many hours of your time are you willing to invest? How much \$ are you willing to pay for a specialist recovery shop to recover what they can?

Boot some linux rescue CD, and tell us what is output from
fdisk -l

Here's the output:

```
Disk /dev/hdb: 160.0GB 160041885696 bytes
255 heads, 63 sectors/tracks, 19457 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes
```

```
Device Boot Start End Blocks ID System
/dev/hdb1 1 19457 156288521 5 Extended
/dev/hdb5 1 19457 156288521 c w95 FAT32 (LBA)
```

Then detail the source and target partitions that you are copying. Mount any partition you want to recover as read-only (man mount), linux is able to read NTFS and FAT32 without a problem. You need spare partition space writable by linux to store an image of the partition needing recovery. From then on you work with the image file.

Let's see if I have this right. You are saying that I should be able to mount hdb5 as read only, save the contents as an ISO (to another drive) and then go from there? I just want to confirm all this before doing further damage.

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Grant is suggesting that you should get that hard drive out of service ASAP! The "image" he is talking about is just a raw "bit-4-bit" copy of the partition of the failed disk, similar to what you would get with Norton Ghost imaging software. Linux rescue CDs ususally include something that will allow/help you make this copy. Eg.,

<http://www.sysresccd.org/> << no personal experience, luckily
Ask around here for experienced suggestions.

However, before doing even this minimal step, I would test the low level integrity of that hard disk. Many makers provide disk utils that will provide this low level access and may allow you to recover or repair some problems. What kind of HD is it? Go here to find what tools may be available:

<http://www.duxcw.com/faq/hd/diag.htm> << find one that operates from a DOS boot disk
<http://smartmontools.sourceforge.net/>

This last one can provide more background than you will hopefully need as well as tools related to S.M.A.R.T capable hard drives.

If you confirm that there are no hardware related problems (including simple things like ribbon cables), then you can assume that the problem is a corrupted file system. Now you should make an image of the boinked partition and do all other work on that image rather than the troubled HD/partition. Remove that original HD from the box and set it aside. It is your only source/backup of the lost data. Maybe a good idea to make two images of the HD partition.

Question then is to determine just what the problem is. fdisk output seems to indicate that the "partition table" is OK. However, Windows uses an extended partition in a peculiar and difficult to recover fashion — unlike Linux. So I would try to determine the integrity/correctness of the partition table first. This can be tricky, tedious, and scary if you make a mistake with a disk editor. Go here for the best info I've found regarding the details of MS partition and file system usage/layout. There is also a free, but dangerous, disk editor availabe. For a disk editor you might try a free trail version of a commercial product or find a friend with Norton Tools or something similar.

<http://thestarman.dan123.com/>
<http://thestarman.dan123.com/tool/FreeTools.html>
[look for PTS Disk Editor]
<http://thestarman.pcministry.com/>

Don't be put off by the "extra" stuff.

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This might be useful to check out as well for some tools:

<http://www.partitionssupport.com/utilities.htm>

If that checks out, then we can figure on a completely boinked file system. Ie., is so corrupted that it cannot be recognized as being formatted. Do not jump to this conclusion too quickly; check the partition tables first as best you can. Do not run any automated file system repair utils. FAT32 FSes are easier to work with and might be recoverable. NTFS, otoh, is beyond my experience regarding recovery.

Do you know which files are "lost"? Presumably, the failure retained the untransferred files intact. What other files pre-existed on the disk? Backups? Did you defragment the partition before starting this transfer operation? If not, disentangling the file fragments is likely beyond the skills of "ordinary folks" (ie., you'll have to use a data recovery service to try to recover the data).

You can try looking at the partition with a disk editor, but usually I've had little to no luck recovering much data that way. You can get an idea just how badly things are boinked -- like large zeroed areas -- but piecing together the right blocks to reconstruct a file are, ummm, tough.

At this point you give the recovery job to someone else or use a commercial software recovery app and hope for the best (either way).

good luck,
prg

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