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Question

[danny perry](#) asked on [November 3, 2010](#) ▼

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corrupted disk partition, Start of MFT rotated 16 bytes

I have a seagate barracuda 7200.10 hard drive. This was partitioned into two NTFS partitions and some unallocated space. windows xp was installed onto one partition and was running contentedly. Then it wasnt. After due muttering and cursing I put the disk to one side and installed and formatted another with xp.

However, I would like to recover some stuff from the disk. Windows xp is happy to list the drive and show correct information about the partition sizes. Seagate disk tester says the hard disk is fine. windows says the file or data is corrupted when I ask it to list files on that disk.

Trying to figure out what is wrong I have hoiked up a demo version of winhex. Recommendations on something useful and free to examine and edit the disk would be appreciated. Im not that good at editing disks freehand and have never worked on one formatted to ntfs. However, I have just about managed to explore the working disk on this computer and locate the MFT. Then had a look at the bad one. What I see is that the initial MFT entries are not aligned on sector borders but are 16 bytes further in.

On my working disk I get MFT start at offset C0 00 00 00 with the signature 45 39 4c 30 03. (ascii 'File0') I take it these are standard values.

On the duff disk I get the same data pattern at c0 00 00 10 the first 16 bytes where the MFT ought to appear are 14 00's and then 56 04

at offset c0 00 10 00 the correct pattern seems to reassert itself with a 'FILE0' signature at the start of a record where it ought to be. The spare copy of the start of the MFT seems to have exactly the same offset problem.

Anyone know whats going on? I dont understand how the data gets to be misaligned displaced from sector boundaries.

What does anyone reckon that if this block of 8 sectors is 'rotated' by 16 bytes so that the extra block of 00's and what appears to be a record ending signature of 56 04 is placed as the last 16 bytes instead of the first, then the partition will be fixed?

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All Replies (3)

[Divya R](#) replied on [November 4, 2010](#) ▼

Microsoft

Hey danny,

0

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There are usually 2 reasons for a MFT corruption. One is defective hard disk, and second, is software error. If the mirror MFT is uncorrupted [chkdsk](#) should be able to fix the error. If the mirror is also corrupt and chkdsk aborts, then you should [reformat](#) the partition and restore any data from back-up. If the partition contains data that is not backed up you may need to use a third-party tool or service to try and recover it. **Note:** Microsoft cannot guarantee that any problems resulting from the use of Third Party Software can be solved. Using Third Party Software is at your own risk.

Regards

Divya R – Microsoft Support.

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danny perry replied on November 4, 2010 ▼

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[↶ In reply to Divya R's post on November 4, 2010](#)

I havnt found any suggestion the disk is faulty, which suggests this is a software problem. Chkdsk identifies the partition as NTFS but then aborts. Both copies of the MFT seem to be the same. MFT records after the first four, which is to say after the first cluster, seem to be valid entries with readable file names and sensible attributes. If both copies of the start of the MFT are rotated in the same way, then something has deliberately written them the same. Has anyone come across something similar happening?

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danny perry replied on November 5, 2010 ▼

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[↶ In reply to danny perry's post on November 4, 2010](#)

To update the story. The first cluster of the mft and also of its mirror appeared to have been rotated by 16 bytes, so that the 16 which should have been on the end were now at the start. I edited the sectors to put this the right way round. Windows mysteriously then amended the mft mirror to conform to the revised mft first four records.

windows explorer remained of the opinion that the partition was corrupt and does not list the directories. Winhex does now list directories and offers to read off files (for a fee, this is a demo version hence my problem is still unresolved). Although windows refuses to list the files, it is doing something to the file system, because the last couple of bytes of the early system records are being incremented each time I use one of these tools to examine the sectors.

Windows now wants to run chkdsk to repair the file system. When run in test mode so it does not make any changes, it reports that the partition is NTFS, then reported 'file verification completed'. then produced about 100 messages saying 'deleting orphaned file record xxxx', before aborting saying 'errors found. Chkdsk cannot continue in read only mode'.

Does anyone know what chkdsk is trying to do and whether if allowed to it would be safe or potentially deleting information which other programs can currently read? If it was allowed to do the repairs reported so far, would it then move on to doing something else which might be harmful? It listed about 100 records to delete before stopping. Would this have been a complete list of what it wanted to do, or did it just stop because the list had become too long to proceed without doing repairs?

Does anyone know how the first cluster of the MFT could get rotated?

Any suggestions about software, preferably free, which can read the directory system and copy off information?

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