

IDE HDD fail?

Source: <http://linux.derkeiler.com/Mailing-Lists/Kernel/2005-11/0604.html>

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Date: 11/02/05

To: <linux-kernel@vger.kernel.org>

Date: Wed, 2 Nov 2005 12:06:39 +0100

Hello list,

This happened 2nd times.

At this point, the problem is reproducible. (until i power down the server)

I have one IDE-HDD, that looks like everything is normal (no error message at all), but when i write to the disk (eg fdisk), ALL DATA IS LOST!

This problem is generated to me about 1-1.5TB data loss on my 8TB system (4x2TB disk nodes), 2 times!

This time i didnt shutdown the server, because the problem is visible now. I dont know, what is wrong exactly, but i have few tips:

- the HDD itself (the first time i have replaced the disk, but the original is working fine too, i don't think)
- the ide adapter (SiI680: chipset revision 2)
- the ide cable (the first time replaced too, i don't think)
- the mainboard (abit IS7-E)
- software i mean one driver

The smartctl is reports no error at all including the drive offline long self test!

kernel: 2.6.12-rc1

This caused after this command:

```
hdparm -c 1 -a 0 -M 254 -W 1 -m 16 -u 0 /dev/hdh
```

Can somebody help me to find the problem source?

Thanks

Janos

only one error message what i can find after hdparm command:

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```
Oct 30 22:31:48 st-0001 sshd(pam_unix)[10610]: session opened for user root
by (uid=0)
Oct 30 22:32:44 st-0001 kernel: hdh: task_no_data_intr: status=0x51 {
DriveReady SeekComplete Error }
Oct 30 22:32:44 st-0001 kernel: hdh: task_no_data_intr: error=0x04 {
DriveStatusError }
Oct 30 22:32:44 st-0001 kernel: ide: failed opcode was: 0xef
Oct 30 22:32:44 st-0001 kernel: hdh: status error: status=0x58 { DriveReady
SeekComplete DataRequest }
Oct 30 22:32:44 st-0001 kernel:
Oct 30 22:32:44 st-0001 kernel: ide: failed opcode was: unknown
Oct 30 22:32:44 st-0001 kernel: hdh: drive not ready for command
Oct 30 22:32:44 st-0001 kernel: hdj: task_no_data_intr: status=0x51 {
DriveReady SeekComplete Error }
Oct 30 22:32:44 st-0001 kernel: hdj: task_no_data_intr: error=0x04 {
DriveStatusError }
Oct 30 22:32:44 st-0001 kernel: ide: failed opcode was: 0xef
Oct 30 22:32:49 st-0001 sshd(pam_unix)[10610]: session closed for user root
```

About 1 hour after, the concentrator crashed with XFS corruption.

I have reboot the st-0001 (and the concentrator), and tried these commands:

```
[root@st-0001 root]# fdisk /dev/hdh
Device contains neither a valid DOS partition table, nor Sun, SGI or OSF
disklabel
e1
Building a new DOS disklabel. Changes will remain in memory only,
until you decide to write them. After that, of course, the previous
content won't be recoverable.
```

The number of cylinders for this disk is set to 24792.

There is nothing wrong with that, but this is larger than 1024,
and could in certain setups cause problems with:

- 1) software that runs at boot time (e.g., old versions of LILO)
- 2) booting and partitioning software from other OSs
(e.g., DOS FDISK, OS/2 FDISK)

Warning: invalid flag 0x0000 of partition table 4 will be corrected by
w(rite)

Command (m for help): n

Command action

e extended

p primary partition (1-4)

p

Partition number (1-4): 1

First cylinder (1-24792, default 1):

Using default value 1

Last cylinder or +size or +sizeM or +sizeK (1-24792, default 24792):

Using default value 24792

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Command (m for help): p

Disk /dev/hdh: 203.9 GB, 203928109056 bytes
255 heads, 63 sectors/track, 24792 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes

Device	Boot	Start	End	Blocks	Id	System
/dev/hdh1	1	24792	199141708+	83	Linux	

Command (m for help): w
The partition table has been altered!

Calling ioctl() to re-read partition table.
Syncing disks.
[root@st-0001 root]# fdisk /dev/hdh
Device contains neither a valid DOS partition table, nor Sun, SGI or OSF
disklabel
e1
Building a new DOS disklabel. Changes will remain in memory only,
until you decide to write them. After that, of course, the previous
content won't be recoverable.

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There is nothing wrong with that, but this is larger than 1024,
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Command (m for help): q
[root@st-0001 root]# smartctl -t long /dev/hdh
... ~1 hour test....
[root@st-0001 root]# smartctl -a /dev/hdh
smartctl version 5.33 [i686-redhat-linux-gnu] Copyright (C) 2002–4 Bruce
Allen
Home page is <http://smartmontools.sourceforge.net/>

=== START OF INFORMATION SECTION ===
Device Model: Maxtor 6B200P0
Serial Number: B418P48H
Firmware Version: BAH41B70

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User Capacity: 203,928,109,056 bytes
Device is: Not in smartctl database [for details use: -P showall]
ATA Version is: 7
ATA Standard is: ATA/ATAPI-7 T13 1532D revision 0
Local Time is: Wed Nov 2 11:52:27 2005 CET
SMART support is: Available – device has SMART capability.
SMART support is: Enabled

=== START OF READ SMART DATA SECTION ===
SMART overall-health self-assessment test result: PASSED

General SMART Values:

Offline data collection status: (0x80) Offline data collection activity
was never started.

Auto Offline Data Collection:

Enabled.

Self-test execution status: (0) The previous self-test routine
completed

without error or no self-test has

ever

been run.

Total time to complete Offline
data collection: (1622) seconds.

Offline data collection

capabilities: (0x5b) SMART execute Offline immediate.

Auto Offline data collection on/off

support.

Suspend Offline collection upon new
command.

Offline surface scan supported.

Self-test supported.

No Conveyance Self-test supported.

Selective Self-test supported.

SMART capabilities: (0x0003) Saves SMART data before entering
power-saving mode.

Supports SMART auto save timer.

Error logging capability: (0x01) Error logging supported.

No General Purpose Logging support.

Short self-test routine

recommended polling time: (2) minutes.

Extended self-test routine

recommended polling time: (82) minutes.

SMART Attributes Data Structure revision number: 16

Vendor Specific SMART Attributes with Thresholds:

ID#	ATTRIBUTE_NAME	FLAG	VALUE	WORST	THRESH	TYPE	UPDATED	WHEN_FAILED	RAW_VALUE
-----	----------------	------	-------	-------	--------	------	---------	-------------	-----------

3	Spin_Up_Time	0x0027	206	206	063	Pre-fail			
s									7270

4	Start_Stop_Count	0x0032	253	253	000	Old_age			
ys									37

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5 Reallocated_Sector_Ct 0x0033 253 253 063 Pre-fail
s - 0
6 Read_Channel_Margin 0x0001 253 253 100 Pre-fail
ine - 0
7 Seek_Error_Rate 0x000a 253 252 000 Old_age
ys - 0
8 Seek_Time_Performance 0x0027 252 232 187 Pre-fail
s - 51510
9 Power_On_Hours 0x0032 237 237 000 Old_age
ys - 12521
10 Spin_Retry_Count 0x002b 253 252 157 Pre-fail
s - 0
11 Calibration_Retry_Count 0x002b 253 252 223 Pre-fail
s - 0
12 Power_Cycle_Count 0x0032 253 253 000 Old_age
ys - 85
192 Power-Off_Retract_Count 0x0032 253 253 000 Old_age
ys - 0
193 Load_Cycle_Count 0x0032 253 253 000 Old_age
ys - 0
194 Temperature_Celsius 0x0032 032 253 000 Old_age
ys - 29
195 Hardware_ECC_Recovered 0x000a 253 241 000 Old_age
ys - 33773
196 Reallocated_Event_Count 0x0008 253 253 000 Old_age
line - 0
197 Current_Pending_Sector 0x0008 253 253 000 Old_age
line - 0
198 Offline_Uncorrectable 0x0008 253 253 000 Old_age
line - 0
199 UDMA_CRC_Error_Count 0x0008 199 199 000 Old_age
line - 0
200 Multi_Zone_Error_Rate 0x000a 253 252 000 Old_age
ys - 0
201 Soft_Read_Error_Rate 0x000a 253 252 000 Old_age
ys - 0
202 TA_Increase_Count 0x000a 253 251 000 Old_age
ys - 0
203 Run_Out_Cancel 0x000b 253 252 180 Pre-fail
s - 8
204 Shock_Count_Write_Opern 0x000a 253 252 000 Old_age
ys - 0
205 Shock_Rate_Write_Opern 0x000a 253 252 000 Old_age
ys - 0
207 Spin_High_Current 0x002a 253 252 000 Old_age
ys - 0
208 Spin_Buzz 0x002a 253 252 000 Old_age
ys - 0
209 Offline_Seek_Performnce 0x0024 234 234 000 Old_age
line - 237
210 Unknown_Attribute 0x0032 253 252 000 Old_age

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```
ys - 0
211 Unknown_Attribute 0x0032 253 252 000 Old_age
ys - 0
212 Unknown_Attribute 0x0032 253 253 000 Old_age
ys - 0
```

SMART Error Log Version: 1
No Errors Logged

SMART Self-test log structure revision number 1
Num Test_Description Status Remaining LifeTime(hours)
LBA_of_first_error
1 Extended offline Completed without error 00%
9 -

SMART Selective self-test log data structure revision number 1
SPAN MIN_LBA MAX_LBA CURRENT_TEST_STATUS
1 0 0 Not_testing
2 0 0 Not_testing
3 0 0 Not_testing
4 0 0 Not_testing
5 0 0 Not_testing

Selective self-test flags (0x0):

After scanning selected spans, do NOT read-scan remainder of disk.
If Selective self-test is pending on power-up, resume after 0 minute delay.

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