Subj: Informational exceptions control page
Date: 95-08-11 18:55:12 EDT
From: Gene_Milligan@notes.seagate.com (Gene Milligan)
To: scsi@symbios.com (scsi)

I have a few comments regarding section 8.3.3 of SPC and a proposal for an
enhancement. First the comments:

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Comments:

(1) As I recall the first working meeting on this subject there was a
consensus
that the new page would not only be useful for the 5Dh case but for other more
general unsolicited exceptions. That is why the page has a different name than
the 5Dh condition.

Consequently I take exception with the last sentence of the first paragraph
that "This page shall only apply to informational exceptions that report an
additional sense code of FAILURE PREDICTION THRESHOLD EXCEEDED to the
application client." I agree that the statement could be applicable to the
Perf, DExcpt, and LogErr bits. However the MRIE field would seem to have
applicability to other exceptions and making it dedicated to 5Dh seems
questionable to me.

(2) The text and Table do not agree on the capitalization of the DExcpt (if
the
table is correct) bit.

(3) In Table 86 does the 4h method imply that if a 5Dh condition exists and
all
subsequent commands are unrecoverable that the target shall not ever report
5Dh?

(4) For a drive with a 5Dh condition, what is the response to a Request Sense
poll with methods 1h-5h set?

(5) "access" in the only sentence of the last paragraph should instead be
"across". (Even though that is probably not elegant grammar I think it does
correctly convey the requirement.)

(6) Shouln't the page length be (0Ah) rather than (0Eh)?

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Proposed enhancement:

The Informational Exceptions Control Page determines how S.M.A.R.T.
(Self-Monitoring Analysis and Reporting Technology) reports an exception
condition when drive failure is predicted. Two questions deserve additional
consideration. How should a drive manufacturer test the exception reporting
mechanism when the drive is operating fine ? How would an operating system
developer test his/her response code when an exception reporting condition
will
probably never occur during test?

A simple analogy, you install an alarm system in your house. Do you wait for
a
burglar to break into your house to see if the alarm goes off ? Not likely,
you would want to occasionally verify that it still works.

A proposed mechanism is to activate an exception condition for debug/testing

purposes by setting (Byte 2, Bit 2) in the Informational Exceptions Control Page.

A TEST bit of one would create a false drive failure at the next interval time (as specified in bytes 4-7) if the DExcpt (byte 2 bit 3) is not set. The Reporting Method (byte 3 bits 0-3) and Report Count (bytes 8-11) would apply as
specified in the original IEC Mode Page document. The false drive failure would be reported as sense code/qualifier 5DFFh (FF for false failure versus a true failure 5D00h). A TEST bit of zero would instruct the drive to not generate any false drive failure notifications.

Table 85 - Informational exceptions control page

Bit Byte	7	6	5	4	3	2	1	0
0	PS	Reserved	Page code (1Ch)					
1	Page length (0Ah)							
2	Perf	Reserved			DExcpt	TEST	Reserv	LogErr
3	Reserved				MRIE			
4 (MSB) - 7 (LSB)	Interval timer							
8 (MSB) - 11 (LSB)	Report count							

I would prefer to discuss this by the reflector since a conflict prevents me from attending the next SCSI-3 working group and plenary meetings (they have the opportunity to be shorter). However I would appreciate it if some kind sole
caries this into both (after any necessary reflector massaging) and gets it voted into SCSI-3.

Gene