To: T10 Technical Committee
From: Rob Elliott, Compaq Computer Corporation (Robert.Elliott@compaq.com)
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Subject: T10/01-247r1 SPC-3 Informational exceptions log page

Revision History
Revision 0 (27 July 2001) first revision
Revision 1 (13 September 2001) incorporated CAP WG comments

Related Documents
spc2r19 - SCSI Primary Commands - 2 revision 19

Overview
Log page 2Fh is currently marked reserved in SPC-2. However, the industry has been using log page 2Fh as an informational exceptions log page for several years. The page should be defined so the code is not assigned for some other purpose. The "most recent temperature reading field" overlaps with the existing standard temperature log page.

Suggested Changes
8.2.x Informational exceptions page
The informational exceptions status page (see Table 1) provides a place for reporting detail about informational exceptions. The page code for the informational exceptions page is 2Fh.

Table 1 - Informational exceptions page

Byte\Bits	7	6	5	4	3	2	1	0
0	PAGE CODE (2Fh)							
1	Reserved							
2	(MSB)		PAGE LENGTH (n - 3)					
3								(LSB)
Informational exceptions log parameters								
4	First informational exceptions log parameter							
…	…							
n	Last informational exceptions log parameter							

The PAGE CODE and PAGE LENGTH fields are described in 8.2.1.

Table 2 defines the parameter codes.

Table 2 - Informational exceptions parameter codes

Parameter code	Description
0000h	Informational exceptions general parameter data
0001h - FFFh	Vendor specific

The informational exceptions general parameter data page has the format shown in Table 3.

Table 3 - Informational exceptions general parameter data

Byte\Bits	7	6	5	4	3	2	1	0
0	(MSB)		PARAMETER CODE (0000h)					
1								(LSB)
2	DU (0)	DS (0)	TSD (0)	ETC (0)	TMC (00)		LBIN (1)	LP (1)
3	PARAMETER LENGTH (at least 04h)							
4	INFORMATIONAL EXCEPTION ADDITIONAL SENSE CODE							
5	INFORMATIONAL EXCEPTION ADDITIONAL SENSE CODE QUALIFIER							

6	MOST RECENT TEMPERATURE READING
7	~~TEMPERATURE TRIP POINT~~Vendor specific
8	Vendor specific
…	
n	

The state of the parameter control bits for parameter 0000h is specified in Table 3.

Table 4 -Parameter control bits for informational exceptions general parameters

Bit	Value	Description
DU	0	Value provided by device server
DS	0	Device server does not support saving of parameter
TSD	0	Device server manages saving of parameter
ETC	0	No threshold comparison is made on this value
TMC	00	Ignored when ETC is 0
LBIN	1	The parameter is in binary format
LP	1	The parameter is a list parameter

The PARAMETER LENGTH field shall be at least 04h. When greater than 04h, the parameter includes vendor specific data starting in byte 8.

The INFORMATIONAL EXCEPTION ADDITIONAL SENSE CODE and INFORMATIONAL EXCEPTION ADDITIONAL SENSE CODE QUALIFIER fields are defined in Table 2.

Table 5 - ADDITIONAL SENSE CODE and ADDITIONAL SENSE CODE QUALIFIER fields

INFORMATIONAL EXCEPTION ADDITIONAL SENSE CODE	INFORMATIONAL EXCEPTION ADDITIONAL SENSE CODE QUALIFIER	Description
00h	any	No informational exception condition is pending
~~0Bh~~	~~any~~	~~An informational exception condition exists which has an ADDITIONAL SENSE CODE of 5Dh and an ADDITIONAL SENSE CODE QUALIFIER indicated by the INFORMATIONAL EXCEPTION ADDITIONAL SENSE CODE QUALIFIER field when reported in sense data (e.g., WARNING)~~
~~5Dh~~	~~any~~	~~An informational exception condition exists which has an ADDITIONAL SENSE CODE of 5Dh and an ADDITIONAL SENSE CODE QUALIFIER indicated by the INFORMATIONAL EXCEPTION ADDITIONAL SENSE CODE QUALIFIER field when reported in sense data (e.g., FAILURE PREDICTION THRESHOLD EXCEEDED)~~
all other combinations		~~Reserved~~An informational exception condition exists which has an ADDITIONAL SENSE CODE indicated by INFORMATIONAL EXCEPTION ADDITIONAL SENSE CODE and an ADDITIONAL SENSE CODE QUALIFIER indicated by the INFORMATIONAL EXCEPTION ADDITIONAL SENSE CODE QUALIFIER field

The MOST RECENT TEMPERATURE READING field indicates the temperature in degrees Celsius of the target device at the time the LOG SENSE command is performed. Temperatures equal to or less than zero degrees Celsius shall be indicated by a value of zero. If the device server is unable to detect a valid temperature because of a sensor failure or other condition, the value returned shall be FFh. The temperature should be reported with an accuracy of plus or minus three Celsius degrees while the device is operating at a steady state within the environmental limits specified for the device.

The TEMPERATURE TRIP POINT field indicates the temperature in degrees Celsius at which the device server device server shall terminate the next command with CHECK CONDITION status and set the sense key to RECOVERED ERROR with the additional sense code set to WARNING - SPECIFIED TEMPERATURE EXCEEDED.