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To: T10 SAS Protocol Working Group
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Subject: Proposal for SAS SSP phy error log page

Introduction

The following proposes a log page for SAS SSP targets to report phy errors. This is based on the SMP REPORT PHY ERROR LOG response. The following is based on SAS-r01.   Revision 1 of this proposal includes input from the SAS Protocol Working Group meetings held September 9th and 10th, 2002.

10.2 SCSI log parameters

The SSP phy error log page is used to report errors that have occured on an SSP target's phy(s).

Table m1 – SSP phy error log page

Bit / Byte	7	6	5	4	3	2	1	0
0	PAGE CODE (xxh)							
1	RESERVED							
2	(MSB)			PAGE LENGTH (n x 20h)				
3								(LSB)
SSP phy error log parameters								
4	(MSB)							
....				First phy error log parameter				
23								(LSB)
....				.....				
32n + 4	(MSB)							
....				n[th] phy error log parameter				
32n + 36								(LSB)

Table m2 defines the format for one SSP phy error log parameter.

Table m2 – SSP phy error log parameter format

Bit Byte	7	6	5	4	3	2	1	0
0	(MSB)			PARAMETER CODE (phy identifier)				
1								(LSB)
2	DU	DS	TSD	ETC	TMC		LBIN	LP
3	PARAMETER LENGTH (20h)							
4	(MSB)							
....				SAS ADDRESS				
11								(LSB)
12	(MSB)							
....				ATTATCHED SAS ADDRESS				
19								(LSB)
20	(MSB)							
....				LOSS OF BIT SYNC COUNT				
23								(LSB)
24	(MSB)							
....				INVALID CHARACTER COUNT				
27								(LSB)
28	(MSB)							
....				INVALID CHARACTER COUNT				
31								(LSB)
32	(MSB)							
....				PHY RESET PROBLEM COUNT				
35								(LSB)

The phy identifier is defined in ma.

Table m3 specifies the values for the fields in the PARAMETER CONTROL BYTE that shall be used for the SSP phy error log parameters (see SPC-3).

Table m3. Vales for fields in PARAMETER CONTROL BYTE for SSP phy error log parameters

Field	Value	Description
DU	0b	The value is provided by the device server.
DS	0b	The device server supports saving of the parameter.
TSD	0b	The device server manages saving of the parameter.
ETC	0b	There is no threshold comparison is made on this value.
TMC	xxb	This field is ignored when ETC is 0.
LBIN	1b	The parameter is in binary format.
LP	1b	The parameter is a list parameter.

The SAS ADDRESS is defined in mb.

The ATTATCHED SAS ADDRESS is defined in mc.

The INVALID CHARACTER COUNT, DISPARITY ERROR COUNT, LOSS OF BIT SYNC COUNT, and PHY RESET PROBLEM COUNT fields are defined in md.