To: T10 Technical Committee
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Subject: 08-254r0 SPC-4 Protocol-Specific diagnostic page

Revision history
Revision 0 (29 May 2008) First revision

Related documents
spc4r14 - SCSI Primary Commands - 4 (SPC-4) revision 14
sas2r14 - Serial Attached SCSI - 2 (SAS-2) revision 14

Overview
The Protocol-Specific diagnostic page (3Fh) should have a common name and a common format, including a PROTOCOL IDENTIFIER field in byte 1 of the header.

The only SCSI transport protocol defining the page so far is SAS.

Suggested changes

7 Parameters for all device types

7.1 Diagnostic parameters

7.1.1 Diagnostic page format and page codes for all device types

This subclause describes the diagnostic page structure and the diagnostic pages that are applicable to all SCSI devices. Diagnostic pages specific to each device type are described in the command standard (see 3.1.18) that applies to that device type.

A SEND DIAGNOSTIC command with a PF bit set to one specifies that the SEND DIAGNOSTIC parameter list consists of a single diagnostic page and that the data returned by the subsequent RECEIVE DIAGNOSTIC RESULTS command that has the PCV bit set to zero shall use the diagnostic page format defined in table 256. A RECEIVE DIAGNOSTIC RESULTS command with a PCV bit set to one specifies that the device server return a diagnostic page using the format defined in table 256.

Table 256 — Protocol Specific diagnostic page

Byte\Bit	7	6	5	4	3	2	1	0
0	PAGE CODE							
1	Page code specific							
2	(MSB)			PAGE LENGTH (n - 3)				
3								(LSB)
4	SCSI transport protocol specific diagnostic parameters							
n								

Each diagnostic page defines a function or operation that the device server shall perform as a result of a SEND DIAGNOSTIC command or the information being returned as a result of a RECEIVE DIAGNOSTIC RESULTS command with the PCV bit equal to one. The diagnostic parameters contain data that is formatted according to the page code specified.

The PAGE CODE field (see table 257) identifies the diagnostic page.

Table 257 — Diagnostic page codes

Page Code	Diagnostic Page Name	Reference
00h	Supported Diagnostic Pages	7.1.2
01h - 2Fh	Defined by SES-2 for: a) Enclosure services devices (i.e., SCSI devices with the PERIPHERAL DEVICE TYPE field set to 0Dh in standard INQUIRY data); and b) SCSI devices with the ENCSERV bit set to one in standard INQUIRY data (see 6.4.2).	SES-2
30h - 3Eh	Reserved	
3Fh	~~See specific SCSI transport protocol for definition~~ Protocol Specific diagnostic page	7.1.3
40h - 7Fh	See specific device type for definition	
80h - FFh	Vendor specific	
Annex D contains a listing of diagnostic page codes in numeric order.		

The PAGE LENGTH field contains the length in bytes of the diagnostic parameters that follow this field. If the application client sends a SEND DIAGNOSTIC command with a parameter list containing a PAGE LENGTH field that results in the truncation of any parameter, then the command shall be terminated with CHECK CONDITION status, with the sense key set to ILLEGAL REQUEST, and the additional sense code set to INVALID FIELD IN PARAMETER LIST.

The diagnostic parameters are defined for each diagnostic page code. The diagnostic parameters within a diagnostic page may be defined differently in a SEND DIAGNOSTIC command than in a RECEIVE DIAGNOSTIC RESULTS command.

7.1.3 Protocol Specific diagnostic page [all new]

The Protocol Specific diagnostic page (see table 258) provides access to SCSI transport protocol specific diagnostic parameters.

Table 258 — Protocol Specific diagnostic page

Byte\Bit	7	6	5	4	3	2	1	0
0	PAGE CODE (3Fh)							
1	Reserved				PROTOCOL IDENTIFIER			
2	(MSB)							
3	PAGE LENGTH (n - 3)							(LSB)
4	SCSI transport protocol specific diagnostic parameters							
n								

The PAGE CODE field is defined in 7.1.1 and shall be set to the value defined in table 258.

The PROTOCOL IDENTIFIER field contains one of the values shown in table 345 (see 7.5.1) to identify the SCSI transport protocol standard that defines the SCSI transport protocol specific diagnostic parameters.

The PAGE LENGTH field is defined in 7.1.1 and shall be set to the value defined in table 258.

The SCSI transport protocol specific diagnostic parameters are defined by the corresponding SCSI transport protocol standard.

[end of all new section]

D.4 Diagnostic page codes

Table D.9 is a numerical order listing of the diagnostic page codes.

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3Fh ~~See specific SCSI transport protocol standard for definition~~ Protocol Specific diagnostic page