

To: T10 Technical Committee
 From: Rob Elliott, HP (elliott@hp.com)
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 Subject: 07-428r0 SES-2 Additional Element Status length field correction

Revision history

Revision 0 (9 October 2007) First revision

Related documents

ses2r18 - SCSI Enclosure Services - 2 (SES-2) revision 18

Overview

In the Additional Element Status descriptors for SAS, the description of the ADDITIONAL ELEMENT STATUS DESCRIPTOR LENGTH field is shared by both EIP=1 and EIP=0 formats. Like other length fields in SCSI, it is intended to contain the number of bytes that follow in the data structure (i.e., $x-1$). However, the description is worded as "the length in bytes of the protocol-specific information" which is only correct for EIP=0; for EIP=1, 2 more bytes are included in the header and must be accounted for in the LENGTH field.

Suggested changes to SES-2

6.1.13.1 Additional Element Status diagnostic page overview

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The format of the Additional Element Status descriptor with the EIP bit set to one is shown in table 25.

Table 25 — Additional Element Status descriptor with the EIP bit set to one

Byte\Bit	7	6	5	4	3	2	1	0
0	INVALID	Reserved		EIP (1b)	PROTOCOL IDENTIFIER			
1	ADDITIONAL ELEMENT STATUS DESCRIPTOR LENGTH (x - 1)							
2	Reserved							
3	ELEMENT INDEX							
4	Protocol-specific information							
x								

The format of the Additional Element Status descriptor with the EIP bit set to zero is shown in table 26.

Table 26 — Additional Element Status descriptor with the EIP bit set to zero

Byte\Bit	7	6	5	4	3	2	1	0
0	INVALID	Reserved		EIP (0b)	PROTOCOL IDENTIFIER			
1	ADDITIONAL ELEMENT STATUS DESCRIPTOR LENGTH (x - 1)							
2	Protocol-specific information							
x								

An INVALID bit set to one indicates that the contents of the protocol-specific information are invalid. An INVALID bit set to zero indicates that the contents of the protocol-specific information are valid. The enclosure services process may set the INVALID bit to one when the ELEMENT STATUS CODE field in the element status for the associated element (see table 61 in 7.2.3) is set to 5h (i.e., not installed), 6h (i.e., unknown), or 7h (not available).

An EIP (element index present) bit set to one indicates that the Additional Element Status descriptor has the format described in table 25. An EIP bit set to zero indicates that the Additional Element Status descriptor has

the format described in table 26 (i.e., does not include the two extra bytes including the ELEMENT INDEX field that are defined in table 25). The EIP bit should be set to one.

The PROTOCOL IDENTIFIER field is defined in SPC-4 and identifies the protocol of the device being described by the Additional Element Status descriptor.

The ADDITIONAL ELEMENT STATUS DESCRIPTOR LENGTH field indicates the ~~length in bytes of the protocol-specific information~~number of bytes that follow in the Additional Element Status descriptor.

The ELEMENT INDEX field indicates the index of the element that this descriptor is describing. The index is based on the position of the ELEMENT STATUS field in the Enclosure Status diagnostic pages (see 6.1.4) relative to all other ELEMENT STATUS fields. It does not include the OVERALL STATUS fields.

The protocol-specific information bytes contain information defined based on the PROTOCOL IDENTIFIER field. If the PROTOCOL IDENTIFIER field is set to 0h (i.e., Fibre Channel), the protocol-specific information is defined in table 28 (see 6.1.13.2). If the PROTOCOL IDENTIFIER field is set to 6h (i.e., SAS), the protocol-specific information is defined in table 31 (see 6.1.13.3).