

To: T10 Technical Committee
 From: Kevin Marks (Kevin_Marks@dell.com) Dell, Inc.
 Date: January 14, 2005
 Subject: T10/05-005r1 - SES-2: Audible Alarm Element Addition

Revision History

Revision 0 (12/13/04) – Initial Proposal
 Revision 1 (1/14/05) – Added ability to detect disabled elements

Related Documents

SCSI Enclosure Services – 2 (T10/1559-D - SES-2r9)

Overview

Dell sees a need to mute the audible alarm element, so that new error conditions that occur do not cause the muted state to be cleared as currently defined, in essence disabling the audible alarm element. This proposal accomplishes this action by changing table 35 to allow the DISABLE bit in the common status to apply to the alarm element and allows it to be disabled.

Additionally we would like the ability to detect when an element is disabled. This proposal proposes two different options to accomplish this action. One, adding a DISABLE bit to the COMMON STATUS field or two, adding an ELEMENT STATUS CODE value of 8h, meaning the element has been disabled.

Suggested Changes:

Modify **Table 35 - Element type codes** to change the DISABLE bit Reference for the Audible Alarm to “7.3.8” from “not defined”, as shown below:

Table 35 - Element type codes

Type Code	Type of element	DISABLE bit Reference	Threshold	Reference
....
05h	Door Lock	not defined	none	7.3.7
06h	Audible Alarm	not defined 7.3.8	none	7.3.8
07h	Enclosure Services Controller Electronics	Not defined	None	7.3.9
....

Add the following text in 7.3.8 Audible Alarm element (PAGE 59) to include the DISABLE bit text as indicated in blue text:

 7.3.8 Audible Alarm element

[When the DISABLE bit in the COMMON CONTROL field \(see 7.2.2\) is set, the audible alarm shall be disabled and emit no sound regardless of error conditions that exist. When the DISABLE bit is set to zero, the audible alarm is enabled and may emit sound when error conditions exist.](#)

The format of the control field for an Audible Alarm element is defined in table 55.

<Insert Table 55>

The COMMON CONTROL field is specified in 7.2.2.

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Option 1:

Modify **Table 37 - ELEMENT STATUS and OVERALL STATUS fields** to add the DISABLE bit to the COMMON STATUS as shown below:

Table 37 - ELEMENT STATUS and OVERALL STATUS fields

Byte/Bit	7	6	5	4	3	2	1	0
0	COMMON STATUS							
	Rsvd	PRDFAIL	Rsvd <u>DISABLE</u>	SWAP	ELEMENT STATUS CODE			
1	Element-type-specific status information							
3								

Add the following text in 7.2.3 Format for all status fields (PAGE 47) to include returning the DISABLE bit as part of status as indicated in blue text:

7.2.3 Format for all status fields

The format for the ELEMENT STATUS and OVERALL STATUS fields (i.e., status fields) for all element types is shown in table 37.

<INSERT Table 37 — ELEMENT STATUS and OVERALL STATUS fields as above>

The COMMON STATUS field contains those bits that may be returned by any OVERALL STATUS field or ELEMENT STATUS field. The bits of the COMMON STATUS field (i.e., the PRDFAIL, DISABLE, SWAP, and ELEMENT STATUS CODE fields) are defined below.

A PRDFAIL (predicted failure) bit set to one indicates that this element of the enclosure has the capability of predicting failure and that a failure has been predicted. The predicted failure state indicator may additionally be set by the PRDFAIL bit in the corresponding control field. A PRDFAIL bit set to zero indicates that the predicted failure state is not set or that the predicted failure function is not implemented.

A DISABLE bit set to one indicates that this element of the enclosure has been disabled because the DISABLE bit was set to one in the control field. A DISABLE bit set to zero indicates that the element has not been disabled or that the disable function is not implemented.

A SWAP bit set to one indicates that an element has been removed and the same or another element has been inserted in the same location since the last time the RST SWAP control bit was set in the corresponding COMMON CONTROL field. The SWAP bit is set to zero when the RST SWAP control bit is set and remains set to zero until a device has been both removed and inserted in the device slot. The SWAP bit provides an indication that an element's properties may have been changed without any change of configuration.

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Option 2:

Modify **Table 38 - ELEMENT STATUS CODE values** to add an 8h element status code value as a disabled name and condition:

Table 38 – ELEMENT STATUS CODE values

Element Status Code	Name	Condition	Mandatory or optional
....	
06h	Unknown	Sensor has failed or element status is not available.	Optional
07h	Not Available	Element installed, no known errors, but the element has not been turned on or set into operation.	Optional
<u>08h</u>	<u>Disabled</u>	<u>Element has been disabled.</u>	<u>Optional</u>
08h 9h-Fh	Reserved	Reserved	Reserved