

To: INCITS Technical Committee T10

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Subject: SPC-4: Self Describing Command Timeouts

# 1. Revisions

# 2. Introduction

The SMC working group has given me an action to create a method to describe the timeout values for each command. I believe this is a more general issue than SMC and belongs in SPC.

# 3. Proposal

The Command Timeouts VPD page provides the means to retrieve timeout information for commands supported by the logical unit. The values provided in this VPD page are based on the time from the start of processing the command, to its reported completion. Since application clients are concerned with the time from the command being issued, to its reported completion, it should be noted that this overall time may be affected by currently processing operations (e.g. A prior command was issued with the Immediate bit set in the CDB, Multiple concurrent commands with queueing are processing, multi-initiator configurations without reservations, manual unloads, power-on self tests, commands issued shortly after certain aborted commands, commands which force flushes when unwritten write data is in the buffer).

**TABLE xxx. Command Timeouts Inquiry Page**

Byte	7	6	5	4	3	2	1	0
0	Peripheral Qualifier (000b)			Peripheral Device Type				
1	Page Code (xxh)							
2	Reserved							
3	Page Length (n-3)							
<b>Command Timeouts Descriptors</b>								
4	Command Timeouts Descriptor (first)							
:								
:								
:	Command Timeouts Descriptor (last)							
n								

The command timeouts descriptor is described in TABLE xxx+1. on page 2

**TABLE xxx+1. Command Timeouts Descriptor**

Byte	7	6	5	4	3	2	1	0
0	OPERATION CODE							
1	SERVICE ACTION							
2	MSB	COMMAND TIMEOUT - NOMINAL						LSB
3								
4	MSB	COMMAND TIMEOUT - ERROR RECOVERY PROCEDURE						LSB
4								

The operation code field is the OPERATION CODE field of the CDB for the command being specified (see SAM-3).

The service action field is the SERVICE ACTION field of the CDB for the command being specified (see SAM-3). If the command being specified does not have a SERVICE ACTION field this field shall be set to zero.

The command timeout - nominal (CTN) field specifies the typical amount of time in seconds required to process the command specified by the CDB OPERATION CODE and CDB SERVICE ACTION fields. A non-zero value in the CTN field is the amount of time after which the application client may consider that the device server is engaged in error recovery procedures. A value of zero in the CTN field indicates that no time is being specified. The value specified in the CTN field may include time required for typical error recovery procedures expected to occur on a regular basis.

The command timeout - error recovery procedure (CTERP) field specifies the maximum amount of time in seconds required to process the command specified by the CDB OPERATION CODE and CDB SERVICE ACTION fields. The value specified includes time required to engage in extensive error recovery procedures. A non-zero value in the CTERP field is the amount of time in seconds after which the application client may consider the command failed [(should this phrase be included?) and the device server unable to respond]]. A value of zero in the CTERP field indicates that no time is being specified.