

Response to e04115r0 Comments on proposal e03138r1

1 Introduction

The purpose of this proposal is to publicly comment on proposal e03138r1 (Enterprise Extension SMART Accessed).

Page	Section	Comments	WD Response
global		Why is the word 'Enterprise' in the name of the proposal ? This term has misleading technical and marketplace connotations. I recall that it was said that the name could change, but not the acronym. How about something simple like 'Extensible (Command) Environment (via) SMART Access' ?	Change the name to SMART Command Transport (SCT)
global		Some tables refer to 'word' offsets, and some to 'byte' offsets. Please choose one mode of expression and be consistent.	Will change to word offsets throughout
global		Why does this propose to allow the reading and writing of SMART logs E0h and E1h, even when SMART is disabled ?	SMART already allows a SMART command to be issued when it is disabled. This is just a little more
global		Does this propose to allow the reading and writing of SMART logs E0h and E1h, even when SMART is not supported ?	If SMART is not present then reading/writing the logs is not possible.
global		Why does this propose to NOT involve READ LOG EXT and WRITE LOG EXT ?, even though these commands already are specified to work whether or not SMART is enabled (as long as the "General Purpose Logging feature set" is supported and enabled) ?	The wording will be changed to include the extended logs as well.
global	4.1, 4.1.5, 4.2.1.4, 4.2.3.5, 5 Table 17, and more	There are inconsistencies in wording involving the terms 'LBA', 'data block' and 'sector' with regard to the amount of data being transferred by the SMART 'read log' and 'write log' subcommands. Currently, all SMART subcommands ONLY transfer blocks whose size is an integer multiple of 512 bytes, regardless of the 'sector' size actually on the medium.	We will fix this to make it more consistent.
global		The document could be more understandable if the overview sections (6, 7) were moved to the beginning of the document, leaving details for later.	I agree, but we need to settle the issue of where this documentation goes. ATA-8 or TR or other. Then the organizational requirements will be clearer.

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global		It might be more understandable if sections (4, 5) were subsections of a new section titled something like 'EESA Transport Mechanism" (for example)	I agree, but we need to settle the issue of where this documentation goes. ATA-8 or TR or other. Then the organizational requirements will be clearer.
global		Is there any reason why EESA commands may not run in 'captive mode', and hold BSY=1 until completion ?	Currently this is not defined that way. Would it be useful?
global		Instead of referring to E0h and E1h explicitly, use (for example) TBD_LogA and TBD_LogB, so that the proposal may be discussed independently of any prior vendor-specific implementation.	This proposal is our implementation.
global	4.1.3, 4.2.3.3, 8.1.3, 8.2.3, 8.3.3, 8.4.3	first paragraph is inconsistent with other similar paragraphs regarding the disabling of SMART, and writing to a read-only log address.	Need more info. ??
3	4.1	Is it required to issue a 'SMART Enable Attribute Autosave' command before writing to any EESA log ?	No
4	4.1.3	below Table 4, there is no mention of some registers that have definitions within the table: Sector Count, LBA (Low/Mid/High).	Will Fix
4	4.1.3	Extended EESA Error Code: please provide a cross-reference to where these are defined.	OK
4	4.1.3	EESA Transfer Block Count: should these be forced to zero on error ?	No, only on fatal errors
5	4.2.1	What happens if the host tries to read more 'sectors' than are available ? Is the result truncated ? do you get an error ? does the device wrap around to the beginning of the log ? does the device start delivering data from the next log ?	An error is returned
5	4.2.1	Please describe in better detail (with an example) the 'supercommand' concept: how the host may request reading more than 255 sectors of data, when there are only 8 bits of 'sector count' to be specified.	OK
6	4.2.1.6	UNC shall be CLEARED (not set) to zero	OK
6	4.2.1.6	IDNF shall be CLEARED (not set) to zero	OK
9	4.2.2.6	UNC shall be CLEARED (not set) to zero	OK
9	4.2.2.6	IDNF shall be CLEARED (not set) to zero	OK
9	4.2.3	If all EESA subcommands and super commands have completed, does reading the pass thru status (multiple times) give you the same information (about the last command) each time ? or does the status clear after reading it the first time ?	The result is retained until something changes.
9	4.2.3	If an EESA PassThru command aborts, does the PassThru Status reflect the just-aborted command ? or the last non-aborted command ?	Status reflects the aborted command
9	4.2.3	Between individual PassThru Read (or write) commands, during the execution of a super command, does the ErrorCode indicate 'busy' ? or 'completed without error' ?	Don't know

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13	4.2.3.5	Table 14, bytes 10-11: 'sleep' is meaningless, because this STATUS command could not be issued while 'sleep' is active. 'idle' is not specific enough. allow for APM definitions, as below: 0000=active idle 0001=idle 1 0002=idle 2 0003=standby 0004=DST executing in background 0005=SMART offline data collection executing in background 0006=EESA command executing in background (etc.)	This matches the current SMART documentation
13	4.2.3.5	Table 14, bytes 30-33 This only allows for 32 bits of LBA, where the rest of the document specifies 64 bits. (other tables reserve 4 'words' this one reserves 4 'bytes')	This is a typo, it should read 64 bits.
14	4.2.3.6	More clearly indicate the definition of error codes 0010h thru BFFh, and C001h thru FFEh	OK
17	7	Please provide some examples	OK
17	7 8.3.4, Table 28	(last paragraphs) These are the only mention of resets in the whole document. Please create a separate high-level section to explicitly discuss reset responses, including the possibility of coming alive with new feature settings after the reset occurs.	OK
18	8.1	The description does not (consistently) support any long physical sectors that are greater than 512 bytes long.	This part needs work, your input would be appreciated. Keep at 512 bytes
18	8.1	The description does not say anything about how ALL of the data format & content of the second 512-byte block may be/is vendor-specific.	Will add vendor specific statement.
19	8.1.4	The description does not say anything about how ALL of the data format & content of the second 512-byte block may be/is vendor-specific. It MAY (but is not required to) include any ECC or CRC bytes.	Will add vendor specific statement.
20	Table 21	'long sector size' field: size and contents are also vendor-specific	Yes
20	Table 21	The description does not (consistently) support any long physical sectors that are greater than 512 bytes long.	Good question. This needs work/definition, your input would be appreciated.
21	8.2	(paragraph 2) change "hidden partition is set by" to "hidden partition if set by"	OK
21	8.2	(paragraph 3) Will even IDENTIFY DEVICE or NOP terminate the command ?	Yes
21	8.2	(paragraph 5) change "has been written" to "has been written"	OK
21	Table 22	(words 2-5, 6-9) Why reserve 64 bits when the rest of the specification only supports 48 bits ?	Because software has 32 and 64 bit data structures, but no 48 bit structure.
21	Table 22	(reserved) word offsets are incompatible with prior fields in the table	The 6 S/B 12

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24	8.3, 8.3.4	What is the command's response if the host supplies a timer count value that is less than the minimum ? Will the defined minimum replace the host's value ? Will the command abort ?	The response is an error
24	Table 26	Change the table caption	OK
27	8.4	If there is an EESA 'feature' that overlaps in functionality with a SET FEATURE, what is the precedence ? Which value must IDENTIFY DEVICE reveal ?	SCT has higher priority than SET FEATURES.
28	Table 29	Why can the host NOT use "SET FEATURES (enable write cache)" instead of "EESA (force write cache enabled)" ? and similarly for the disabled case ?	SET FEATURES is volatile. SCT is non-volatile.
28	8.4.2	(Sector count and LBA Low) is 'Current Feature State' the same as 'Feature Option Codes' ?	Yes, will fix terminology
30	Table 32	Instead of word 206, please use a symbolic, e.g. TBD_ID_Word, so that the proposal may be discussed independently of any prior vendor-specific implementation.	This proposal is our implementation.
30	Table 32	This proposal reserves ONE word of IDENTIFY DATA response data for ONLY the EESA commands defined in this proposal. This is not architecturally extensible to support all 64K different EESA subcommands that are possible. Perhaps there should be an EESA subcommand to return a LARGE block indicating ALL the subcommands supported.	I agree, will consider changing to use an SCT subcommand.
30	Table 32	Can individual EESA subcommands be 'supported' but not 'enabled' like we have elsewhere ?	No. SCT commands are always enabled if they are supported.