

To: T10 Committee
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Subj: SBC-2 Read Long clarification
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This proposal requests a wording change in Read Long command to allow for implementations that may transform the user data before adding ECC bytes. To maintain expected operation of ECC algorithm (e.g., inverting 40 bits in the data stream should cause the ECC algorithm to sense a 40 bit error and not a longer or shorter length error) the data returned by the Read Long command must be the transformed user data plus ECC bytes. A presentation showing reasons for and advantages of this implementation can be seen in document 04-185.

The proposed additional wording is underlined in the following text, from SBC-2 rev. 14:

5.17 READ LONG (10) command

The READ LONG (10) command (see table 46) requests that the device server transfer data from a single logical block to the application client. ~~The data passed during the READ LONG (10) command is vendor-specific, but shall include the user data, any protection information, and any additional information (e.g., ECC bytes) recorded on the medium~~ The data passed during the READ LONG (10) command is vendor-specific, but shall include the following items recorded on the medium:

- (a) user data or transformed user data;
- (b) any protection information or transformed protection information; and
- (c) any additional information (e.g., ECC bytes).

The most recent data written, or to be written, in the addressed logical block shall be returned. The values in the Read-Write Error Recovery mode page (see 6.3.4) do not apply to this command. The device server may perform retries while processing this command.

5.36 WRITE LONG (10) command

The WRITE LONG (10) command (see table 76) requests that the device server write the data transferred from the application client to one logical block on the medium. The data written is implementation specific, but shall ~~include the data bytes, any protection information, and any additional information (e.g., ECC bytes).~~ be the same length and in the same order as the data returned by the READ LONG command (see 5.17).

See the LOCK UNLOCK CACHE (10) command (see 5.4) for a definition of the LOGICAL BLOCK ADDRESS field.

NOTE 21 - Any other bytes that can be corrected by ECC should be included (e.g., a data synchronization mark within the area covered by ECC). A READ LONG command may be issued before issuing a WRITE LONG command. ~~The WRITE LONG data should be the same length and in the same order as the data returned by the READ LONG command.~~

Clause 5.37 Write Long (16) needs wording change similar to the Write Long (10) change shown above.