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Do Read Long and Write Long have a Secure Future?

(Was: A proposal to add a new modifier to SCSI Write commands)

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Read and Write Long Applications

- To force an unrecovered read error
  - useful for disk mirroring applications
- To test the error detection and correction mechanisms in the storage device

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Read and Write Long Disadvantages

- **Write Long is not an ideal mechanism for creating forced errors:**
  - **– the length is drive-specific**
  - **– the data pattern is theoretically drive-specific**
- **Write Long can be used by malicious utilities to make a drive appear bad.**

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An Alternative

- **Add a bit to the Write commands that would instruct the drive to return an unrecovered ECC error on subsequent reads.**
  - **Only one-block transfer lengths allowed.**
  - **Subsequent writes with the "force error" bit clear would return the block to normal status.**
- **Advantages:**
  - **provides a vendor-independent method for creating forced errors**
  - **(does not infringe on DIGITAL's patent)**

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Reactions

- **Strong sentiment in favor of keeping Read and Write Long**
  - **they are used as a test tool**
- **Preference for avoiding an additional way to do the same thing**
  - **the new Write bit is probably not worth adding unless R/W Long are obsoleted**
- **Some interest in extending the new Write functionality:**
  - **generate a unique error when read**
  - **Read returns the data that was written**
  - **additional Write modifier bits, each with unique Read error codes**

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Resolution

- **Write Long is adequate for writing forced errors, if it will remain in the Standard, and in common implementations.**
- **Strong desire to keep R/W Long as a testing tool, indicates that it will not be obsoleted.**
  - ***right?***
- **In light of this, the additional mechanism for writing forced errors is not justified.**
  - **No further work on the proposal is planned.**