

**To: T10 Committee**  
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**Subj: Application Client Log Page Proposal**  
**Date: April 22, 1999**

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This proposal presents a solution to the problem of identifying the source of drive problems. Drives are sometimes returned to a vendor as "failed" but the vendor can't find anything wrong with the drive. In these cases it would help to know the exact system configuration that the drive was returned from, but this information is not usually available. System manufacturers would like a method to store a substantial amount of system configuration, error history, and error dump data on the drive so this information can be correlated.

Systems could try to store this data in user LBAs, but this would require co-ordinating use of this reserved space with the operating system. This is not considered practical. The alternative of creating a standard log page that the application client can use to store information in its own desired format is much more appealing. The disk drive will not use the information, only write it and read it back at the client's request.

At least one systems company requests storage of about 16K bytes of information. Companies want a consistent implementation across multiple vendors so they can depend on using this feature even if the end customer attaches drive models other than the ones officially supported by the systems integrator. This is why there is a required minimum storage amount. There is also a requirement for the target to store two copies of the information. This will aid in data recovery if a readback problem exists that affects the primary storage location.

The description of this page should be added to SPC-x. This feature is potentially useful and implementable on several types of SCSI target devices.

### **Application Client Log Page**

This log page provides a place for application clients to store system information. The intended use for this information is to aid in describing the system configuration and system problems, but the exact definition of the data is application client specific. If this page is supported, the device server is required to store at least two copies of the information to provide fault tolerance.

**Table 1 – Application Client Log Page**

| Bit     | 7                                   | 6 | 5 | 4 | 3 | 2 | 1 | 0     |
|---------|-------------------------------------|---|---|---|---|---|---|-------|
| Byte    |                                     |   |   |   |   |   |   |       |
| 0       | PAGE CODE (xxh)                     |   |   |   |   |   |   |       |
| 1       | RESERVED                            |   |   |   |   |   |   |       |
| 2       | PAGE LENGTH (n-3)                   |   |   |   |   |   |   |       |
| 3       | (MSB)                               |   |   |   |   |   |   | (LSB) |
|         | APPLICATION CLIENT LOG PARAMETERS   |   |   |   |   |   |   |       |
| 4       |                                     |   |   |   |   |   |   |       |
| .....   |                                     |   |   |   |   |   |   |       |
| FCh+3   | FIRST LOG PARAMETER<br>(LENGTH FCh) |   |   |   |   |   |   |       |
|         |                                     |   |   |   |   |   |   |       |
|         |                                     |   |   |   |   |   |   |       |
| n-FCh+1 | LAST LOG PARAMETER<br>(LENGTH FCh)  |   |   |   |   |   |   |       |
| .....   |                                     |   |   |   |   |   |   |       |
| n       |                                     |   |   |   |   |   |   |       |

The PAGE CODE field shall be xxh.

**[EDITOR'S NOTE: a number needs to be assigned to this log page.]**

The PAGE LENGTH field specifies the length in bytes of the log parameters that are available to be transferred from the device server to the application client.

The following table describes the APPLICATION CLIENT LOG PARAMETER structure.

**Table 2 – application client log parameter descriptor**

| Bit  | 7                      | 6        | 5         | 4         | 3         | 2 | 1          | 0        |
|------|------------------------|----------|-----------|-----------|-----------|---|------------|----------|
| Byte |                        |          |           |           |           |   |            |          |
| 0    | PARAMETER CODE         |          |           |           |           |   |            |          |
| 1    | (MSB)                  |          |           |           |           |   |            | (LSB)    |
| 2    | DU (= 1)               | DS (= 0) | TSD (= 0) | ETC (= 0) | TMC (00b) |   | LBIN (= 1) | LP (= 1) |
| 3    | PARAMETER LENGTH (FCh) |          |           |           |           |   |            |          |
| 4    | FIRST PARAMETER BYTE   |          |           |           |           |   |            |          |
|      |                        |          |           |           |           |   |            |          |
|      |                        |          |           |           |           |   |            |          |
| 255  | LAST PARAMETER BYTE    |          |           |           |           |   |            |          |

When this page is implemented, the first supported parameter code shall be 0000h and additional supported parameters shall be sequentially numbered. The device shall support at least 64 parameter descriptors, which shall be parameter codes 0000h through 003Fh.

The PARAMETER LENGTH for each parameter shall be FCh.

The values stored in the parameter bytes represents data sent to the device server in a previous LOG SELECT command. If a previous LOG SELECT command has not occurred, the data is vendor specific.