

To: T10 Technical Committee  
From: Mark Overby, NVIDIA Corporation (moverby@nvidia.com)  
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Subject: T10/06-250r1 SAT-2: Application Client Specific Log Page Translation

### **Revision History**

Revision 0 - Initial draft of document  
Revision 1 - Updated text to reflect that SMART or GPL is needed (not just GPL)

### **Related Documents**

SAT-2 (1827-D r0)

## **1 Overview**

This proposal defines a translation for the application client-specific log pages into ATA host-specific log pages to provide equivalent functionality.

## **2 Document Changes**

### **2.1 Changes to SAT-2 (T10/1827-D r0)**

Add the following new clause to SAT-2.

#### **2.1.1 Application Client log page**

##### **2.1.1.1 Translation Overview**

The Application Client log page provides a location for application clients to store information. A SATL translates a LOG SELECT or LOG SENSE command to the application client log page to accesses to the ATA host vendor-specific log pages. Table 1 describes the translation of the general usage application client parameter data for the application client log page.

The SATL determines if the attached ATA device supports host vendor specific log pages by reading log page address 00h using READ LOG EXT, READ LOG DMA EXT, or SMART READ LOG.

~~If the attached ATA device does not support the general purpose logging feature set or the SMART feature set, or does not support host vendor specific log pages, the SATL shall complete any LOG SELECT or LOG SENSE command for the application client log page with a CHECK CONDITION status, a sense key of ILLEGAL REQUEST, and an additional sense code of INVALID FIELD IN CDB.~~

If the attached ATA device:

- a) Does not support the general purpose logging feature set and the SMART feature set is disabled; or
- b) Does not support host vendor-specific log pages

Then the SATL shall complete the LOG SENSE or LOG SELECT command for the application client specific log page with a CHECK CONDITION status, a sense key of ILLEGAL REQUEST, and an additional sense code of INVALID FIELD IN CDB.

**Table 1 — General usage application client parameter data fields**

Field	Description or Reference
PARAMETER CODE	See 2.1.1.2
DU	Shall be 1b (see SPC-4)
TSD	Shall be 0b (see SPC-4)
ETC	Shall be 0b (see SPC-4)
TMC	This field is ignored (see SPC-4)
FORMAT AND LINKING	Shall be 11b (see SPC-4)
PARAMETER LENGTH	Shall be FCh (see SPC-4)
GENERAL USAGE PARAMETER BYTES	See 2.1.1.2

### 2.1.1.2 LOG SELECT translation

The SATL stores the application client parameter for a LOG SELECT command in the ATA device host vendor-specific log page. The SATL stores the application client parameter data at the ATA log address as specified in table 2.

Within an ATA log address, the SATL shall store each parameter code in ascending order within the [sixteen](#) 512-byte data blocks for each ATA log address. For example, parameter code [0000h](#) is stored at offset 0 of the first 512-byte block of data at log address [90h](#) and parameter code [0001h](#) is stored at offset 256 in the first 512-byte block of data at log address [90h](#). The SATL stores this information by issuing a SMART WRITE LOG, WRITE LOG EXT, or WRITE LOG DMA EXT command to the [device](#).

The SATL shall ensure that any previously stored data at the log address is preserved when writing to the log address for the requested parameter data.

Table 2 — Parameter Storage Location

Parameter Code	ATA Log Address
<a href="#">0000h - 001Fh</a>	<a href="#">90h</a>
<a href="#">0020h - 003Fh</a>	<a href="#">91h</a>
<a href="#">0040h - 005Fh</a>	<a href="#">92h</a>
<a href="#">0060h - 007Fh</a>	<a href="#">93h</a>
<a href="#">0080h - 009Fh</a>	<a href="#">94h</a>
<a href="#">00A0h - 00BFh</a>	<a href="#">95h</a>
<a href="#">00C0h - 00DFh</a>	<a href="#">96h</a>
<a href="#">00E0h - 00FFh</a>	<a href="#">97h</a>
<a href="#">0100h - 011Fh</a>	<a href="#">98h</a>
<a href="#">0120h - 013Fh</a>	<a href="#">99h</a>
<a href="#">0140h - 015Fh</a>	<a href="#">9Ah</a>
<a href="#">0160h - 017Fh</a>	<a href="#">9Bh</a>
<a href="#">0180h - 019Fh</a>	<a href="#">9Ch</a>
<a href="#">01A0h - 01BFh</a>	<a href="#">9Dh</a>
<a href="#">01C0h - 01DFh</a>	<a href="#">9Eh</a>
<a href="#">01E0h - 01FFh</a>	<a href="#">9Fh</a>

### 2.1.1.3 LOG SENSE translation

The SATL retrieves the requested parameter data by reading the ATA log address that stores the parameter code using a SMART READ LOG, READ LOG EXT, or READ LOG DMA EXT command. The log address to read is determined by Table 2.