Date: December 7, 2007

To: T10 Committee

From Brad Besmer, LSI

Subject: SAT-2 Add translation for Block Characteristics VPD Page

Revision History

Revision 0 (7 December 2007) First Revision

Related Documents

sbc3r12 - SCSI Block Comands - 3 (SBC-3) revision 12

spc4r11 - SCSI Primary Commands - 4 (SPC-4) Revision 11

07-203r0 - SBC-3 SPC-4 Block Device Characteristics VPD page and medium rotation rate field (Rob Elliott, HP)

T13/e07155r1 - ATA8-ACS Reporting RPM and form factor (Wayne Bellamy, HP)

Overview

Background

SBC-1 defined a Rigid Disk Geometry mode page (04h) which included a lot of meaningless fields for modern disk drives; it was made obsolete in SBC-2. However, one useful field was lost in the process: the MEDIUM ROTATION RATE field indicating the disk drive rpm (e.g., 10K rpm vs. 15K rpm).

T10 proposal 07-203r0 incorporated a new Block Device Characteristics VPD page into SBC-3.

This proposal adds a SAT translation to support this new VPD page.

SAT-2 Changes

8.1 INQUIRY command

8.1.1 INQUIRY command overview

The INQUIRY command requests general information about a logical unit and target device. The INQUIRY command and selected vital product data pages shall be emulated using information from the ATA IDENTIFY DEVICE command and other information (see 8.1.2). Table 9 describes the emulation of fields in the INQUIRY CDB.

Table 9 — INQUIRY CDB field translations

Field	Description or reference
OPERATION CODE	Set to 12h. The SATL shall issue an ATA IDENTIFY DEVICE command to the ATA device.
EVPD	The SATL shall implement this field as defined in SPC-3 (see 10.3).

PAGE CODE[a]	The SATL:
	    a) shall support the Supported VPD Pages VPD page (00h) (see 10.3.2);
	    b) may support the Unit Serial Number VPD page (80h) (see 10.3.3);
	    c) shall support the Device Identification VPD page (83h) (see 10.3.4);
	    d) should support the Mode Page Policy VPD page (87h) (see 10.3.5); ~~and~~
	    e) shall support the ATA Information VPD page (89h) (see 12.4.2)~~;~~ and
	    f) may support the Block Device Characteristics VPD page (B1h) (see x.x.x).

ALLOCATION LENGTH	The SATL shall implement this field as defined in SPC-3.
CONTROL	6.4
^a VPD page translations are defined in 10.3	

10.3 Vital product data parameters

10.3.1 Vital product data parameters overview

Table 76 provides a summary of the VPD page translations defined in this standard.

Table 76 — Summary of SCSI / ATA VPD page mapping

SCSI VPD page	Reference
Supported VPD Pages VPD page (i.e., 00h)	10.3.2
Unit Serial Number VPD page (i.e., 80h)	10.3.3
Device Identification VPD page (i.e., 83h)	10.3.4
Mode Page Policy VPD page (i.e., 87h)	10.3.5
ATA Information VPD page (i.e., 89h)	12.4.2
Block Device Characteristics VPD page (i.e., B1h)	10.3.x
All others	See SPC-3 and SBC-2 Unspecified (see 3.4.2)

New section

10.3.2 Block Device Characteristics VPD page (Start New section)

Table 77 shows the fields of the Block Device Characteristics VPD page.

Field	Description or reference
PERIPHERAL DEVICE TYPE	The PERIPHERAL QUALIFIER field and the PERIPHERAL DEVICE TYPE field shall be set as described in 8.1.2.
PERIPHERAL QUALIFIER	
PAGE CODE	The SATL shall set this field to B1h.
PAGE LENGTH	The SATL shall set this field to 3Ch
MEDIUM ROTATION RATE	The SATL shall set this field to the value of ATA IDENTIFY DEVICE Nominal Media Rotation Rate field (data word 217).

End new section21