To:      T10 Technical Committee
From:   Bob Sheffield (robert.l.sheffield@intel.com)
Date:    15 March 2007
Subject: 07-146r0: SAT2 - Fix command summary for SEND DIAGNOSTIC

**Revision history**

Revision 0 (15 March 2007) First revision

**Related documents**

sat2-r00 - SCSI / ATA Translation-2 revision 00

**Overview**

The command summary in clause 7 shows the translation of the SCSI SEND DIAGNOSTIC command as the ATA EXECUTE DEVICE DIAGNOSTIC command. However subclause 8.9 defines the SCSI SEND DIAGNOSTIC command translation as mapping to the ATA ATA SMART EXECUTE OFF-LINE IMMEDIATE command. This proposal is to make the needed correction in clause 7.

<u>**Suggested changes**</u>

# 8 Summary of SCSI / ATA command mappings

## 8.1 Translated and emulated commands

In the event of a discrepancy between the contents of this clause and the description of individual commands, description of individual commands shall apply.

Clause 8, clause 8, and clause 9 describe the SCSI to ATA command mapping for ATA devices. Translation for ATAPI devices is described in clause 13.

The SATL shall not issue more than one ATA command to the ATA device representing the logical unit with the exception of ATA queued commands (see 3.1.19). The SATL shall queue received SCSI commands as necessary to enforce this.

Table 8 lists the SCSI / ATA command mappings defined in this standard. A SATL may implement commands defined in SPC-3 and SBC-2, but not listed in table 8. Translation of commands not listed in table 8 is vendor-specific.

**Table 8 — Summary of SCSI / ATA Command Mapping** (part 1 of 2)

| SCSI command | ATA command(s) | Reference |
|---|---|---|
| ATA PASS-THROUGH (12) | Any | 12.2.2 |
| ATA PASS-THROUGH (16) | | 12.2.3 |
| FORMAT UNIT | READ VERIFY SECTORS, READ VERIFY SECTORS EXT, WRITE SECTORS, WRITE SECTORS EXT | 9.2 |
| INQUIRY | IDENTIFY DEVICE | 8.1 |
| LOG SENSE | Log page dependent (see 10.2) | 8.2 |
| MODE SELECT (6) | Mode page dependent (see 10.1) | 8.3 |
| MODE SELECT (10) | | 8.4 |
| MODE SENSE (6) | | 8.5 |
| MODE SENSE (10) | | 8.6 |
| READ (6) | See 9.1 | 9.3 |
| READ (10) | | 9.5 |
| READ (12) | | 9.6 |
| READ (16) | | 9.7 |
| READ BUFFER | READ BUFFER | 8.7 |
| READ CAPACITY (10) | IDENTIFY DEVICE | 9.8 |
| READ CAPACITY (16) | | 9.9 |
| READ MEDIA SERIAL NUMBER | IDENTIFY DEVICE | 8.8 |
| REASSIGN BLOCKS | READ VERIFY SECTOR(S), READ VERIFY SECTOR(S) EXT, WRITE DMA, WRITE DMA EXT, WRITE DMA FUA EXT, WRITE DMA QUEUED, WRITE DMA QUEUED EXT, WRITE DMA QUEUED FUA EXT, and WRITE FPDMA QUEUED | 9.10 |
| REPORT LUNS | n/a | SPC-3 |
| REQUEST SENSE | SMART RETURN STATUS | 8.8 |
| SEND DIAGNOSTIC | ~~EXECUTE DEVICE DIAGNOSTIC~~ <u>SMART EXECUTE OFF-LINE IMMEDIATE</u> | 8.9 |

**Table 8 — Summary of SCSI / ATA Command Mapping**  (part 2 of 2)

| SCSI command | ATA command(s) | Reference |
|---|---|---|
| START STOP UNIT | FLUSH CACHE, FLUSH CACHE EXT, STANDBY, READ VERIFY SECTOR(S), or MEDIA EJECT | 9.11 |
| SYNCHRONIZE CACHE (10) | FLUSH CACHE or FLUSH CACHE EXT | 9.12 |
| SYNCHRONIZE CACHE (16) | | 9.13 |
| TEST UNIT READY | CHECK POWER MODE | 8.10 |
| VERIFY (10) | See 9.1 | 9.14 |
| VERIFY (12) | | 9.15 |
| VERIFY (16) | | 9.16 |
| WRITE (6) | See 9.1 | 9.18 |
| WRITE (10) | | 9.19 |
| WRITE (12) | | 9.20 |
| WRITE (16) | | 9.21 |
| WRITE AND VERIFY (10) | See 9.1 | 9.23 |
| WRITE AND VERIFY (12) | | 9.24 |
| WRITE AND VERIFY (16) | | 9.25 |
| WRITE BUFFER | WRITE BUFFER or DOWNLOAD MICROCODE | 8.11 |
| WRITE SAME (10) | See 9.1 | 9.26 |
| WRITE SAME (16) | | 9.27 |