To: T10 Technical Committee
From: Bob Sheffield (robert.l.sheffield@intel.com)
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Subject: 06-022r0: SAT - Rewrite TEST UNIT READY

Revision history
Revision 0 (12 December 2005) First revision

Related documents
sat-r07 - SCSI / ATA Translation revision 07

Overview

The current translation of the TEST UNIT READY command is out of sync with the current definition of START STOP UNIT, in that if the device is stopped, the response to TEST UNIT READY should be CHECK CONDITION status with a sense key set to NOT READY and the additional sense code set to LOGICAL UNIT NOT READY, INITIALIZING COMMAND REQUIRED.

There are also some structural problems in the text to fix.

Suggested changes

8.1 TEST UNIT READY command

8.1.1 TEST UNIT READY command overview

The TEST UNIT READY command is used to determine whether the device is ready (See table 1).

Table 1 — TEST UNIT READY command CDB fields

Field	Description or reference
OPERATION CODE	See 8.1.2.
CONTROL	See 6.4.

8.1.2 TEST UNIT READY OPERATION CODE

The SATL shall:

1) If the device was previously stopped through a START STOP UNIT command (see 9.10), the SATL shall terminate the TEST UNIT READY command with CHECK CONDITION status with the sense key set to NOT READY and the additional sense code of LOGICAL UNIT NOT READY, INITIALIZING COMMAND REQUIRED;
2) If the device is being formatted (see 9.2), the SATL shall terminate the TEST UNIT READY command with CHECK CONDITION status with the sense key set to NOT READY and the additional sense code set to LOGICAL UNIT NOT READY, FORMAT IN PROGRESS;
3) If the ATA device supports the removable media feature set, the SATL shall issue a GET MEDIA STATUS command to the attached ATA device. If the device reports an error with the NM bit set, the SATL shall terminate the TEST UNIT READY command with CHECK CONDITION status with the sense key set to NOT READY and the additional sense code of MEDIUM NOT PRESENT;
4) If an ATA command was previously issued to the ATA device and that command completed with an error with the DF bit in the status register set to one, the SATL shall terminate the TEST UNIT READY command with CHECK CONDITION status with the sense key set to HARDWARE ERROR and the additional sense code of LOGICAL UNIT FAILURE;
5) If none of the previous conditions exist then the SATL shall issue an ATA CHECK POWER MODE command;

6) If the ATA CHECK POWER MODE command completes with an error the SATL shall terminate the TEST UNIT READY command with CHECK CONDITOIN status with the sense key set to NOT READY, and the additional sense code set to LOGICAL UNIT DOES NOT RESPOND TO SELECTION; and
7) If the ATA CHECK POWER MODE command completes without error, then the SATL shall complete the TEST UNIT READY command with GOOD status.

If any other condition exists that prevents the SATL from issuing commands to the ATA device, the SATL should terminate the command with CHECK CONDITION status with the sense key set to NOT READY with the additional sense code of LOGICAL UNIT NOT READY, CAUSE NOT REPORTABLE.