To: T10 Technical Committee
From: Robert Sheffield, Intel (robert.l.sheffield@intel.com)
Date: 18 January 2005
Subject: 04-391r2 SAT: Work Items List

Revision history
Revision 0 (8 November 2004) - First revision
Revision 1 (16 December 2004) - Add completed items, and target/Lun mapping.
Revision 2 (18 January 2005) - Add REASSIGN BLOCKS & reassign security modes task

Related documents
SAT-r01a - SCSI / ATA Translation revision 1a

Overview

There are several remaining work items yet to be done to complete the SAT standard. This document briefly describes each work item, with the intent that any of the SAT WG contributors can volunteer to draft proposals to provide the needed text related to each of these items..

Table 1 — Remaining SAT work items

Item	Description	Owner	Status
1)	Post rough draft defining basic content of SATL standard (T10/04-136r0 SCSI to ATA Command Translations).	Steve Johnson and Samantha Ranaweera	Done June 2004
2)	T10 plenary approval of SAT project proposal (T10/04-174r3).	Sheffield	Done July 2004
3)	Reformat for T10 standards template and post first SAT draft.	Sheffield	Done August 2004
4)	Define and incorporate common table format for translations (04-260r2).	Stevens / Sheffield	Done Sept. 2004
5)	Add SAT-specific INQUIRY page 0x83 (04-219r3)	Elliott, Bellamy, Sheffield	Done Sept 2004
6)	Define semantics to distinguish ATA devices (that don't support the packet command set) from ATAPI devices (that do support the packet command set).	Sheffield	Done- SAT-r1
7)	Extend the general clause to identify objectives and guidelines to focus on consistency in implementations for SAT-aware and non-SAT aware operating systems and the importance of limiting flexibility to ensure correct results, as much as possible, for existing (non-standard) SCSI-ATA translation implementations.	Sheffield	Done - SAT-r1
8)	Applied several refinements to task-management functions and supported command op-code translations based on SAT draft review in the August '04 teleconference, September '04 SAT WG meeting, and October '04 teleconference.	Sheffield	Done - SAT-r1
9)	SMART section. Clause 11 has some skeleton text, but this section needs much elaboration to adequately address the translation.	Steve Johnson, Wayne Bellamy	Skeleton

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Item	Description	Owner	Status
10)	ATAPI Translations. Clause 13, "Translation for ATAPI devices" is currently a place-holder for this information. This section will probably expand to at least two sections, (ATAPI translations for Primary SCSI commands, and ATAPI translations for SCSI Block Commands), and may require an dedicated architecture section as well.	Mark Overby	Placeholder
11)	Define REASSIGN BLOCKS command	Bellamy	Placeholder
12)	Sense Data and Error Reporting. Clause 12 currently is a place-holder for error reporting. It contains general templates for CDBs and data structures, which will be deleted when this clause is completed. Many of the required ASC/ASCQ responses are specified in-line in the main text, but it is likely there is general error reporting translation that needs to be specified, but is not so directly tied to the defined command translations to warrant putting the descriptions in the command translation subclauses themselves. This section will cover any needed sense reporting translation not covered in the command translation clauses. ATAPI may need special treatment here, since in most cases the ATAPI translation will be to forward the status reported by the ATAPI device.	Wayne Bellamy	Placeholder
13)	Mode pages and Log pages. Clause 10 defines some mode page and log page translations. The task remaining is to take a thorough look at the defined SPC-3 and SBC-2 mode and log pages to determine what else needs specific translation in SAT. There also may be a need to define a SAT-specific mode page.	Wayne Bellamy, Mark Overby will help	
14)	Restructure draft standard to break-out a separate clause for SATL-specific SCSI extensions to include new SCSI commands (e.g. ATA passthrough), new SATL mode pages (e.g. a mode page to specify ATA transfer/timing modes and security modes, and power modes).	Bob Sheffield	In progress
15)	ATA Passtrough command	Curtis Stevens	In progress
16)	Add a subclause for a SATL-specific mode page to specify ATA transfer/timing modes (may be in a common SATL protocol-specific mode page).	Mark Overby	In progress
17)	Add a subclause for a SATL-specific mode page to specify ATA security modes (may be in a common SATL protocol-specific mode page).	Mark Evans Mark Overby	In progress
18)	Add a subclause for a SATL-specific mode page to specify ATA power modes (may be in a common SATL protocol-specific mode page)	Mark Overby?	May be in current draft?
19)	Add a normative text in the task-management subclause referring to the SCSI-2/SPI to describe translation of "Bus Reset".	Steve Johnson	In progress
20)	Rewrite sections to better define NCQ mapping, including handling of commands queued internally by the SATL.	Steve Johnson	In progress

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Item	Description	Owner	Status
21)	Define handling of legacy TCQ handling for SATA devices that implement TCQ instead of NCQ	Mark Overby	In progress
22)	Describe Target/LUN mapping options, in particular when a SATA port multiplier is involved (e.g. if the port multiplier is attached to an STP/SATA bridge in an expander, the SATL might present it as a target represented by the SAS address of the STP/SATA bridge with LUNs representing the SATA devices attached to the port multiplier). This could also address the possibility of defining a WLUN to represent the SATL itself, even when no ATA devices are attached.	Sheffield, Elliott	concept