Project Proposal
for a new
INCITS Standard

SCSI / ATA Translation - 2
(SAT-2)

14 November 2005
1 Source of Proposed Project

1.1 Title: SCSI / ATA Translation - 2.

1.2 Date Submitted: 14 November 2005.

1.3 Proposing Group: T10.

2 Process Description for the Proposed Project

2.1 Project Type: D - Development.

2.2 Type of Document: Standard.

2.3 Definitions of Concepts and Special Terms: none.

2.4 Expected Relationship with Approved Reference Models, Frameworks, Architectures, etc.
None, it is expected that this standard will be used in closed systems.

2.5 Recommended INCITS Development Technical Committee: T10.

2.6 Anticipated Frequency and Duration of Meetings
Technical Committee T10 meets on a regularly scheduled basis (see http://www.t10.org for the current meeting schedule). Specific task ad hoc groups are called as required between the regular meetings but their results are not binding. It is anticipated multiple interim working group meetings will be scheduled to align with T13 meetings.


2.8 Estimated Useful Life of Standard or Technical Report: 5 Years.

3 Business Case for Developing the Proposed Standard or Technical Report

3.1 Description
The SCSI / ATA Translation defines standard mappings and behaviors among implementations that effect the behavior of SCSI devices as viewed by a host driver where the physical devices are ATA class devices presented to the host by applying a translation layer between the Serial ATA or Parallel ATA device and the SCSI interface. This project creates the next generation of translation of SCSI commands and behaviors into the ATA commands and behaviors, leveraging the previous standard for expansion.

This generation of the standard also maps new features from SAS-2 or the ATA-8 (or SATA-IO) family of standards into translations appropriate for the ATA domain or SCSI domain, respectively.

The following items should be considered for inclusion in SCSI / ATA Translation-2.

1) Define operations of ATAPI devices in a SCSI domain;
2) Translation of ATA security feature sets for a SCSI environment;
3) ATA register mapping and identification in a SAS domain;
4) Mapping of the ATA removable media feature set in a SCSI domain;
5) Defining the use of ATA8-ACS feature sets in a SCSI domain;
6) Define elements to facilitate use of SATA port selectors and SATA port multipliers; and
7) Other capabilities, commands, translations, or behaviors that are appropriate for ATA devices in a SCSI environment.

3.2 Existing Practice and the Need for a Standard
The proposed project would evolve the previously developed standard to include new functionality and further define appropriate translations into the SCSI domain for ATA feature sets that were not defined for the first generation SAT standard.

3.3 Implementation Impacts of the Proposed Standard

3.3.1 Development Costs
Members of T10 will provide the necessary resources. The T10 members will host the required meetings for development, provide for the necessary lab experiments, and provide the Technical Editor for the project.

3.3.2 Impact on Existing or Potential Markets
This proposed project is intended to provide a more consistent mapping of SCSI to ATA. This ensures that investments in such mappings have a stable managed migration path in the face of technological development.

3.3.3 Costs and Methods for Conformity Assessment
The committee will consider the results of testing as may be available to the committee through the voluntary efforts of the various participants in T10. With this method all costs are borne by the organizations of the various participants and have for the most part been mainly an adjunct of their normal development costs.

3.3.4 Return on Investment
ROI information is considered proprietary data by the member organizations, but members have stated that the ROI is expected to be large.

3.4 Legal Considerations

3.4.1 Patent Assertions
Calls will be made to identify assertions of patent rights in accordance with the relevant INCITS, ANSI, and ISO/IEC policies and procedures.

3.4.2 Dissemination of the Standard or Technical Report
Drafts of this document will be disseminated electronically. Dissemination of the final standard will be restricted, as the document becomes property of INCITS, ANSI, and/or ISO/IEC.

4 Related Standards Activities

4.1 Existing INCITS / ANSI Standards:

<table>
<thead>
<tr>
<th>ID Number</th>
<th>Title</th>
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<tbody>
<tr>
<td>NCITS.330-2000</td>
<td>Reduced Block Commands (RBC)</td>
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<tr>
<td>NCITS.330-2000/AM1-2003</td>
<td>RBC Amendment-1</td>
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<tr>
<td>NCITS.360:2002</td>
<td>MultiMedia Command Set - 3 (MMC-3)</td>
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<tr>
<td>INCITS.380:2003</td>
<td>SCSI Stream Commands - 2 (SSC-2)</td>
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4.2 Related Standards Activity

<table>
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<tr>
<th>ID Number</th>
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<tbody>
<tr>
<td>T13/1700D</td>
<td>AT Attachment - 8 Architecture Model (ATA8-AAM)</td>
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<tr>
<td>T13/1699D</td>
<td>AT Attachment - 8 Command Set (ATA8-ACS)</td>
</tr>
<tr>
<td>T13/1698D</td>
<td>AT Attachment - 8 Parallel Transport (ATA8-APT)</td>
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<tr>
<td>T13/1697D</td>
<td>AT Attachment - 8 Serial Transport (ATA8-AST)</td>
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<td>T10/1683-D</td>
<td>SCSI Architecture Model - 4 (SAM-4)</td>
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<td>T10/1545-D</td>
<td>MultiMedia Command Set - 4 (MMC-4)</td>
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<td>T10/1675-D</td>
<td>MultiMedia Command Set - 5 (MMC-5)</td>
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<td>T10/1611-D</td>
<td>SCSI Stream Commands - 3 (SSC-3)</td>
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<tr>
<td>T10/1601-D</td>
<td>Serial Attached SCSI - 1.1 (SAS-1.1)</td>
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<tr>
<td>T10/1760-D</td>
<td>Serial Attached SCSI - 2 (SAS-2)</td>
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4.3 Corresponding ISO projects

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<tr>
<th>ID Number</th>
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<tr>
<td>ISO/IEC 14776</td>
<td>Multipart SCSI standard</td>
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<tr>
<td>ISO/IEC 14776-411</td>
<td>SCSI-3 Architecture Model (SAM)</td>
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<tr>
<td>ISO/IEC 14776-452</td>
<td>SCSI-3 Primary Commands - 2 (SPC-2)</td>
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4.4 Recommendations for Close Liaison

Technical Committee T13.

5 Units of Measurement used in the Standard

Not measurement sensitive.