

Project Proposal for A New Standard

1 Source of the Proposed Project

1.1 Title

ATA/ATAPI Command Set – 2 (ACS-2)

1.2 Date Submitted

February 10, 2006

1.3 Proposer(s)

T13

2 Process Description for the Proposed Project

2.1 Project Type (Development or Revision)

D

2.2 Type of Document

Standard

2.3 Definitions of Concepts and Special Terms

The terms are industry standard.

2.4 Expected Relationship with Approved Reference Models, Frameworks, Architectures, etc.

The standard addresses closed systems and has no relationship to INCITS Reference Models.

2.5 Recommended INCITS Development Technical Committee

T13

2.6 Anticipated Frequency and Duration of Meetings

T13 presently meets up to six times per year and authorizes ad hoc meetings as warranted for the needs of the projects. It is anticipated that these meetings are adequate to address this standard among the other agenda items for these meetings.

2.7 Target Date for Initial Public Review (Milestone 4)

June 2008

2.8 Estimated Useful Life of Standard or Technical Report

5 years or more

3 Business Case for Developing the Proposed Standard

3.1 Description

This project would be an evolutionary follow on to project 1699D AT Attachment – 8 ATA/ATAPI Command Set. The project would:

- Document the command set implemented by hard disk drives that support the ATA Architecture (ATA8-ACS).
- Address new features and functions that were proposed for ATA8-ACS not sufficiently developed for incorporation in ATA/ATAPI-7 such as:
 - Security Feature Set ~~Improvements~~~~Improvements†~~
 - An annex to describe support for 1K/4K sectors
 - An improved description of the Host Protected Area feature set
 - Proactive error reporting and correcting
- Any other proposals or modifications to ATA/ATAPI command set suggested or proposed by T13 committee members, such as:
 - ~~EESA~~
 - Improved Command Queuing
 - Additional Spin Up Controls
 - Download Microcode Improvements
 - Improved Error Reporting
 - Improved Descriptions as in SAS (t10)
 - Providing mechanisms to support DMA only systems. For example, IDENTIFY DEVICE data could be moved to a log page.
 - Etc.

3.2 Existing Practice and the Need for a Standard or Technical Report

The proposed project involves evolutionary expansion of the present ATA8-ACS project. The ATA/ATAPI-7 interface is widely utilized in high volume computer based systems and the ATA8-ACS project, which includes over 20 new capabilities, is emerging rapidly. There is continuing need to enhance the ATA hard drive command set definition while maintaining a high degree of compatibility with previous versions of the standard. The nature of the proposed project is to ensure that ATA Architecture devices have an upward, highly compatible growth path. This will ensure that new features and functions developed by the computer industry will have a standardization vehicle.

3.3 Implementation Impacts of the Proposed Standard or Technical Report

3.3.1 Development Costs

Implementation costs are born on a voluntary basis by industry. Members of T13 have informed us that their companies consider the detailed costs to be confidential information.. Although the members consider the cost details to be confidential, they also consider the ultimate costs to be reduced by the benefits of the standard.

3.3.2 Impact on Existing or Potential Markets

The contemplated enhancements for ACS-2 are considered essential for the continued growth of the low end segment of the storage market and to the expansion into the consumer storage segment.

3.3.3 Costs and Methods for Conformity Assessment

No formal conformity assessment is undertaken. However each of the personal computer systems manufacturers have extensive qualification testing which on a voluntary basis assures the methods are exhaustively tested in the industry. The incremental cost is modest.

3.3.4 Return on Investment

The estimated ROI for development of this standard and the conformity assessment costs associated with it greatly exceeds 1000 to 1.

3.4 Legal Considerations

3.4.1 Patent Assertions

During the development of previous T13 standards several patent holders provided letters indicating that they would be willing to license patents related to the ATA/ATAPI interface in conformance with the INCITS patent policy. T13 will make regular calls for patents in the meetings addressing the standard.

3.4.2 Dissemination of the Standard

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

4 Related Standards Activities

4.1 Existing Standards

ANSI INCITS 397-2005 AT Attachment - 7 with Packet Interface (ATA/ATAPI-7)

4.2 Related Standards Activity

D1699 (ATA8-ACS)

4.3 Recommendations for Coordinating Liaison

None

4.4 Recommendations for Close Liaison

TC T10,