

Project Proposal for A New Standard

1 Source of the Proposed Project

1.1 Title

Protected Area Run Time Interface Extension Services-2 (PARTIES-2)

1.2 Date Submitted

April 22, 2003

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)

August 2004

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 proposal builds on PARTIES to address the following:

- Mandate command usage (28-bit/48-bit) on basis of IDENTIFY DRIVE command result (word 83[10]: “Command sets supported.” and 86[10]: “Command set/feature enabled.”).
- Clarify 5.2.23, device name usage and remove the restriction of only using 20h-7Eh (ASCII) makes string English centric.
- Clarify the contradiction in section 5.2.20 “*Number of entries in the BEER Directory of Services*” and section 5, Initialization Requirements to note that number of BEER entries are not restricted to 6, but can be ‘n’ as specified in BEER.
- Clarify the meaning of “elimination” of HPA (sec 6.20, last paragraph) in ATA/PI spec 6/rev 3a to suggest that doing a SET MAX [EXT] to NATIVE MAX [EXT] eliminates HPA. Also to add a few combinations of SET MAX volatile/non-volatile 28-bit/48-bit to describe it clearly.

This proposal builds on PARTIES to add the following:

- Add a new field “OEM flags” in Directory of Services entry (Byte 1) to let an OEM assign custom flags to a PSA which can be read by an upper level application/software
- Add Implementer ID to BEER Directory of Services description. An implementer is one who puts PSA’s (PARTIES Services Area) into HPA (Host Protected Area). This can be an OEM, ODM, ISV or IT department. This allows an OEM application to identify PSA that were put in by that OEM.
- Add a flag bit in UNLOCK command to make opened HPA area “Read Only”. This read only attribute is enforced by drive firmware. Attribute of an already open HPA can be changed via firing another UNLOCK command with the flag bit set appropriately.
- Any other proposal or modifications to Protected Area Run Time Interface Extension Services (PARTIES) as suggested or proposed by committee T13 members

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

The Standard is needed to provide guidance on methods that will facilitate use of the reserved area in a manner that does not cause interoperability issues.

Some large companies have already announced diagnostic boot capability for their products and that they would work with T13 to arrive at an industry compatible method for this function. Numerous companies are shipping notebook computers that utilize the reserved area for saving the system context and memory when the notebook goes into hibernation. These various uses need to be harmonized.

The Standard should allow existing implementations to be accommodated with a reasonable migration plan, potential applications to be implemented through the next year while documenting harmonious methods, which will be stable for more than three years.

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. But the cost is considered to be fairly modest as the standard describes existing BIOS practices. Logistical costs for T13 are negligible

since the standard represents about 5% of the T13 meeting agenda. 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 benefit of the Standard to users and suppliers should vastly outweigh the modest costs of developing the Standard. The benefits will be realized principally in increased reliability for diagnostic applications and in fewer system crashes with the use of hibernation. Disc drive manufacturers are expected to benefit from far fewer good drive returns. At the moment approximately 40% of disc drives returned for repair are found to be good and the root cause of the system problem was some other item.

The target market for the Standard is all personal computer systems utilizing ATA/ATAPI disc drives. Obviously this is an extremely large market.

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

T13 will make regular calls for patents in the meetings addressing the standard. There are none at this time

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 NCITS 346-2001 Protected Area Run Time Interface Extension Services (PARTIES)

ANSI NCITS 361-2002 AT Attachment with Packet Interface (ATA/ATAPI-6)

ANSI NCITS 363-2002 BIOS Enhanced Disk Drive Services (EDD-2)

4.2 Related Standards Activity

d1532 (ATA/ATAPI-7)

d1572D (BIOS Enhanced Disk Drive Services-3)

4.3 Recommendations for Coordinating Liaison

None

4.4 Recommendations for Close Liaison

None