Assignment of SMART Attributes

To: **T13 Technical Committee**
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Date: **October 18, 2005**

Revision History:
0:      Initial revision, split from proposal e05148r0

1   Introduction

The purpose of this proposal is to add define T13 as the central authority to assign new SMART attribute numbers for all ATA and ATAPI devices.

2   Background

Currently, there is no central authority that maintains a list of assigned SMART attributes. In the absence of such an body, drive and host vendors have unilaterally and arbitrarily defined various attributes for themselves and dictated that assignment and associated behaviors to their development partners.

Inevitably, this has created situations where a drive vendor has been asked to support attribute 'X', which now has multiple definitions required by partners 'A' and 'B'. This causes confusion and adds development and manufacturing cost to support, and reduces interoperability, which costs the general public to an unknown (but non-trivial) degree.

It is acknowledged that some vendors may desire that some old or new attributes remain undocumented in a public forum, so 'vendor-specific' attributes are still allowed; however, such a policy (as currently exists) is a barrier to interoperability.

This proposal strongly requests that as many attributes as possible be publicly disclosed and documented to this central authority. This make time, as legal non-disclosure aggrements may need to be modified.

The effort will benefit the whole industry as interoperability improves, with the general public reaping the most benefits.

3   Proposal

3.1   Central Authority
I propose that T13 become the central authority which owns and maintains a single list of SMART attributes.

3.2   Types of Attributes

On this list shall be several categories:

      a)   legacy attributes (some of which may actually be obsolete)

      b)   host-defined attributes, in several categories
          a.   vendor-specific
          b.   defined via T13 (numbers 200 and above, assigned in ascending order)
          c.   reserved (unused numbers above 200)

      c)   device-defined
          a.   vendor-specifc
          b.   defined via T13 (numbers below 200, assigned in descending order)
          c.   reserved (unused numbers below 200)

3.3   Scope of Authority

For each of the attributes defined via T13, the following information shall be defined in a document maintained by T13:
      a)   attribute number
      b)   name of the attribute
      c)   how to use and interpret the 1-byte value
      d)   definition of any flag bits in the attribute data structure
      e)   mapping of the 8 bytes of attribute data, and interpretation guidelines

For existing attributes, the 'owners' are strongly encouraged to publicly disclose this same information and thereby to change the type from 'vendor specific' to 'defined'.

3.4   Attributes Identifiers Defined by T13
These attribute identifiers may be defined by T13. This is a comprehensive, complete and authoritative list.

Table 1 - Attributes defined by T13

Decimal	Name	Description
014 – 190	Reserved	For device vendor-defined attributes
210 – 219	Reserved	For host vendor-defined attributes
229	Reserved	For host vendor-defined attributes
232 – 239	Reserved	For host vendor-defined attributes
241 – 249	Reserved	For host vendor-defined attributes
250 – 255	Reserved	For host vendor-defined attributes