**Project Proposal
For a New
NCITS Standard**

Object Based Storage Devices

(OSD)

Command Set

November 4, 1999

1.   Source of the Proposed Project

1.1   Title: Object Based Storage Devices Command Set (OSD)

1.2   Date Submitted: November 4, 1999

1.3   Proposing Group: T10, 8 members of T10 are also members of NCITS.

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 NCITS Development Technical Committee:
T10.

2.6   Anticipated Frequency and Duration of Meetings
Technical Committee T10 meets on a regularly scheduled basis (see 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.

2.7   Target Date for Initial Public Review (Milestone 4):
November 2003.

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:
This proposes a command set that stores data objects instead of blocks of data. The purpose of this abstraction is to assign to the storage device more responsibility for managing the location of the data. The advantages for this approach are:
(a) easier sharing of files with multiple initiators,
(b) sharing of files among initiators that use different operating systems,
(c) moving responsibility for data management functions such as defragmentation to the storage device, and
(d) easier implementation of third party backup and restore operations.

3.2.   Existing Practice and the Need for a Standard
Current command sets store blocks of data in defined locations on the storage device. A higher level operating system is responsible for mapping the application's programs and data onto the storage device. The object based storage approach moves most of the mapping responsibility to the storage device. A standard is desirable to facilitate interoperability with different operating systems and storage devices.

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 approach requires changes in operating system software to make use of the object based storage approach. Use of this command set is incompatible with use of block based storage commands. The commands will fit within existing SCSI command structures.

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 NCITS, 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 when the document becomes property of NCITS, ANSI, and/or ISO/IEC.

4.   Related Standards Activities

4.1   Existing Standards:

ID Number   Title
X3.270:1996   SCSI-3 Architecture Model (SAM)
X3.301-1997   SCSI-3 Primary Commands (SPC)
NCITS.306:1998   SCSI-3 Block Commands (SBC)

4.2   Related Standards Activity:

ID Number   Title
T10/1157-D   SCSI Architecture Model - 2 (SAM-2)
T10/1236-D   SCSI Primary Commands - 2 (SPC-2)
T10/0997-D   SCSI Streaming Commands (SSC)
T10/tbd-D   SCSI Architecture Model - 3 (SAM-3)
T10/tbd-D   SCSI Block Commands - 2 (SBC-2)

4.3   Recommendations for Coordinating Liaison:
None.

4.4   Recommendations for Close Liaison:
NCITS T11 and Storage Network Industry Association (SNIA).