**Project Proposal
For a New
X3 Standard**

SCSI Enclosure Services

(SES)

March 14, 1996

1. IDENTIFICATION OF PROPOSED PROJECT

1.1 TITLE: SCSI Enclosure Services (SES).

1.2 PROPOSER: X3T10.

1.3 DATE SUBMITTED: March 14, 1996

1.4 PROJECT TYPE: D - Development of a standard within an X3 TC.

2. JUSTIFICATION OF PROPOSED STANDARD

2.1 NEEDS:

Using SCSI-3 technologies, disk drives and other SCSI devices may reside in subsystem enclosures some distance from the host initiators. A command set and SCSI peripheral device model is required to communicate with the enclosure and to determine and control the state of various components within the enclosure. This document would define the command set, the enclosure services device model, and a set of enclosure component descriptors, and related SCSI functions, commands, and parameters.

2.2 RECOMMENDED SCOPE OF STANDARD:

The SES standard will define a model for a SCSI Enclosure Services device type. The command set and command set usage will be described. Formats for providing different classes of information will be defined. Formats for providing status and control information for each element and type of element in an enclosure are defined. The SES standard will use commands defined in the SPC standard to transfer these formats. Additional formats are provided for other enclosure related information.

If the committee requests and approves appropriate text, the SES standard may include additional enclosure related information, including MIB/MIFs for enclosure information.

2.3 EXISTING PRACTICE IN AREA OF PROPOSED STANDARD:

The proposed project expands and adds new functionality to the diagnostic functions, such that the functions can access enclosure status and control information.

2.4 EXPECTED STABILITY OF PROPOSED STANDARD WITH RESPECT TO CURRENT AND POTENTIAL TECHNOLOGICAL ADVANCE:

The project insures that the complex maintainability and configuration requirements of rapidly growing SCSI device farms and RAID devices can be met. The structure should provide a solid functional core allowing future expansion and scalability.

3. DESCRIPTION OF PROPOSED PROJECT:

3.1 TYPE OF DOCUMENT: Standard**.**

3.2 DEFINITION OF CONCEPTS AND SPECIAL TERMS: None**.**

3.3 EXPECTED RELATIONSHIP WITH APPROVED X3 REFERENCE MODELS:

The SES standard is intended for use in closed systems. MIB/MIF information may be provided to allow network access to some critical enclosure information.

3.4 RECOMMENDED PROGRAM OF WORK:

The following program of work is planned for SES:

    (1)   Solicit continuing participation by the current membership of X3T10 through X3 procedures. Invite comments and proposals from organizations that may have a contribution to the SES standard.

    (2)   Prepare a draft proposed standard based on proposals submitted and other information gathered during the initial investigation.

    (3)   Consider the experience with present enclosure services definitions as may be available to the committee through the voluntary efforts of the X3T10 membership.

    (4)   Submit the draft proposed standard to X3 for further processing.

3.5 RESOURCES - INDIVIDUALS AND ORGANIZATIONS COMPETENT IN THE SUBJECT MATTER:

The current membership of X3T10 includes representatives from all parts of the computer industry, from semiconductor chip manufacturers to large mainframe system manufacturers as well as government agencies. The members of X3T10 have expressed their desire to participate and cooperate in the development of this proposed standard.

Additional guidance will be solicited from the SFF Committee (industry group) and other industry organizations.

There are sufficient resources to complete the development of this standard without delaying work on other projects.

3.6 RECOMMENDED X3 DEVELOPMENT TECHNICAL COMMITTEE:

It is recommended that the development work be done in Technical Committee X3T10 which is responsible for developing the family of SCSI standards.

3.7 ANTICIPATED FREQUENCY AND DURATION OF MEETINGS:

Technical Committee X3T10 meets bimonthly. Specific task ad hoc groups are called as may be required for one to three days between the regular meetings but their results are not binding.

3.8 TARGET DATE FOR dpANS TO X3: November 1997.

3.9 ESTIMATED USEFUL LIFE OF STANDARD:

It is anticipated that this standard will have a life of 5 years.

4. IMPLEMENTATION IMPACTS

4.1 IMPACT ON EXISTING USER PRACTICES AND INVESTMENTS:

The proposed SES standard will provide a standard mechanism for handling enclosure services. At present, most implementations use vendor unique mechanisms for accessing enclosure services at significant cost to the industry. The standard provides the basis for a standard mechanism to perform this, saving the industry significant resources and money.

4.2 IMPACT ON SUPPLIER PRODUCTS AND SUPPORT:

The proposed SES standard will provide a standard alternative to the existing proprietary practices and investments. It is likely that small isolated negative impacts would occur in some cases as proprietary practices are modified to meet the standard.

4.3 TECHNIQUES AND COSTS FOR COMPLIANCE VERIFICATION:

SES is a standard governing the development of enclosure management services conducted across the SCSI interface. Applicable compliance tests will be those that verify conformance to a the

newly specified command set. The committee will consider the results of such compliance testing as may be available to the committee through the voluntary efforts of the various participants in X3T10. 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.

4.4 LEGAL CONSIDERATIONS:

There are no known legal considerations. A Call for Patents will be made.

5. CLOSELY RELATED STANDARDS ACTIVITIES

5.1 EXISTING STANDARDS: None.

5.2 X3 STANDARDS DEVELOPMENT PROJECTS:

BSR Number	Title	Project
X3.270-199x	SCSI-3 Architecture Model	X3T10/994-D
X3.xxx-199x	SCSI-3 Primary Commands	X3T10/995-D

5.3 X3 STUDY GROUPS: None.

5.4 OTHER RELATED DOMESTIC STANDARDS EFFORTS: None.

5.5 ISO/IEC JTC 1 STANDARDS DEVELOPMENT PROJECTS: None.

5.6 OTHER RELATED INTERNATIONAL STANDARDS DEVELOPMENT PROJECTS: None.

5.7 RECOMMENDATIONS FOR COORDINATING LIAISON: None.

5.8 RECOMMENDATIONS FOR CLOSE LIAISON: None