**Project Proposal
For a New
X3 Standard**

**SCSI-3 Serial Bus Protocol 2
(SBP-2)**

September 14, 1995

1. IDENTIFICATION OF PROPOSED PROJECT

1.1 TITLE: SCSI-3 Serial Bus Protocol 2 (SBP-2).

1.2 PROPOSER: X3T10.

1.3 DATE SUBMITTED: September 14, 1995

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

2. JUSTIFICATION OF PROPOSED STANDARD

2.1 NEEDS:

The SCSI-3 Serial Bus Protocol (SBP) proposed standard is close to approval as an ANSI standard. There is a continuing need to extend and enhance SBP features in response to the evolution of the IEEE P1394 draft standard for a High Performance Serial Bus and to add a number of new features.

A particular need to be addressed by the SBP-2 project is the enhancement and expansion of facilities to accommodate isochronous data streams.

2.2 RECOMMENDED SCOPE OF STANDARD:

The SBP-2 standard will define extensions to the transport layer protocols of Serial Bus Protocol to take advantage of the continued evolution of the High Performance Serial Bus.

Candidates for inclusion in the SBP-2 draft standard are:
   a) clarify the SBP paradigm and revise the sections that map SBP to the SCSI-3 Architecture Model so they more accurately describe SBP compliance,
   b) develop functional specifications for SBP high-availability factors, possibly in connection with to be defined extensions to High Performance Serial Bus transport media,
   c) extend SBP functionality to incorporate the anticipated inclusion of gigabit and greater transfer rates by High Performance Serial Bus,
   d) extend SBP functional specifications as required for operations within a group of High Performance Serial Buses connected by bridges,
   e) maintenance of the Serial Bus Protocol standard that may result from further implementation of the SBP standard (particularly in the area of isochronous data), and
   f) other capabilities which fit within the general application scope of Serial Bus that may be proposed during the development phase by the participants in the project.

The SBP-2 proposed standard shall conform to the requirements of the SCSI-3 Architecture Model proposed standard but may also provide extensions (*e.g.*, isochronous services) that are beyond the scope of the SCSI-3 Architecture Model.

2.3 EXISTING PRACTICE IN AREA OF PROPOSED STANDARD:

Serial Bus Protocol (X3.268-199x). Other X3T10 projects exist that define the transport of the SCSI protocol over different media, for example Fibre Channel and SSA.

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

The nature of the proposed project is to insure that SBP has an upward, highly compatible growth path. This will insure that current investments in SBP are provided with more stability in the face of technological developments.

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 SBP-2 standard is intended for use in closed systems.

3.4 RECOMMENDED PROGRAM OF WORK:

The following program of work is planned for the SBP-2:
   a) 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 SBP-2 standard,
   b) establish functional requirements for the extensions to SBP,
   c) prepare a draft proposed standard based on proposals submitted and other information gathered during the initial investigation,
   d) consider the results of SBP-2 testing as may be available to the committee through the voluntary efforts of the X3T10 membership, and
   e) 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.

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

High Performance Serial Bus has been adopted for use outside of the computer industry. X3T10 could benefit from contact with other groups that embody High Performance Serial Bus expertise. The 1394 Trade Association, which meets four times a year, is representative of the High Performance Serial Bus community and is an appropriate point of contact.

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 five (5) years.

4.   IMPLEMENTATION IMPACTS

4.1   IMPACT ON EXISTING USER PRACTICES AND INVESTMENTS:

The proposed SBP-2 standard will provide an evolutionary growth path to the existing practices and investments. It is likely that any isolated negative impacts would occur in any case through non-standard evolution or revolution.

4.2   IMPACT ON SUPPLIER PRODUCTS AND SUPPORT:

The proposed SBP-2 standard will provide an evolutionary growth path to the existing practices and investments. It is likely that any isolated negative impacts would occur in any case through non-standard evolution or revolution.

4.3   TECHNIQUES AND COSTS FOR COMPLIANCE VERIFICATION:

The committee will consider the results of SBP-2 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 unique to SBP-2. A Call for Patents will be made.

5.   CLOSELY RELATED STANDARDS ACTIVITIES

5.1 EXISTING X3 STANDARDS: None.

5.2 X3 STANDARDS DEVELOPMENT PROJECTS:

BSR Number	Title	Project
X3.270-199x	SCSI-3 Architecture Model	994D
X3.268-199x	SCSI-3 Serial Bus Protocol	992D

5.3 X3 STUDY GROUPS: None.

5.4 OTHER RELATED DOMESTIC STANDARDS EFFORTS: IEEE P1394 / P1394.1.

5.5 ISO/IEC JTC 1 STANDARDS DEVELOPMENT PROJECTS:

CD 9316-8	SCSI-3 Architecture Model
CD 9316-7	SCSI-3 Serial Bus Protocol

It is anticipated that SBP-2 will be proposed to JTC1/SC25/WG4.

5.6 OTHER RELATED INTERNATIONAL STANDARDS DEVELOPMENT PROJECTS:

"Digital Interface for Consumer Audio/Video Equipment", proposed to IEC Technical Committee 84.

5.7 RECOMMENDATIONS FOR COORDINATING LIAISON: None.

5.8 RECOMMENDATIONS FOR CLOSE LIAISON:

Continue liaison with the IEEE Microprocessor Committee responsible for High Performance Serial Bus.