

T10/00-388r0

**Project Proposal
For a New
NCITS Standard**

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

October 13, 2000

1. IDENTIFICATION OF PROPOSED PROJECT

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

1.2 PROPOSER: T10.

1.3 DATE SUBMITTED: October 13, 2000

1.4 PROJECT TYPE: D - Development of a standard within a T10 Technical Committee.

2. JUSTIFICATION OF PROPOSED STANDARD

2.1 NEEDS:

A T10 study group convened in Huntington Beach, CA on September 15, 2000 identified a number of areas for which enhancements or extensions to ANSI NCITS 325-1998, Serial Bus Protocol 2, are desired by the industry (see the scope below for details). The consensus of the study group is that a standard compatible with ANSI NCITS 325-1998 should be developed to meet these needs.

2.2 RECOMMENDED SCOPE OF STANDARD:

The SBP-3 draft standard will define transport layer protocols to take advantage of both implementation experience gained with ANSI NCITS 325-1998 and the continued evolution of High Performance Serial Bus, IEEE Std 1394-1995 as amended by IEEE Std 1394a-2000.

Candidates for inclusion in the SBP-3 draft standard are:

- a) methods to reduce a target's start-up latency from an idle condition;
- b) explicit description of the methods used to encapsulate 16-byte or larger command descriptor blocks (CDBs) within SBP-3;
- c) extensions necessary for initiators and targets to successfully interoperate across one or more Serial Bus bridges as specified by draft standard IEEE p1394.1;
- d) isochronous facilities and methods, with particular attention to data interchange formats that permit the use of removable media;
- e) definition of a new ORB type to permit bi-directional data transfer in the context of a single task;
- f) revisions necessary to utilize new Serial Bus features specified by IEEE Std 1394a-2000 and draft standard IEEE P1394b;
- g) clarifications and corrigenda applicable to ANSI NCITS 325-1998; and
- h) other capabilities which fit within the general application scope of ANSI NCITS 325-1998 that may be proposed during the development phase by the participants in the project.

The SBP-3 draft standard is intended to be compatible with ANSI NCITS 325-1998; it is anticipated that a device conformant with the current standard will also be conformant with SBP-3.

2.3 EXISTING PRACTICE IN AREA OF PROPOSED STANDARD:

Serial Bus Protocol 2 (ANSI NCITS 325-1998). Other T10 projects and standards exist that define transport protocols 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 Serial Bus Protocol has an upward, highly compatible growth path. This will insure that investments in Serial Bus Protocol are provided with stability in the face of implementation experience and 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 NCITS REFERENCE MODELS:

The SBP-3 standard is intended for use in closed systems.

3.4 RECOMMENDED PROGRAM OF WORK:

The following program of work is planned for the SBP-3:

- a) solicit continuing participation by the current membership of T10 through NCITS procedures. Invite comments and proposals from others that may have a contribution to the SBP-3 standard,
- b) establish functional requirements for SBP-3,
- c) prepare a draft proposed standard based on proposals submitted and other information gathered during the initial investigation,
- d) consider the results of SBP-3 testing as may be available to the committee through the voluntary efforts of the T10 membership and others, and
- e) submit the draft proposed standard to NCITS for further processing.

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

The current membership of T10 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 T10 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. T10 could benefit from contact with other groups that embody High Performance Serial Bus expertise. The IEEE P1394.1 working group has particular relevance to program of work; contact is expected to be by means of common membership and circulation of drafts and proposals. The 1394 Trade Association, which meets four times a year, is another representative of the High Performance Serial Bus community and is also an appropriate point of contact.

3.6 RECOMMENDED NCITS DEVELOPMENT TECHNICAL COMMITTEE:

It is recommended that the development work be done in Technical Committee T10 which is responsible for developing lower-level interface standards.

3.7 ANTICIPATED FREQUENCY AND DURATION OF MEETINGS:

Technical Committee T10 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 NCITS: May, 2002.

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-3 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-3 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-3 testing as may be available to the committee through the voluntary efforts of the various participants in T10 and others. 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-3. A Call for Patents will be made.

5. CLOSELY RELATED STANDARDS ACTIVITIES**5.1 EXISTING NCITS STANDARDS:** None.

BSR Number	Title
ANSI NCITS 325-1998	Serial Bus Protocol 2

5.2 NCITS STANDARDS DEVELOPMENT PROJECTS: None.**5.3 NCITS STUDY GROUPS:** None.**5.4 OTHER RELATED DOMESTIC STANDARDS EFFORTS:**

IEEE P1212	Control and Status Registers (CSR) architecture for microcomputer buses
IEEE P1394b	High Performance Serial Bus—Amendment 2
IEEE P1394.1	High Performance Serial Bus Bridges
IEEE P1394.3	High Performance Serial Bus Peer-to-Peer Data Transport Protocol (PPDT)

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

It is anticipated that SBP-3 will be proposed to ISO/IEC JTC1/SC25/WG4.

5.6 OTHER RELATED INTERNATIONAL STANDARDS DEVELOPMENT PROJECTS: None.**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 and its authorized Working Groups.