**Project Proposal
For a New
X3 Standard**

SCSI Parallel Interface - 2

(SPI-2)

March 1, 1994

1   IDENTIFICATION OF PROPOSED PROJECT

1.1   TITLE: SCSI Parallel Interface (SPI-2)

1.2   PROPOSER: X3T10

1.3   DATE SUBMITTED: May 19, 1994 X3T10 forwarding date.

1.4   PROJECT TYPE: D - Development of standards within X3 TC.

2   JUSTIFICATION OF PROPOSED STANDARD

2.1   NEEDS:

The SCSI-3 Parallel Interface (SPI), herein referred to as SPI-1, is in the approval phase. Recently, new technologies that relate to SPI have been proposed. Rather than delay SPI-1 approval to incorporate these technologies, it is more appropriate to begin a SPI revision project, SPI-2.

2.2   RECOMMENDED SCOPE OF STANDARD:

The SPI-2 standard is intended to provide new techologies for the SCSI Parallel Interface, while maintaining a high degree of compatibility with SPI-1.

Functions which will be considered for incorporation include:

a) Faster synchronous data transfer rates (up to 4 times faster than SPI-1).

b) Smaller connectors and physical connection schemes using new connector technology.

c) Other capabilities which fit within the general scope of implementing the SCSI Parallel Interface on a broad range of applications, and other capabilities that may be proposed during the development phase by the participants in the project.

2.3   EXISTING PRACTICE IN AREA OF PROPOSED STANDARD:

Other efforts exist within X3T10 to broaden the application of SCSI.

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

The nature of the proposed project is to define the SCSI Parallel Interface in a manner which expands the alternatives available to host system manufacturers while maintaining a high degree of compatibility with SPI-1.

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 SPI-2 standard is for use in closed systems.

3.4   RECOMMENDED PROGRAM OF WORK:

The following program of work is planned for the SPI-2 standard:

(1)   Solicit participation from present and future SCSI participants through X3T10 procedures and through press releases. Invite comments by end-user organizations and invite proposals from organizations that may have a contribution to a viable SPI-2 standard.

(2)   Establish functional requirements for SPI-2.

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

(4)   Consider the results of SPI-2 testing as may be available to the committee through the voluntary efforts of the various participants in X3T10.

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

3.5   RESOURCES - INDIVIDUALS AND ORGANIZATIONS COMPETENT IN 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 standards.

3.6   RECOMMENDED X3 DEVELOPMENT TECHNICAL COMMITTEE:

It is recommended that the development work be done in Technical Committee X3T10.

3.7   ANTICIPATED FREQUENCY AND DURATION OF MEETINGS:

Technical Committee X3T10 meets for two days bi-monthly. 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 (MILESTONE 10): November 1995

3.9   ESTIMATED USEFUL LIFE OF STANDARD:

It is anticipated that this standard will have a life of over 10 years.

4   IMPLEMENTATION IMPACTS

4.1   IMPACT ON EXISTING USER PRACTICES AND INVESTMENTS:

The proposed SPI-2 standard will provide an upward growth path which complements 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 SPI-2 standard will provide an upward growth path which complements 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 SPI-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.
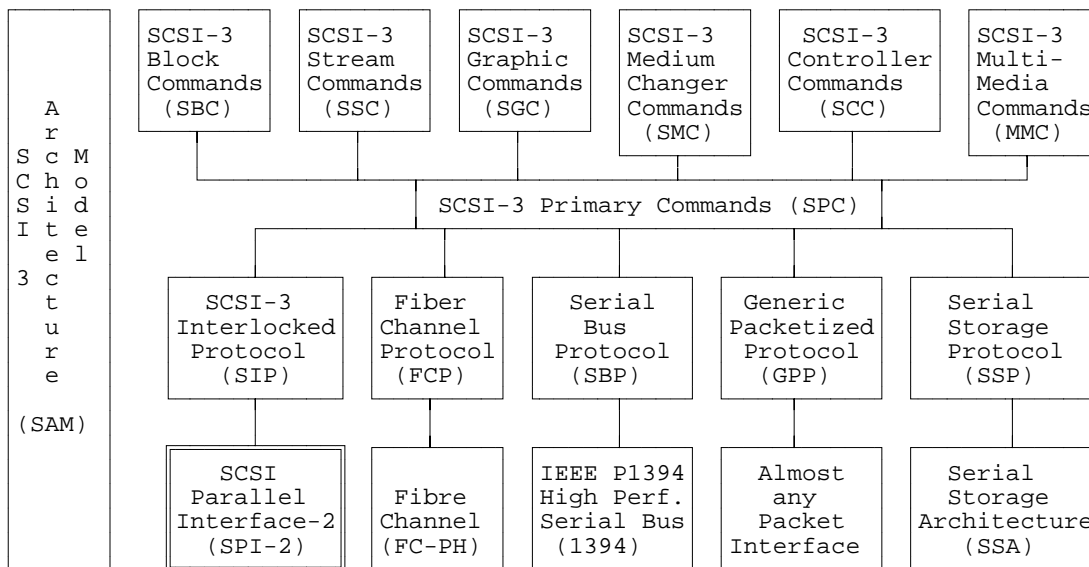
4.4   LEGAL CONSIDERATIONS:

There are no known legal considerations. A Call for Patents will be made under Milestone 7 of the SD-2.

5   CLOSELY RELATED STANDARDS ACTIVITIES

5.1   EXISTING STANDARDS: None.

5.2   X3 STANDARDS DEVELOPMENT PROJECTS:

The SPI-2 replaces SPI-1 as one part of the overall SCSI-3 family of standards, most of which are being developed in X3T10:

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│          │  │ SCSI-3   │ │ SCSI-3   │ │ SCSI-3   │ │ SCSI-3   │ │ SCSI-3   │ │ SCSI-3   │
│          │  │ Block    │ │ Stream   │ │ Graphic  │ │ Medium   │ │Controller│ │ Multi-   │
│  A       │  │ Commands │ │ Commands │ │ Commands │ │ Changer  │ │ Commands │ │ Media    │
│S  c   M  │  │ (SBC)    │ │ (SSC)    │ │ (SGC)    │ │ Commands │ │ (SCC)    │ │ Commands │
│C  h   o  │  └──────────┘ └──────────┘ └──────────┘ │ (SMC)    │ └──────────┘ │ (MMC)    │
│S  i   d  │                                         └──────────┘              └──────────┘
│I  t   e  │
│3  e   l  │          ┌─────────────────── SCSI-3 Primary Commands (SPC) ───────────────────┐
│   c      │
│   t      │  ┌──────────┐ ┌──────────┐ ┌──────────┐ ┌──────────┐ ┌──────────┐
│   u      │  │ SCSI-3   │ │ Fiber    │ │ Serial   │ │ Generic  │ │ Serial   │
│   r      │  │Interlocked│ │ Channel  │ │ Bus      │ │Packetized│ │ Storage  │
│   e      │  │ Protocol │ │ Protocol │ │ Protocol │ │ Protocol │ │ Protocol │
│          │  │ (SIP)    │ │ (FCP)    │ │ (SBP)    │ │ (GPP)    │ │ (SSP)    │
│ (SAM)    │  └──────────┘ └──────────┘ └──────────┘ └──────────┘ └──────────┘
│          │  ┌──────────┐ ┌──────────┐ ┌──────────┐ ┌──────────┐ ┌──────────┐
│          │  │   SCSI   │ │          │ │IEEE P1394│ │ Almost   │ │ Serial   │
│          │  │ Parallel │ │ Fibre    │ │High Perf.│ │ any      │ │ Storage  │
│          │  │Interface-2│ │ Channel  │ │Serial Bus│ │ Packet   │ │Architecture│
│          │  │ (SPI-2)  │ │ (FC-PH)  │ │ (1394)   │ │Interface │ │ (SSA)    │
└──────────┘  └──────────┘ └──────────┘ └──────────┘ └──────────┘ └──────────┘
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5.3   X3 STUDY GROUPS: None.

5.4   OTHER RELATED DOMESTIC STANDARDS EFFORTS: None.

5.5   ISO/IEC JTC 1 STANDARDS DEVELOPMENT PROJECTS:

It is anticipated that this standard will be proposed to 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:** None.