

X3T10/95-213r1

**Project Proposal
For a New
X3 Technical Report**

**SCSI Enhanced Parallel Interface
(EPI)**

July 13, 1995

1. IDENTIFICATION OF PROPOSED PROJECT

1.1 **TITLE:** SCSI Enhanced Parallel Interface (EPI).

1.2 **PROPOSER:** X3T10.

1.3 **DATE SUBMITTED:** July 13, 1995

1.4 **PROJECT TYPE:** DT - Development of a technical report within an X3 TC.

2. JUSTIFICATION OF PROPOSED TECHNICAL REPORT

2.1 NEEDS:

Development of SPI and Fast-20 have revealed the potential for applications of parallel SCSI to more complex physical configurations having one or more of the following features:

- a) mixed single-ended and differential devices on separate segments of the same logical bus
- b) higher device count (e.g. > 16 devices)
- c) physical bus segments with branches to improve transmission line effects
- d) extended physical bus segment lengths allowed by the propagation delay assumptions already built into the parallel SCSI protocol.
- e) removal and replacement of devices on active buses
- f) removal, replacement, and addition of physical bus segments in active systems
- g) mixed power conditions in active systems

2.2 RECOMMENDED SCOPE OF TECHNICAL REPORT:

Candidates for inclusion in the EPI technical report are:

- a) Re-interpretation of the SCSI-2/SPI length limits as a function of cable propagation speed
- b) Define point-to-point and lightly-populated length limits for single-ended devices
- c) Configurations allowed by the use of extender/isolator components; topologies with coupled physical bus segments, redundant paths to devices
- d) Configurations allowed by the use of low-cost, low-overhead bridge devices; full use of logical unit address space for greater device count, initialization schemes, and initiator/target placements.
- e) Specification of the process and requirements for removing and replacing devices on an active SCSI bus.
- f) Specification of the process and requirements for removing, replacing, and adding physical bus segments to active SCSI systems.
- g) Specification of the terminator power distribution requirements for dynamic configurations
- h) Address implications of these features on the SCAM protocol
- i) Other capabilities which may fit within the general scope of the EPI technical report that may be proposed during the development phase by the participants in the project.

2.3 EXISTING PRACTICE IN AREA OF PROPOSED TECHNICAL REPORT:

The proposed project involves evolutionary extensions of the present SPI standard. Some of the proposed features are being used in various niche products.

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

The nature of the proposed project is to promote and enhance compatibility of the proposed extensions to SPI and Fast-20. This should insure that current investments in SCSI are provided with more stability in the face of technological developments..

3. DESCRIPTION OF PROPOSED PROJECT:

3.1 TYPE OF DOCUMENT: Technical Report.

3.2 DEFINITION OF CONCEPTS AND SPECIAL TERMS: None.

3.3 EXPECTED RELATIONSHIP WITH APPROVED X3 REFERENCE MODELS:

Not applicable.

3.4 RECOMMENDED PROGRAM OF WORK:

The subject matter planned for the EPI technical report:

- 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 EPI technical report.
- 2) Prepare a draft technical report based on proposals submitted and other information gathered during the initial investigation.
- 3) Consider the results of EPI testing as may be available to the committee through the voluntary efforts of the X3T10 membership.
- 4) Submit the draft technical report 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 technical report.

There are sufficient resources to complete the development of this technical report 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: May 1997.

3.9 ESTIMATED USEFUL LIFE OF TECHICAL REPORT:

It is anticipated that this technical report will have a useful life of 5 years.

4. IMPLEMENTATION IMPACTS

4.1 IMPACT ON EXISTING USER PRACTICES AND INVESTMENTS:

The proposed EPI technical report 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:

Not applicable.

4.3 TECHNIQUES AND COSTS FOR COMPLIANCE VERIFICATION:

Not applicable.

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
X3.253-199x	SCSI-3 Parallel Interface	
X3.277-199x	SCSI-3 Fast-20	
X3.270-199x	SCSI-3 Architecture Model	
	SCSI-3 Interlocked Protocol	X3T10/0856-D
	SCSI-3 Primary Commands	X3T10/0995-D

5.3 X3 STUDY GROUPS: None.**5.4 OTHER RELATED DOMESTIC STANDARDS EFFORTS:** None.**5.5 ISO/IEC JTC 1 STANDARDS DEVELOPMENT PROJECTS:** SPI, SIP, Fast-20, SAM, and SPC are being processed as a NWI at 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.