X3T9/93-
X3T9.3/93-

Project Proposal
For an Amendment to an
X3 Standard

HIGH-PERFORMANCE PARALLEL INTERFACE - FRAMING PROTOCOL - ANSI X3.210-1992
Project 702

(HIPPI-FP)

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23 April, 1993

1. IDENTIFICATION OF PROPOSED PROJECT

1.1 TITLE: Amendment to High-Performance Parallel Interface - Framing Protocol (HIPPI-FP), ANSI X3.210-1992, Project 702

1.2 PROPOSER: X3T9 / X3T9.3

1.3 DATE SUBMITTED: April 23, 1993 from X3T9.3 to X3T9

1.4 PROJECT TYPE: D - Development done within X3 TC.

2. JUSTIFICATION OF PROPOSED STANDARD

2.1 NEEDS:

The High-Performance Parallel Interface - Framing Protocol (HIPPI-FP), X3.210-1992, specifies the packet structure and header control fields for transferring data over the 800 or 1600 Mbit/s HIPPI-PH physical interface. Upper-layer protocols that use HIPPI-FP are each assigned a ULP-id parameter value that is used by the receiver to identify the upper-layer protocol that the packet belongs to. An additional upper-layer protocol has been identified for mass storage systems conforming to the IEEE Mass Storage Reference Model, and it needs to be assigned a ULP-id value.

2.2 RECOMMENDED SCOPE OF STANDARD:

This project proposal covers an amendment to ANSI X3.210-1992. The extent of the changes do not warrant a revision to the standard. The major technical change will be the assignment of a ULP-id for an upper-layer protocol identified since HIPPI-FP was written. A few editorial clarifications may also be included. Additional technical and editorial changes may be identified as the work progresses.

2.3 EXISTING PRACTICE IN AREA OF PROPOSED STANDARD:

The HIPPI suite of standards has gained considerable acceptance in the supercomputer arena, with a significant number of vendors supplying products, and a significant number of installations worldwide.

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

The proposed amendment is to insure that existing and planned HIPPI implementations will have the capability to support systems conforming to the IEEE Mass Storage Reference Model.

3. DESCRIPTION OF PROPOSED PROJECT

3.1 TYPE OF DOCUMENT: Amendment to a Standard

3.2 Definition of Concepts and Special Terms: None

3.3 Expected Relationship with Approved X3 Reference Models:

HIPPI is intended for use in closed systems.

3.4 Recommended Program of Work:

(1) Solicit continuing participation by the present HIPPI participants through X3T9.3 procedures and new participants through press releases. Invite comments by end-user organizations and invite proposals from HIPPI development organizations and other organizations that may have a contribution to a HIPPI-FP amendment.

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

(3) Submit the draft proposed amendment to X3 for further processing.

3.5 Resources--Individuals and Organizations Competent in Subject Matter:

The current membership of X3T9.3 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 X3T9.3 have expressed their desire to participate and cooperate in the development of this proposed amendment.

There are sufficient resources to complete the definition of this amendment without delaying work on other standards.

3.6 Recommended X3 Development Technical Committee:

HIPPI-FP was developed in the X3T9.3 Task Group of the X3T9 Technical Committee, and is the best qualified place for this work to take place.

3.7 Anticipated Frequency and Duration of Meetings:

This project will make use of the regularly-scheduled bimonthly X3T9.3 plenary meetings. Informal Working Groups will be organized on an ad-hoc basis to discuss specific subjects where appropriate.

3.8 Target Date for Submission of dpANS to X3 (Milestone 10):

October 1993.

3.9 Estimated Useful Life of Standard:

It is anticipated that the X3.210 standard will have a useful life of at least 10 years.

4. Implementation Impacts

4.1 Impact on Existing User Practices and Investments:

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

4.2 Impact on Supplier Products and Support:

The proposed standard will provide an upward growth path complementary to the existing practices and investments. It is likely that 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 HIPPI testing as may be available to the committee through the voluntary efforts of the various participants in X3T9 and its assigned task group. 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:

No new legal considerations are expected.

A Call for Patents will be made under Milestone 7 of the SD-2.

5. CLOSELY RELATED STANDARDS ACTIVITIES

5.1 EXISTING STANDARDS:

a) X3.183-1991 High-Performance Parallel Interface - Mechanical, Electrical, and Signalling Protocol Specification (HIPPI-PH)

b) X3.210-1992 High-Performance Parallel Interface - Framing Protocol (HIPPI-FP)

c) X3.218-1993 High-Performance Parallel Interface - Encapsulation of ISO 8802-2 (IEEE Std 802.2) Logical Link Control Protocol Data Units (HIPPI-LE)

5.2 X3 STANDARDS DEVELOPMENT PROJECTS:

a) Project 496R for a revision to the Intelligent Peripheral Interface - Device Generic Command Set for Magnetic and Optical Disk Drives (IPI-3 Disk), ANSI/ISO 9318-3

b) Project 505R for a revision to the Intelligent Peripheral Interface - Device Generic Command Set for Magnetic Tape Drives (IPI-3 Tape), ANSI/ISO 9318-4

c) Project 979 for HIPPI Mapping to Fibre Channel Signalling Protocol (HIPPI-FC)

5.3 X3/SPARC STUDY GROUPS: None.

5.4 OTHER RELATED DOMESTIC STANDARDS EFFORTS: None.

5.5 ISO STANDARDS DEVELOPMENT PROJECTS:

The HIPPI standards are to be submitted to ISO JTC1/SC 25 WG4. HIPPI-FP is currently in process as a NP.

5.6 OTHER RELATED INTERNATIONAL STANDARDS DEVELOPMENT PROJECTS:

None.

5.7 RECOMMENDATIONS FOR COORDINATING LIAISON: None.

5.8 RECOMMENDATIONS FOR CLOSE LIAISON: None.

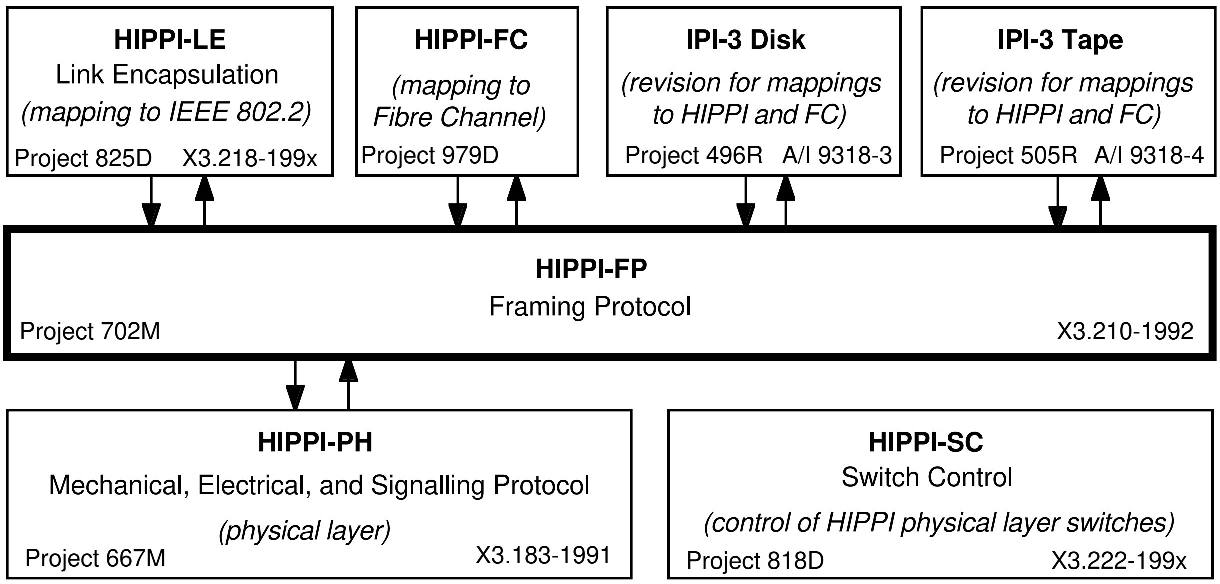

Figure 1 - Relationship of HIPPI-FP to other projects