Proposal for Modified Name and Scope of

INCITS Project 1647-D.

Fibre Channel - Physical Interfaces - 4

(FC-PI-4)

1 Source of the Proposed Project

1.1 Modified Title:

Fibre Channel - Physical Interfaces - 4 (FC-PI-4)

1.2 Date Submitted:

October 5, 2006

1.3 Proposer:

T11.2

2 Process description for the Proposed Project:

2.1 Project Type:

Type D (Development done within INCITS T11.2). This project renames and modifies the scope of INCITS Project 1647-D.

2.2 Type of Document:

INCITS Standard

2.3 Definitions of Terms:

None

2.4 Expected Relationships with Reference Models, Frameworks,

Architecture:

All Fibre Channel standards are intended for use in closed systems.

2.5 Recommended INCITS Development Technical Committee:

It is recommended that this project be assigned to TG T11.2. It is expected that this project will impose no new requirements on other Fibre Channel groups or standards.

2.6 Anticipated Frequency and Duration of Meetings:

This project will make use of the regularly-scheduled bimonthly T11.2 plenary meetings. Informal Working Groups will be organized on an ad-hoc basis.

2.7 Modified Target Date for Initial Public Review (Milestone 4):

September 2007

2.8 Estimated Useful Life of Standard or Standard:

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

3 Business Case for Developing the Proposed:

3.1 Modified Proposed content

The FC-PI-4 standard will define the requirements for new physical layer variants that operate at higher data rates than those specified in FC-PI-2. It is desirable that some of those new variants operate at distances the same as or greater than those of the corresponding 4 Gb/s variants specified in FC-PI-2.

The FC-PI-4 standard will consider all aspects of transmit, receive and cable-plant performance requirements for optical and electrical links. The standard will enable interoperability of transmitter devices, receiver devices, interconnects, and components among different manufacturers.

It is desirable that new variants in this standard be specified such that they can be implemented with components that also support the legacy variants defined in the FC-PI, FC-PI-2, FC-PI-3 and 10GFC standards.

Additional sub-projects may be proposed within the scope of this project. Each will include appropriate signal specifications as well as information about the methodologies required to measure those signals.

The proposed standard will include physical layer variants from previous standards to optimize consistency of specification methodology for all variants. It will include new variants to support an 800 MB/s data rate. It will include those variants specified in FC-PI-2 that are appropriate for new designs. FC-PI-4 is intended to serve as the replacement for FC-PI-2 when FC-PI-2 is withdrawn.

This proposed standard is not intended to address areas above the physical level.

3.2 Existing Practice and the Need for a Standard:

The proposed project involves a compatible evolution of the present Fibre Channel physical layer.

Such evolutionary improvements may include:

Increase (or maintain at higher data rates) the distances of optical and electrical links in:

- Backplanes
- Horizontal and vertical wiring.
- Inter- and intra-building connections.
- Server room channels.

Desirable to enable the reuse of legacy optical and electrical cable plants.

Link equalization may be used to improve the performance of some variants. Other information and variants approved by T11.

3.3 Implementation Impacts of the Proposed Standard

3.3.1 Development Costs

Resources are provided by the members of T11.2. The members host the required meetings for development, provide for the necessary lab experiments and silicon technology development and provide the Technical Editor for the project.

No significant development costs are anticipated.

3.3.2 Impact on Existing or Potential Markets

The proposed standard will provide an upward growth path that complements and enhances existing supplier products and support schemes and protects backward compatibility wherever possible. The proposed standard will result in expanded applications for existing and conceived products in backplane, channel and network markets.

3.3.3 Costs and Methods for Conformity Assessment

The committee will consider the results of testing as may be available to the committee through the voluntary efforts of the various participants in T11.2. 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.

3.3.4 Return on Investment

The return on investment for this development is expected to be high, due to the commonality of effort directed to a singular method of providing the services covered by the proposed standard. Additionally, the investment made in products developed under FC-PI-4 will be preserved by providing additional distance or margin to existing physical variants

3.4 Legal Considerations

3.4.1 Patent Assertions

Calls will be made to identify assertions of patent rights in accordance with the relevant INCITS, ANSI, and ISO/IEC policies and procedures. T11.2 is not aware of any patent assertions that may be made.

3.4.2 Dissemination of the Standard or Standard

Drafts of the document will be disseminated electronically. Dissemination of the final standard will be restricted as the document becomes property of INCITS, ANSI, or ISO/IEC.

4 Related Standards Activities:

4.1 Existing Standards

This project renames and modifies the scope of INCITS Project 1647-D

4.2 Related Standards Activity (Updated):

INCITS 404:2006 Fibre Channel - Physical Interface (FC-PI-2)
INCITS Project 1734-DTA, Fibre Channel Methodologies For Signal Quality Specification (FC-MSQS)
INCITS Project 1626-D, Fibre Channel Signal Modeling - 2 (FCSM-2)

4.3 Recommendations for Coordinating Liaison:

None

4.4 Recommendations for Close Liaison:

IEEE 802.3

5 Units of Measurement used in the Standard:

The units of measurement used in the Standard shall be the International System of Units (SI)