

# **FC-BB-4 PROJECT PROPOSAL**

## **1. Source of the Proposed Project**

**1.1 Title:** Fibre Channel Backbone - Generation 4

**1.2 Date:** October 6, 2005

**1.3 Proposer:** Technical Committee T11

## **2. Process Description for the Proposed Project**

**2.1 Project Type:** D - Development within INCITS T11

**2.2 Type of Document:** Standard

**2.3 Definitions of Concepts and Special Terms**

Backbone - A network, and its associated resources and services used to connect one or more Fibre Channel network entities over non-Fibre Channel protocol infrastructures. These Fibre Channel entities may be connected over varying geographical distances.

**2.4 Expected Relationship with Approved Reference Models, Frameworks, Architectures, etc.**

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

**2.5 Recommended INCITS Development Technical Committee:** T11

**2.6 Anticipated Frequency and Duration of Meetings**

Technical Committee T11 meets bimonthly. Specific ad hoc groups are called as may be required for one to three days between the regular meetings but their results are not binding.

**2.7 Target Date for Initial Public Review (Milestone 4):** April 2007

**2.8 Estimated Useful Life of Standard or Technical Report**

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

## **3. Business Case for Developing the Proposed Standard or Technical Report**

### **3.1 Description**

FC-BB-4 defines the mechanisms, services, and protocols to connect Fibre Channel islands over geographical areas of varying scope.

### **3.2 Existing Practice and the Need for a Standard**

The Fibre Channel Backbone standards (FC-BB, FC-BB-2, FC-BB-3) describe how Fibre Channel networks may be extended over varying geographical distances using the ATM, SONET, IP WAN and GFPT protocols.

The ATM and SONET definitions have not changed substantially since FC-BB-2. Reviewing and correcting them in each successive FC-BB-x version is inefficient and unnecessary.

Therefore, these definitions will be removed in FC-BB-4.

There is a need to standardize additional configurations and protocols not addressed by the Fibre Channel Backbone standards which allow the extension of Fibre Channel networks over varying geographical distances. This will address geographical expansion of Storage Area Networks (SANs), and facilitate the growth of new applications such as Content Distribution and new transport protocols.

This new standard may address flow control, performance, timers, and management functions associated with these new configurations and protocols. In addition, this standard

may address any link characteristics related to these new configurations and protocols, such as:

- (1) FC Mapping over MPLS Pseudo-wire;
- (2) Extensions for compression;
- (3) Investigating the coordination of FC link capabilities to common carrier networks, which may include defining extensions to FC-2 flow control;
- (4) Point to Multi-Point Configurations;
- (5) Fibre Channel Over IP Networks - Behavior and operational characteristics associated with the FC over IP environment;
- (6) Additional requirements discovered in the development of this standard.

### **3.3 Implementation Impacts of the Proposed Standard**

#### **3.3.1 Development Costs**

This Standard will be developed through the voluntary and cooperative efforts of T11 Technical Committee members. 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. The proposed Standard will result in expanded applications for existing and conceived products in both the channel and network markets. It is likely that isolated adverse effects would occur in any case through non-standard evolution or revolution.

#### **3.3.3 Costs and Methods for Conformity Assessment**

The committee will consider the results of FC-BB-4 testing as may be available to the committee through the voluntary efforts of the various participants in T11. 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.

### **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 is not aware of any patent assertions that may be made.

#### **3.4.2 Dissemination of the Standard or Technical Report**

Drafts of this document will be disseminated electronically. The Standard will be disseminated in accordance with ANSI and INCITS procedures.

## **4. Related Standards Activities**

### **4.1 Existing Standards**

ANSI T1.105.02-2001, *Synchronous Optical Network (SONET) - Payload Mappings*.

ANSI INCITS 373-2003, *Fibre Channel - Framing and Signaling (FC-FS)*.

ANSI INCITS 384-2004, *Fibre Channel - Switch Fabric - 3 (FC-SW-3)*.

### **4.2 Related Standards Activity**

Project 1674-D, *Fibre Channel Switch Fabric - Fourth Generation (FC-SW-4)*

Project 1619-D, *Fibre Channel Framing and Signaling -Two (FC-FS-2)*

Project 1639-D, Fibre Channel Backbone - Third Generation (FC-BB-3)  
Project 1677-D, Fibre Channel Generic Services - Fifth Generation (FC-GS-5)  
Project 1620-D, Fibre Channel - Link Services (FC-LS)  
Project 1570-D, Fibre Channel - Security Protocol (FC-SP)

#### **4.3 Recommendations for Close Liaison**

ATIS OPTXS

#### **5. Units of Measurement used in the Standard**

Not Measurement Sensitive