

# Draft Minutes

## T11.3 FC-FS-2 ad hoc work group meeting

### 4 April 2005 - 9 AM to 11 AM

### La Jolla CA

The FC-FS-2 ad hoc work group of INCITS Technical Committee T11 Task Group T11.3 held a meeting at La Jolla CA on 4 April 2005, hosted by Brocade. Attendance was 24 people from 21 companies and is tabulated at the end of this document.

Minutes were taken by Bob Nixon (bob.nixon@emulex.com). Please report any corrections by email to the T11.3 reflector at T11\_3@mail.T11.org.

#### 1 Opening remarks and introductions

Chairperson Bill Martin opened the meeting Monday, 4 April 2005 at 9:00 AM. He thanked our host company, Brocade, and led a round of introductions.

##### 1.1 Review of Minutes

T11/05-098v0

*It was moved by Bill Martin and seconded by Vinod Bhat to accept T11/05-098v0 as the minutes of the FC-FS-2 ad hoc work group meeting on 31 January 2005. Approved unanimously.*

#### 2 Approval of Agenda

T11/05-242v0

*It was moved by Bill Martin and seconded by Bob Nixon to accept T11/05-242v0 as the agenda for this meeting. Approved unanimously.*

#### 3 Review of Old Action Items

- AI 36 FC-FS-2 editor to fix figures in FC-FS-2 as directed by T11/04-312v0.  
(Opened 7 June 2004 ) (Carryover)
- AI 56 Harry Paul will research whether FC-FS-2 as modified by T11/04-602v2 allows alternate credit management.  
(Opened 6 December 2004 ) (Carryover)
- AI 67 Bob Nixon to propose resolution of use of the term "fabric" where the intention is "Fabric" or "topology".  
(Opened 31 January 2005) (CLOSED BY T11/05-T11/05-199V0)
- AI 68 Ralph Weber to propose a convention for organizing reference citations in T11 stuff, specifically to note the distinctions of ISO, ISO national body, and other sources.  
(Opened 31 January 2005) (Carryover)
- AI 69 Bob Nixon to publish T11/05-014v1 reflecting T11/05-014v0 and the agreements at the FC-FS-2 ad hoc work group meeting 31 January 2005.  
(Opened 31 January 2005) (CLOSED by T11/05-014v1)

AI 70 FC-FS-2 editor to incorporate T11/05-014v1 into FC-FS-2.  
(Opened 31 January 2005) (CLOSED by T11/05-190v0)

AI 71 FC-FS-2 editor to incorporate T11/05-064v0 into FC-FS-2, and add a reference from the definition of FT-0 to figure 16 and a correction to the title of the blue block in figure 17  
(Opened 31 January 2005) (CLOSED by T11/05-190v0)

## **4 Meeting Policies**

### **4.1 Attendance and Membership**

Bill Martin stated that all persons present are considered members of this meeting and may vote on questions, limited to one vote per company present. Attendance at this meeting does not count toward attendance at the plenaries of T11 and its task groups (i.e., being here will not get you out or keep you out of membership jeopardy).

### **4.2 Patents**

Bill Martin indicated that among the rules and policies under which this working group operates are the INCITS patent policies. He directed persons wishing to make statements or ask questions relevant to this policy to do so at the T11.3 or T11 plenary meeting.

The INCITS patent policies are specified in subclause 8.4 of RD-1, "Policies and Guidelines", available at

[http://www.incits.org/sd9\\_rev1c.htm#p8-4](http://www.incits.org/sd9_rev1c.htm#p8-4)

### **4.3 Antitrust**

Bill Martin indicated that among the rules and policies under which this working group operates are the INCITS Antitrust Guidelines. Any member of the meeting is responsible for objecting if he believes discussion in the meeting violates those guidelines.

The INCITS Antitrust Guidelines are available at

<http://www.incits.org/inatrust.htm>

## **5 Old Business**

### **5.1 Status of FC-FS-2 Draft**

**T11/05-190v0**

**Nixon/Emulex**

Bob Nixon reported that all proposals approved to date for FC-FS-2 have been incorporated into FC-FS-2 revision 0.60, which is posted as document number T11/05-190v0.

### **5.2 Editor's Issues with revision 0.60**

**T11/05-213v0**

**Nixon/Emulex**

It was agreed that in the discussion of physical layer, replace several instances of FC-PH with FC-PI.

It was agreed to make FC-PI-x an acronym rather than an Other Reference.

*It was moved by Bob Nixon and seconded by Bill Martin to incorporate T11/05-213v1 into FC-FS-2, reflecting T11/05-213v0 and the agreements at the FC-FS-2 ad hoc work group meeting 4 April 2005. Approved unanimously.*

**ACTION:** Bob Nixon to publish T11/05-213v1 reflecting T11/05-213v0 and the agreements at the FC-FS-2 ad hoc work group meeting 4 April 2005.

**ACTION:** Bob Nixon to provide source for T11/05-213v1 to FC-FS-2 editor.

**ACTION:** FC-FS-2 editor to incorporate T11/05-213v1 into FC-FS-2.

### 5.3 ARBff for 8Gb links

T11/05-050v0

Martin/Sierra Logic

Bill directed attention to a presentation planned for the Copper working group (T11/05-178v0) that shows that ARBff in fact significantly reduces the energy spectrum of an idle link. Because of this Bill expected the Physical working groups to ask for use of ARBff as an IDLE equivalent, and he requested to leave T11/05-050 open for further discussion at future meetings.

## 6 New Business

### 6.1 FC LAN Protocols Support

T11/05-187v0

DeSanti/Cisco

Claudio proposed an informative annex that indicates a good way to carry generic Ethernet and IEEE 802.3 LAN frames over Fibre Channel media. It is completely consistent with the new internet draft for IP over Fibre Channel.

The editor agreed to provide a definition of IS-IS, with the appropriate reference document.

*It was moved by Claudio DeSanti and seconded by Vinod Bhat to incorporate T11/05-187v0 into FC-FS-2. Approved unanimously.*

**ACTION:** Claudio DeSanti to provide source for T11/05-187v0 to FC-FS-2 editor.

**ACTION:** FC-FS-2 editor to incorporate T11/05-187v0 into FC-FS-2.

### 6.2 Virtual Fabric Terminology

T11/05-186v1

DeSanti/Cisco

This proposal replaces an ambiguous term "Root N\_Port\_Name" with "Core N\_Port\_Name". One change in the proposal applies to FC-FS-2.

*It was moved by Claudio DeSanti and seconded by Bob Nixon to incorporate T11/05-186v1 into FC-FS-2. Approved unanimously.*

**ACTION:** Claudio DeSanti to publish T11/05-186v1.

**ACTION:** FC-FS-2 editor to incorporate T11/05-186v1 into FC-FS-2.

### 6.3 FC-FS-2: Fabric or fabric or ?

T11/05-199v0

Nixon/Emulex

It was agreed to add "or a combination of the two" to the e.g. list defining "topology".

Bob was open to receiving actions to solve the same problem in other draft standards.

*It was moved by Bob Nixon and seconded by Bill Martin to incorporate T11/05-199v1 into FC-FS-2, reflecting T11/05-199v0 and the agreements at the FC-FS-2 ad hoc work group meeting 4 April 2005. Approved unanimously.*

**ACTION:** Bob Nixon to publish T11/05-199v1 reflecting T11/05-199v0 and the agreements at the FC-FS-2 ad hoc work group meeting 4 April 2005.

**ACTION:** FC-FS-2 editor to incorporate T11/05-199v1 into FC-FS-2.

## **6.4 Fibre Channel Connectivity Space**

**T11/05-222v0**

**Paul/CNT**

Harry Paul raised some issues with the original presentation of T11/05-019v0. He summarized these objections, observed that some of them have been resolved in T11/05-019v1, and deferred discussion of the remaining issues to the discussion of T11/05-019v1 (below). He proposed two alternative approaches to resolving his issues: one retained a single level name space; the other would presume a hierarchical address space where uniqueness in larger scopes was assured by concatenating element names with the names of their containers.

## **6.5 Presentation on concerning Fabric Naming**

**T11/05-020v1**

**Snively/Brocade**

The proposed text supported by this presentation is T11/05-019v1.

The use of the term “connectivity” in “Fibre Channel connectivity space” was questioned. In reply, it was posed that common administration implies some sort of connectivity.

It was agreed to replace “Fibre Channel connectivity space” with “Fibre Channel interaction space”.

The use of the term “router” as a member of a Fibre Channel connectivity space was questioned. FC-IFR has formalized the term “Inter-Fabric Router”.

It was questioned whether the space being defined might extend beyond Fibre Channel entities. In reply, it was posed that though this might be necessary in practice, it was beyond the scope of T11.

It was agreed to replace “router” with “Inter-Fabric Router”.

It was agreed to remove the word “presently” from the definition of Fibre Channel interaction space.

It was agreed to change “visibility to “access” in the definition of Fibre Channel interaction space.

It was questioned that the definition of Fibre Channel interaction space did not establish the rules for members in a Fibre Channel interaction space (i.e., it did not mention the name uniqueness requirement). In reply, it was pointed out that the naming uniqueness requirement replaces the existing more restricted uniqueness requirement in FC-FS.

This discussion will continue at the next meeting.

## **6.6 Congestion Control in Fibre Channel**

**T11/05-229v0**

**DeSanti/Cisco**

This presentation points out the possibility of congestion in fabrics in which Class 3 (i.e., an unacknowledged class) is used, and proposes a method to control it based on a new Basic Link Service. By comparison, iSCSI has congestion control because it uses TCP, which includes acknowledgement based congestion control.

An alternative based on traffic prioritization was agreed not to solve the same problem, as the priority traffic may be the cause of the congestion.

It was suggested that in a congested network, the congestion control frames might also be delayed or lost.

It was questioned that the control mechanism might be subject to common control systems problems, such as over-response to small or short congestion events, and of over-control oscillations.

**ACTION: Bill Martin will schedule a conference call to continue discussion of T11/05-229v0.**

## **6.7 Initialization diagram**

**T11/05-243v0**

**Martin/Sierra Logic**

Because of shortage of time, this proposal was not discussed, only introduced.

**ACTION: Bill Martin will schedule a conference call to continue discussion of T11/05-243v0.**

## **7 Project Schedule**

<b>Milestone</b>	<b>Expected date</b>
Final new technical input	Completed April 2005
Letter Ballot	after the August 2005 meeting
INCITS First PR	Not yet determined

## **8 Review of Action Items**

- AI 36 FC-FS-2 editor to fix figures in FC-FS-2 as directed by T11/04-312v0.  
(Opened 7 June 2004 ) (Carryover)
- AI 56 Harry Paul will research whether FC-FS-2 as modified by T11/04-602v2 allows alternate credit management.  
(Opened 6 December 2004 ) (Carryover)
- AI 68 Ralph Weber to propose a convention for organizing reference citations in T11 stuff, specifically to note the distinctions of ISO, ISO national body, and other sources.  
(Opened 31 January 2005) (Carryover)
- AI 72 Bob Nixon to publish T11/05-213v1 reflecting T11/05-213v0 and the agreements at the FC-FS-2 ad hoc work group meeting 4 April 2005.  
(Opened 4 April 2005) (CLOSED by T11/05-213v1)
- AI 73 FC-FS-2 editor to incorporate T11/05-213v1 into FC-FS-2.  
(Opened 4 April 2005)
- AI 74 Claudio DeSanti to provide source for T11/05-187v0 to FC-FS-2 editor.  
(Opened 4 April 2005)

- AI 75 FC-FS-2 editor to incorporate T11/05-187v0 into FC-FS-2.  
(Opened 4 April 2005)
- AI 76 Claudio DeSanti to publish T11/05-186v1.  
(Opened 4 April 2005) (CLOSED by T11/05-186v1)
- AI 77 FC-FS-2 editor to incorporate T11/05-186v1 into FC-FS-2.  
(Opened 4 April 2005)
- AI 78 Bob Nixon to publish T11/05-199v1 reflecting T11/05-199v0 and the agreements at the FC-FS-2 ad hoc work group meeting 4 April 2005.  
(Opened 4 April 2005) (CLOSED by T11/05-199v1)
- AI 79 FC-FS-2 editor to incorporate T11/05-199v1 into FC-FS-2.  
(Opened 4 April 2005)
- AI 80 Bill Martin will schedule a conference call to continue discussion of T11/05-229v0.  
(Opened 4 April 2005)
- AI 81 Bill Martin will schedule a conference call to continue discussion of T11/05-243v0.  
(Opened 4 April 2005)
- AI 82 Next AI

## **9 Meeting Schedule**

### **9.1 Next Plenary Week**

Request 3 hours at the T11 plenary week hosted by CNT in Saint Paul MN, 6-10 June 2005.

## **10 Adjournment**

***It was moved by Bill Martin and seconded by Vinod Bhat to adjourn. Approved unanimously.***

The meeting was adjourned at 11:23 AM on 4 April 2005.

## 11 Actions on Proposals at This Meeting

Document Title	Number	Disposition
FC-AL Fairness Problem	T11/04-762	Carry for further revision. Latest version is T11/04-762v2.
Transmit adaptive equalization	T11/04-805	Carry pending technical specification.
Fabric Naming text	T11/05-019	Carry for further revision. Latest version is T11/05-019v1.
Fabric Naming presentation	T11/05-020	Close. Topic is now part of T11/05-019 discussion.
ARBff for 8Gb links	T11/05-050	Carry for further revision. Latest version is T11/05-050v0.
Editor's Issues with revision 0.60	T11/05-213	Close. Approved T11/05-213v1.
FC LAN Protocols Support	T11/05-187	Close. Approved T11/05-187v0.
Virtual Fabric Terminology	T11/05-186	Close. Approved T11/05-186v1.
FC-FS-2: Fabric or fabric or ?	T11/05-199	Close. Approved T11/05-199v1.
Fibre Channel Connectivity Space	T11/05-222	Close. Topic is now part of T11/05-019 discussion. Last revision is T11/05-222v0.
Congestion Control in Fibre Channel	T11/05-229	Carry for further discussion. Latest version is T11/05-229v0.
Initialization diagram	T11/05-243	Carry for further discussion. Latest version is T11/05-243v0.

## 12 Attendance

<b>Name</b>	<b>Organization Represented</b>
Robert Snively	BROCADE COMMUNICATIONS
Steven L. Wilson	BROCADE COMMUNICATIONS
Sashi Thiagarajan	CIENA CORPORATION
Claudio DeSanti	CISCO SYSTEMS, INC.
Harry V. Paul	CNT CORPORATION
Ken Hirata	EMULEX
Bob Nixon	EMULEX
Ralph Weber	ENDL TEXAS
Frank Barber	ESILICON CORPORATION
Vinod Bhat	HEWLETT PACKARD
Scott Carlson	IBM
John Lohmeyer	LSI LOGIC
Richard DiPasquale	LUCENT TECHNOLOGIES
Scott Kipp	MCDATA
Joe Pelissier	MCDATA CORPORATION
Maurice Reintjes	MINDSPEED
James Nelson	NORTHROP GRUMMAN
Brett Clark	PMC-SIERRA INC.
Craig Carlson	QLOGIC CORP.
James Coomes	SEAGATE TECHNOLOGY
William R. Martin	SIERRA LOGIC
Robert Kembel	SOLUTION TECHNOLOGY
Matt Gaffney	STORAGETEK
Vit Novak	SUN MICROSYSTEMS