

# Draft Minutes

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

### 8 August 2005 - 9 AM to Noon

### Ottawa ON

Version 0a: Revised on same day as originally posted.  
Added record of afternoon session to consider IFR header (see 6.6).  
Corrected action item numbering.

The FC-FS-2 ad hoc work group of INCITS Technical Committee T11 Task Group T11.3 held a meeting at Ottawa ON on 8 August 2005, hosted by Nortel. Attendance was 22 people from 17 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, 8 August 2005 at 9:05 AM. He thanked our host company, Nortel, and led a round of introductions. He instructed the group on use of the wireless communication facility for registering meeting attendance.

### 1.1 Review of Minutes, meeting 6 June 2005 T11/05-408v0

*It was moved by Bob Nixon and seconded by Bill Martin to accept T11/05-408v0 as the minutes of the FC-FS-2 ad hoc work group meeting on 6 June 2005. Approved unanimously.*

## 2 Approval of Agenda

T11/05-547v0

An item was added to discuss "Tunnel Mode" (T11/05-535v0) by Larry Hofer.

*It was moved by Bill Martin and seconded by Bob Nixon to accept T11/05-547v0 with the changes noted above 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 ) (CLOSED)
- AI 56 Dave Peterson will research whether FC-FS-2 as modified by T11/04-602v2 allows alternate credit management.  
(Opened 6 December 2004 ) (CLOSED by T11/05-443v0)
- AI 82 Bob Nixon to bring to FC-GS-5 a proposal to replace Fibre Channel Service with Generic Service.  
(Opened 6 June 2005) (CLOSED by T11/05-507v0)

- AI 83 Bob Nixon to publish T11/05-359v1 reflecting T11/05-359v0 and the agreements at the FC-FS-2 ad hoc work group meeting 6 June 2005.  
(Opened 6 June 2005) (CLOSED by T11/05-359v1)
- AI 84 FC-FS-2 editor to incorporate T11/05-359v1 into FC-FS-2.  
(Opened 6 June 2005) (CLOSED by T11/05-190v2)
- AI 85 Bill Martin to send a reflector message asking if implementations would be inconvenienced if IDLE may be replaced by ARBff during initialization.  
(Opened 6 June 2005) (CLOSED by T11.3 reflector email 9 June 2005)
- AI 86 Bob Snively to publish T11/05-019v3 reflecting T11/05-019v2 and the agreements at the FC-FS-2 ad hoc work group meeting 6 June 2005.  
(Opened 6 June 2005) (CLOSED by T11/05-019v3)
- AI 87 FC-FS-2 editor to incorporate the FC-FS-2 portion of T11/05-019v3 into FC-FS-2.  
(Opened 6 June 2005) (CLOSED by T11/05-190v2)
- AI 88 FC-FS-2 editor to incorporate T11/05-090v0 into FC-FS-2.  
(Opened 6 June 2005) (CLOSED by T11/05-190v2)
- AI 89 Bill Martin to schedule a conference call to resolve final issues with ARBff for 8Gb links (T11/05-050v0) Monday July 18 at noon PDT.  
(Opened 6 June 2005) (CLOSED by teleconference 18 July 2005)

## **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 requested persons wishing to make statements or ask questions relevant to this policy not to do so at this work group meeting, but instead 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. If such discussion is not immediately terminated, it is the chairperson's responsibility to terminate the meeting.

The INCITS Antitrust Guidelines are available at

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

## 5 Old Business

### 5.1 FC-FS-2 Version 0.80

T11/05-190v2

Nixon/Emulex

Bob informed the group that FC-FS-2 version 0.80 (T11/05-190v2) incorporates all changes approved through the FC-FS-2 meeting 6 June 2005.

### 5.2 ARBff for 8Gb links

T11/05-050v1

Martin Sierra Logic

This proposal incorporates agreements from its prior presentation at the meeting 6 June 2005.

It was agreed to move the definitions of Fill Word and Emission Lowering Protocol from clause 5 to the glossary.

*It was moved by Bill Martin and seconded by Horst Truedstedt to incorporate T11/05-050v2 into FC-FS-2, reflecting T11/05-050v1 and the agreements at the FC-FS-2 ad hoc work group meeting 8 August 2005. Approved unanimously.*

**ACTION:** Bill Martin to publish T11/05-050v2 reflecting T11/05-050v1 and the agreements at the FC-FS-2 ad hoc work group meeting 8 August 2005.

**ACTION:** FC-FS-2 editor to incorporate T11/05-050v1 with the changes agreed at the FC-FS-2 ad hoc work group meeting 8 August 2005 into FC-FS-2.

## 6 New Business

### 6.1 Credit Model modifications

T11/05-443v1

Peterson/McData

In the absense of Dave Peterson, Bill Martin presented the proposal.

It was agreed that resets of xx\_Credits during link initializations were not appropriate, since xx\_Credits change only at logins.

It was agreed that in 7.3.2.2 and 7.3.3.2, the changes to xx\_Credit should be to Credit\_CNT, and should remain setting to zero.

It was agreed to remove the statements about the implicit logout effect of link initialization, and add the same statement at the end of 7.6.2, which describes link initialization.

*It was moved by Dave Peterson and seconded by Bob Nixon to incorporate T11/05-443v2 into FC-FS-2, reflecting T11/05-443v1 and the agreements at the FC-FS-2 ad hoc work group meeting 8 August 2005. Approved unanimously.*

**ACTION:** Bill Martin to review with Dave Peterson the changes to T11/05-443v1 agreed at the FC-FS-2 ad hoc work group meeting 8 August 2005.

**ACTION:** Dave Peterson to publish T11/05-443v2 reflecting T11/05-443v1 and the agreements at the FC-FS-2 ad hoc work group meeting 8 August 2005.

**ACTION:** FC-FS-2 editor to incorporate T11/05-443v1 with the changes agreed at the FC-FS-2 ad hoc work group meeting 8 August 2005 into FC-FS-2.

## 6.2 Obsolete ABTX modifications

T11/05-454v0

Peterson/McData

In the absence of Dave Peterson, Bill Martin presented the proposal

The proposal reconciles FC-FS-2 with the recent action in FC-LS to obsolete ABTX.

It was agreed that where ABTX ELS was simply changed to ABTS ELS, it should have changed to ABTS-LS

It was agreed that every place (four places) that ABTS replaced ABTX, it should be ABTS-LS, and that an acronym should be added:

ABTS-LS: ABTS Basic Link Service with the Parameter field bit zero set to zero (see 13.2.2.1).

It was agreed that in table 73, the Error type field should be obsolete.

***It was moved by Scott Kipp and seconded by Vinod Bhat to incorporate T11/05-454v1 into FC-FS-2, reflecting T11/05-454v0 and the agreements at the FC-FS-2 ad hoc work group meeting 8 August 2005. Approved unanimously.***

**ACTION:** Bill Martin to review with Dave Peterson the changes to T11/05-454v0 agreed at the FC-FS-2 ad hoc work group meeting 8 August 2005.

**ACTION:** Dave Peterson to publish T11/05-454v1 reflecting T11/05-454v0 and the agreements at the FC-FS-2 ad hoc work group meeting 8 August 2005.

**ACTION:** FC-FS-2 editor to incorporate 11/05-454v0 with the changes agreed at the FC-FS-2 ad hoc work group meeting 8 August 2005 into FC-FS-2.

## 6.3 TYPE code for IFR\_ILS

T11/05-519v0

Peterson/McData

In the absence of Dave Peterson, Scott Kipp presented the proposal, which requested a new frame TYPE code for use in interfabric routing control protocols.

***It was moved by Bob Nixon and seconded by Vinod Bhat to incorporate T11/05-519v0. Approved unanimously.***

**ACTION:** FC-FS-2 editor to incorporate T11/05-519v1 into FC-FS-2.

## 6.4 FC Tunnel Mode

T11/05-535v0

Hofer/McData

This presentation was a conceptual introduction to a capability that may be brought into a later version of FC-FS-x. It poses a need for carrying a complete FC frame through an outer layer of framing, particularly for multiple levels of encryption.

It was observed that the encapsulation header defined by FC-IFR may provide the needed capability already, if it is presumed that an encapsulation header may invoke encryption (which is not prevented at this time).

Larry accepted this direction for future consideration.

## 6.5 Possible errors in 8B10B tables

In an email to INCITS subsequently forwarded to the T11 chair, the possibility of errors in certain entries of the 8B10B table was raised. It was determined by T11 expert review that the 8B10B table is correct as written.

It was observed that there is no longer a reference for the algorithm that produces the 8B10B table. The original reference for the algorithm was only informative, and was to a patent and an IBM technical journal publication.

**ACTION: Bob Dugan to determine what is the documentation for the algorithm that generates the values in the 8B10B table in FC-FS-2 and generate a letter ballot comment to add that informative reference to FC-FS-2.**

## 6.6 Interfabric Routing Header

T11/05-214v2

Peterson/McData

This proposal defines a header format for Interfabric Routing. It was forwarded to FC-FS-2 with the approval of the FC-IFR work group.

It was objected that the proposal does not describe the usage of the header. The objection was countered that the usage will be defined in FC-IFR and can be referenced.

***It was moved by Bill Martin and seconded by Bob Snively to incorporate T11/05-214v2 into FC-FS-2.***

It was agreed to add citations to FC-IFR in the overview and in 10.4, and a reference in clause 2.

These changes were accepted as friendly amendments.

***The motion as amended was approved 9Y, 0N, 10A.***

**ACTION: Dave Peterson to publish T11/05-214v3 reflecting T11/05-214v2 and the agreements at the FC-FS-2 meeting 8 August 2005.**

**ACTION: Dave Peterson to provide source for T11/05-214v3 to FC-FS-2 editor.**

**ACTION: FC-FS-2 editor to incorporate T11/05-214v3 into FC-FS-2.**

## 7 Scheduled FC-AL-2 Business

### 7.1 Increase Loop Latency

T11/05-537v0

Coomes/Seagate

In the absence of Jim Coomes, Bill Martin presented the proposal

This proposes to extend the maximum passthrough delay from 6 to 12 Transmission Words, in order to facilitate loop operation at 8G.

It was observed this may affect other timings that are based on, or include, the passthrough delay. The specification needs to be reviewed for side effects of this change. This may lead to restricting the definition of a maximum loop.

It was observed that certain technologies in consideration for FCBaseT may also increase loop latency.

It was agreed that the concept was important to pursue.

## 7.2 FC-AL-2 Fairness Problem

T11/04-762v2

Trustedt/TrueFocus

This proposal was generally agreed at its last presentation in December 2004, but was held in abeyance pending resolution of use of ARBff for emission reduction. That having been resolved, this proposal is reopened.

The group present accepted the technical change proposed in T11/04-762v2.

## 7.3 What should be done about FC-AL-2?

It was agreed that the current issues to be resolved in FC-AL-2 should be resolved in ANSI as an amendment rather than a revision. We may still pursue incorporation of the amendment in the ISO version of FC-AL-2. This is already being done for the previous amendment. Once the ISO version is approved, we may recommend ANSI to accept the ISO version.

*It was moved by Bill Martin and seconded by Claudio DeSanti to prepare a project proposal for an FC-AL-2 amendment to include at least T11/04-762 and the text that results from T11/05-537. Approved unanimously.*

**ACTION:** Bill Martin to prepare a project proposal for an FC-AL-2 amendment to include at least T11/04-762 and the text that results from T11/05-537.

## 8 Project Schedule

### 8.1 FC-FS-2

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

*It was moved by Bill Martin and seconded by Bob Nixon to recommend to T11.3 to forward FC-FS-2 version 0.90 (T11/05-190v3) to T11 for further processing. Approved 16Y, 0N, 1A.*

**ACTION:** FC-FS-2 editor to publish FC-FS-2 version 0.90 (T11/05-190v3) reflecting FC-FS-2 version 0.80 (T11/05-190v2) and the agreements at the FC-FS-2 ad hoc work group meeting 8 August 2005.

**ACTION:** FC-FS-2 facilitator to recommend to T11.3 to forward FC-FS-2 version 0.90 (T11/05-190v3) to T11 for further processing.

### 8.2 FC-AL-2

**ACTION:** Bill Martin to schedule a conference call to continue discussion of the Loop Latency proposal (T11/05-537) and announce its possible interest to T11.2 re FCBaseT.

## **9 Review of Action Items**

- AI 90 Bill Martin to publish T11/05-050v2 reflecting T11/05-050v1 and the agreements at the FC-FS-2 ad hoc work group meeting 8 August 2005.  
(Opened 8 August 2005)
- AI 91 FC-FS-2 editor to incorporate T11/05-050v1 with the changes agreed at the FC-FS-2 ad hoc work group meeting 8 August 2005 into FC-FS-2.  
(Opened 8 August 2005)
- AI 92 Bill Martin to review with Dave Peterson the changes to T11/05-443v1 agreed at the FC-FS-2 ad hoc work group meeting 8 August 2005.  
(Opened 8 August 2005)
- AI 93 Dave Peterson to publish T11/05-443v2 reflecting T11/05-443v1 and the agreements at the FC-FS-2 ad hoc work group meeting 8 August 2005.  
(Opened 8 August 2005)
- AI 94 FC-FS-2 editor to incorporate T11/05-443v1 with the changes agreed at the FC-FS-2 ad hoc work group meeting 8 August 2005 into FC-FS-2.  
(Opened 8 August 2005)
- AI 95 Bill Martin to review with Dave Peterson the changes to T11/05-454v0 agreed at the FC-FS-2 ad hoc work group meeting 8 August 2005.  
(Opened 8 August 2005)
- AI 96 Dave Peterson to publish T11/05-454v1 reflecting T11/05-454v0 and the agreements at the FC-FS-2 ad hoc work group meeting 8 August 2005.  
(Opened 8 August 2005)
- AI 97 FC-FS-2 editor to incorporate 11/05-454v0 with the changes agreed at the FC-FS-2 ad hoc work group meeting 8 August 2005 into FC-FS-2.  
(Opened 8 August 2005)
- AI 98 FC-FS-2 editor to incorporate T11/05-519v0 into FC-FS-2.  
(Opened 8 August 2005)
- AI 99 Bill Martin to prepare a project proposal for an FC-AL-2 amendment to include at least T11/ 04-762 and the text that results from T11/05-537.  
(Opened 8 August 2005)
- AI 100 Bob Dugan to determine what is the documentation for the algorithm that generates the values in the 8B10B table in FC-FS-2 and generate a letter ballot comment to add that informative reference to FC-FS-2.  
(Opened 8 August 2005)
- AI 101 FC-FS-2 editor to publish FC-FS-2 version 0.90 (T11/05-190v3) reflecting FC-FS-2 version 0.80 (T11/05-190v2) and the agreements at the FC-FS-2 ad hoc work group meeting 8 August 2005.  
(Opened 8 August 2005)

- AI 102 FC-FS-2 facilitator to recommend to T11.3 to forward FC-FS-2 version 0.90 (T11/05-190v3) to T11 for further processing.  
(Opened 8 August 2005)
- AI 103 Bill Martin to schedule a conference call to continue discussion of the Loop Latency proposal (T11/05-537) and announce its possible interest to T11.2 re FCBaseT.  
(Opened 8 August 2005)
- AI 104 Dave Peterson to publish T11/05-214v3 reflecting T11/05-214v2 and the agreements at the FC-FS-2 meeting 8 August 2005.  
(Opened 8 August 2005)
- AI 105 Dave Peterson to provide source for T11/05-214v3 to FC-FS-2 editor.  
(Opened 8 August 2005)
- AI 106 FC-FS-2 editor to incorporate T11/05-214v3 into FC-FS-2.  
(Opened 8 August 2005)
- AI 107 Next AI

## **10 Meeting Schedule**

### **10.1 Interim request**

A conference call will be scheduled to discuss FC-AL-2 issues including Increase Loop Latency (T11/05-537v0).

### **10.2 Next Plenary Week**

Request at least 4 hours at the T11 plenary week hosted by Solution Technology in San Francisco CA, 3-6 October 2005.

## **11 Adjournment**

***It was moved by Horst Truustedt and seconded by Brett Clark to adjourn. Approved unanimously.***

The meeting was adjourned at 12:05 AM on 8 August 2005.

## 12 Actions on Proposals at This Meeting

Document Title	Number	Disposition
FC-AL Fairness Problem	T11/04-762	Carry. Approved T11/04-762v3 for an FC-AL-2 amendment.
Transmit adaptive equalization	T11/04-805	Close. Defer to FC-FS-3.
ARBff for 8Gb links	T11/05-050	Close. Approved T11/05-050v2.
Credit Model modifications	T11/05-443	Close. Approved T11/05-443v2.
Obsolete ABTX modifications	T11/05-454	Close. Approved T11/05-454v1.
TYPE code for IFR_ILS	T11/05-519	Close. Approved T11/05-519v0.
FC Tunnel Mode	T11/05-535	Close. Transfer to FC-IFR. Latest version is T11/05-535v0.
Interfabric Routing Header	T11/05-214	Close. Approved T11/05-214v3.
Increase Loop Latency spec	T11/05-537	Carry. Will be considered for an FC-AL-2 amendment. Latest version is T11/05-537v0.

### 13 Attendance

<b>Organization</b>	<b>Representative</b>
AGILENT	Roy Elsbernd
BROCADE COMMUNICATIONS	Robert Snively
BROCADE COMMUNICATIONS	Steven L. Wilson
CISCO SYSTEMS, INC.	Claudio DeSanti
EMULEX	Bob Nixon
EMULEX	Ken Hirata
ENDL TEXAS	Ralph Weber
HEWLETT PACKARD	Vinod Bhat
IBM POUGHKEEPSIE	Robert Dugan
LSI LOGIC, INC.	David Weber
MARVELL	David Geddes
MCDATA	Scott Kipp
MCDATA CORPORATION	Joe Pelissier
MCDATA CORPORATION	Larry Hofer
PMC-SIERRA	Shaila Bansal
PMC-SIERRA INC.	Brett Clark
QLOGIC CORP.	Craig Carlson
SIERRA LOGIC	William R. Martin
SOLUTION TECHNOLOGY	Robert Kembel
STORAGE PROTOCOL CONSULTING	Neil Wanamaker
STORAGETEK	Michael Roy
TRUE FOCUS, INC	Horst Truestedt