

## **Draft Minutes – FC-FS / FC-AL-3 Working Group Meeting Oct 3, 2000 – Nashua, NH 9 AM - 6 PM**

A joint ad hoc meeting of working groups FC-AL-3 and FC-FS of NCITS Technical Committee T11 Task Group T11.3 was held at Nashua New Hampshire on October 3, 2000, in conjunction with the plenary meeting of the ANSI/NCITS T11 Technical Committee. Attendance at this meeting is tabulated at the end of this document.

### **1. Opening remarks and introductions:                      John Scheible**

John Scheible, IBM, called the meeting to order at 9:01 AM, thanked our host company, Hitachi Cable, and led a round of introductions.

### **2. Call for changes to minutes**

#### **2.1 FS report to T11.3 - 08/08/00      [00-501v0](#) John Scheible**

No changes were requested.

#### **2.2 FC-FS minutes - 08/08/00              [00-506v0](#) Bob Nixon**

No changes were requested.

#### **2.3 FC-FS minutes - 09/12/00              [00-551v0](#) Bob Nixon**

No changes were requested.

### **3. Approval of this agenda:                      [00-591v0](#) John Scheible**

The following unscheduled new business was added to the agenda:

- Quality of Service / Gary Warden / [00-603v0](#)
- Error rate reporting parameters / Carl Zeitler / [00-385v1](#)
- Continued discussion of persistence of registrations / Bob Kembel

The scheduled discussion item for Mike Foster was removed at his request. He felt the posted document was sufficient.

### **4. Review of old AL-3/FS action items:      [00-591v0](#) John Scheible**

#### **4.1 AL-3 Action Items**

**4.1.1** Horst Truedstedt will write a proposal to show how a second FL\_Port or a new FL\_Port will be detected so that an F/NL\_Port can retire from its fabric functions.

CARRYOVER.

**4.1.2** Upload Horst Truedstedt proposal presented at the meeting (When an FL\_Port detected, how does F/NL Port retire?) .

CARRYOVER.

**4.1.3** Bill Martin to recast [00-474v0](#) as a "FC-AL-2 defect report".

(OPENED 08/00). CLOSED (adequate as written)

- 4.1.4** Bill Martin to prepare a proposed amendment to FC-AL-2 to correct the defect reported by [00-474v0](#).  
(OPENED 8/00). CLOSED ([00-500v0](#), but see further discussion below)

## **4.2 FS Action Items**

- 4.2.1** Bob Kembel to update his proposal FC Link Services and Login States.  
(OPENED 2/00). CLOSED ([00-563v0](#))
- 4.2.2** Bob Kembel to specify the reason codes for login reject.  
(OPENED 2/00). CLOSED ([00-563v0](#))
- 4.2.3** Bob Kembel to update clause 15 - Link Services.  
(OPENED 6/00). CLOSED ([00-563v0](#))
- 4.2.4** Steve Wilson (Brocade) to provide the editor with clarifications to class 4 - 2 weeks.  
(OPENED 6/00). CLOSED (no further input intended)
- 4.2.5** Mike Dorsett to provide clarifications to Class 6 behavior to Jim Nelson.  
(OPENED 9/00) CARRYOVER
- 4.2.6** Speed Negotiation Working Group to generate for letter ballot a snoop algorithm to resolve the processor load and hopefully also the interruption of established loops.  
(OPENED 9/00) CLOSED ([00-597v0](#))
- 4.2.7** Bill Ham to schedule a Speed Negotiation teleconference before the next plenary.  
(OPENED 9/00) CLOSED ([00-574v0](#))
- 4.2.8** Bob Snively to modify [00-532v0](#) in accord with discussion at the FC- FS ad hoc meeting 9/12/00 and deliver to Jim Nelson for incorporation into FS.  
(OPENED 9/00) CLOSED ([00-532v1](#))
- 4.2.9** Charles Binford to modify [00-538v0](#) in accord with discussion at the FC-FS ad hoc meeting 9/12/00 and deliver to Jim Nelson for incorporation into FS.  
(OPENED 9/00) CLOSED ([00-538v1](#))
- 4.2.10** Craig Carlson to deliver [00-451v0](#) to Jim Nelson for incorporation into FS.  
(OPENED 9/00) CLOSED ([00-451v1](#))
- 4.2.11** Dave Peterson to deliver his presentation on WWPAN of transparent field replacement units to the T11 FTP server.  
(OPENED 9/00) CLOSED ([00-548v0](#))
- 4.2.12** John Scheible to prompt Bob Kembel for resolution of his action items.  
(OPENED 9/00) CLOSED

**4.2.13** John Scheible to prompt Steve Wilson (Brocade) for resolution of his action item to clarify certain behaviors of Class 4.  
(OPENED 9/00) CLOSED

**4.2.14** John Scheible to prompt Mike Dorsett for resolution of his action item to clarify certain behaviors of Class 6.  
(OPENED 9/00) CLOSED

## 5. Old AL-3/FS Business

There was no discussion categorized as old business.

## 6. Scheduled New Business AL-3/FS

### 6.1 AL-2 ERR\_INIT update [00-500v0](#) Bill Martin

The reference document was posted but withdrawn by email message. A new problem was pointed out, this time if AL devices were intermixed. The only apparent resolution is a VERY long delay.

The resolution proposed by Martin and tentatively accepted pending public review was to deprecate ERRINIT.

**ACTION: Bill Martin to write an amendment to FC-AL-2 proposing ERRINIT behavior be deprecated.**

### 6.2 FC-FS document status [00-340v3](#) Jim Nelson

New versions 0.40 and 0.50 were prepared, including RLIR,LIRR, and Speed Negotiation changes, among others.

A [partially bookmarked version](#) of 0.50 is on the ftp server for reference.

For ballot, create and use a partially bookmarked version if the bookmarking is not too badly broken.

Some noncritical errors in the bookmarked version were noted by people using Acrobat 4.x. The editor's bookmarking assistant should verify they have includes all the right fonts and not excludes any of them.

### 6.3 Speed negotiation update [00-574v0](#) Carl Zeitler

An interim conference call of the Speed Negotiation group was held on September 19, 2000.

The group tried to devise a new snoop algorithm. They concluded they could not reduce the remaining loop disruption, but could reduce processor load. It was agreed to reference it as "slow wait" rather than "snoop".

Also the group made a final review of the goals for snoop and the feature set of the basic algorithm (ie point to point). Other than forgoing the attempt to further reduce disruption of active loops by entry of a speed negotiating device, no changes were recommended.

### 6.4 Speed negotiation Snoop [00-597v0](#) Bob Nixon

The slow wait algorithm devised by the Speed Negotiation group was presented. It accomplishes processing time reduction but not the final increment of loop disruption reduction. Only a little discussion ensued:

Carl Zeitler observed that as written, slow wait would not be entered if a device powered up detached. He proposed that the negotiate\_fail test begin in wait\_for\_sync to resolve this.

Bob Snively pointed out that slow\_wait might repeatedly disrupt a loop for up to the length of the slow wait cycle. A resolution developed by Carl Zeitler in an alternate statement of the algorithm was adopted.

**It was moved and seconded to incorporate slow wait into FS now with changes discussed above. There were no objections.**

**ACTION: Bob Nixon to post and provide [00-597v1](#) to document the revised slow wait proposal.**

## **6.5 Preemption edits by Mike Foster [00-564v0](#) Mike Foster**

Mike felt no presentation time would be needed, as the document was self-explanatory.

## **6.6 6.6 Clock Sync QoS presentation [00-590v0](#) Bob Pedersen**

Bob proposed adding an ELS ("CSR") to transmit Quality of Service characteristics (QoS) of the clock synchronization service(s). It was assumed the same QoS would apply to both the ELS and primitive clock sync services, but that typically only one type of service would be implemented. The ELSs could still carry QoS for a primitive server even if the ELS-based service were not implemented. The following characteristics of the clock synchronization service would be carried:

- accuracy
- resolution
- wrap point
- update period

The following changes to the clock synchronization services now defined in the FC-FS specification would be required:

- New CS\_QoS ELS to request just the QoS.
- Extend the CSR Accept ELS to tell delivered QoS.
- Extend the CSR Request ELS to request a particular QoS.
- Carry QoS in Plogi and Flogi extended payload

Both Fabrics and Clock Sync Servers would need to support these changes.

It was understood and accepted that use of the Plogi and Flogi extended payload might become non-compliant with FC-MI.

The changes are detailed in document [00-547v1](#).

**It was moved and seconded to accept clock services into the FC-FS specification as defined in [00-547v1](#). There were no objections.**

## **6.7 New unit types for RNID response [00-596v0](#) George Penokie**

George requested adding four new unit types to the values defined for the topology discovery specific node identification data returned by the RNID ELS. These would be one each for Waveform Division Multiplexer, Uninterruptible Power Supplies, Media Changers and NAS Servers, maintaining consistency with the [Fibre Channel Management MIB](#) IETF draft document.

(The presentation document noted only two new types, but two more were discovered shortly after the presentation by online reference to the MIB spec.)

**It was moved and seconded to add four new unit types requested. There were no objections.**

# **7. Unscheduled new AL-3/FS business**

## **7.1 Quality of Service, current status of class 4 / [00-603v0](#) Gary Warden**

Gary presented a proposal to add optional fractional bandwidth support into classes 2 and 3, for which the document was published yesterday. This is intended both to enhance those classes and to obviate the issues remaining in the documentation of class 4.

The approach was described as capturing but simplifying the design of class 4:

- removes class 4 specific EOFs and most class 4 specific login data;
- uses several unused routing bit values to indicate fractional bandwidth frames;

- uses a small number of new ELSs;
- uses the CS\_CTL field in the frame header.

A straw poll indicated that the approach is interesting for further study and clarification, though not necessarily to be accepted into FC- FS.

**ACTION: Gary Warden to post a more detailed discussion of fractional bandwidth for classes 2 and 3.**

## 7.2 Error rate reporting parameters / Carl Zeitler / [00-385v1](#)

Although the reference document was just published this morning, its changes from its predecessor were described as "minor".

As background, the error counting function of RLIR is based on an interval, a threshold, and a window. These values have been assumed to be implementation or local configuration controls. The request is to use two bytes in LIRR to pass the values to the port.

There was some discussion of what happens in multimaneger environments. It was proposed that only a single setting would be retained per port, not one per registered client, and the last setting would pertain. This led to the observation that there was no way for a client to determine the current settings of a port it was monitoring.

Guidance was not to use LIRR, instead to define a new ELS.

As with everything today, there was a discussion of how this relates to the FS letter ballot schedule. Further guidance was to pursue a "new ELS" as a letter ballot comment.

## 7.3 Some remaining issues with persistence of registrations / Kembel

Bob offered the following observations:

- State change registration is not fully defined.
- Link incident registration is defined erroneously.

He requested reflector discussion of a to-be-posted proposal, leading to a letter ballot comment.

**ACTION: Bob Kembel to post an email to detail remaining issues with persistence of registrations.**

## 8. Motion "The FS WG recommends that T11.3 hold a letter ballot on forwarding FC-FS ([00-340v3](#)) to T11 for further processing"

Key discussion was the unanimous perception that Class 4 is not ballot-quality documentation.

**It was moved and seconded to remove class 4 from FS. This was rejected 6 favoring, 17 opposing, 6 abstaining.**

**It was moved and seconded to defer consideration of the recommended motion until December meeting. This was accepted, 22 favoring, 0 opposing, 5 abstaining.**

## 9. Review of FS action items

### 9.1 AL-3 Action Items

- 9.1.1 Horst Truedstedt will write a proposal to show how a second FL\_Port or a new FL\_Port will be detected so that an F/NL\_Port can retire from its fabric functions.

CARRYOVER.

- 9.1.2** Upload Horst Truedstedt proposal presented at the meeting (When an FL\_Port detected, how does F/NL Port retire?) .  
CARRYOVER.

## **9.2 FS Action Items**

- 9.2.1** Mike Dorsett to provide clarifications to Class 6 behavior to Jim Nelson.  
(OPENED 9/00) CARRYOVER
- 9.2.2** Bill Martin to write an amendment to FC-AL-2 proposing ERRINIT behavior be deprecated.  
(OPENED 10/00)
- 9.2.3** Bob Nixon to post and provide [00-597v1](#) to document the revised slow wait proposal.  
(OPENED 10/00)
- 9.2.4** Gary Warden to post a more detailed discussion of fractional bandwidth for classes 2 and 3.  
(OPENED 10/00)
- 9.2.5** Bob Kembel to post an email to detail remaining issues with persistence of registrations.  
(OPENED 10/00)

## **9.3 Changes to the FC-FS specification approved at this meeting**

- 9.3.1** slow wait as documented in [00-597v1](#)
- 9.3.2** clock services as documented in [00-547v1](#)
- 9.3.3** **four new RNID topology discovery unit types for Waveform Division Multiplexer, Uninterruptible Power Supplies, Media Changers and NAS Servers, maintaining consistency with the [Fibre Channel Management MIB](#) IETF draft document**

## **10. Future meeting plans**

No meeting will be held during the November (late October) T10 Plenary Meeting.  
8 hours will be requested at the December T11 Plenary Meeting.

## **11. Adjournment (FS WG)**

It was moved and seconded to adjourn. There were no objections.  
The FC-FS working group adjourned at 2:57 PM

**FC-FS Meeting Attendance - 10/03/00**

<b>Company Represented</b>	<b>Last Name</b>	<b>First Name</b>	<b>Email</b>
Adaptec	MacLean	Neil	<a href="mailto:neil_maclean@corp.adaptec.com">neil_maclean@corp.adaptec.com</a>
Adaptec	Moore	Dennis	<a href="mailto:dmoore@ix.netcom.com">dmoore@ix.netcom.com</a>
Agilent Tech	Wakeley	Matt	<a href="mailto:matt_wakeley@agilent.com">matt_wakeley@agilent.com</a>
Boeing	Nast	Douglas	<a href="mailto:douglas.p.nast@boeing.com">douglas.p.nast@boeing.com</a>
Boeing	Wilson	Steven H.	<a href="mailto:Steven.h.wilson@boeing.com">Steven.h.wilson@boeing.com</a>
Brocade	Snively	Robert	<a href="mailto:rsnively@brocade.com">rsnively@brocade.com</a>
Bustech	Kennedy	Bob	<a href="mailto:rsk@bustech.com">rsk@bustech.com</a>
Cisco Systems	Peterson	David	<a href="mailto:dap@cisco.com">dap@cisco.com</a>
CMD Technology	Turenne	Adrienne	<a href="mailto:turenne@cmd.com">turenne@cmd.com</a>
Compaq	Zeitler	Carl	<a href="mailto:carl.zeitler@compaq.com">carl.zeitler@compaq.com</a>
Connectivity Solutions	Kembel	Robert W.	<a href="mailto:kembel@compuserve.com">kembel@compuserve.com</a>
Emulex	Nixon	Bob	<a href="mailto:bob.nixon@emulex.com">bob.nixon@emulex.com</a>
Exabyte	Breher	Joe	<a href="mailto:joebre@exabyte.com">joebre@exabyte.com</a>
FSI	Weber	Ralph	<a href="mailto:roweber@acm.org">roweber@acm.org</a>
Fujitsu	Fitzpatrick	Mike	<a href="mailto:mfitzpatrick@fcpa.fujitsu.com">mfitzpatrick@fcpa.fujitsu.com</a>
Gadzoox	Martin	William R.	<a href="mailto:bmartin@gadzoox.com">bmartin@gadzoox.com</a>
General Dynamics	Pedersen	Robert K.	<a href="mailto:Robert.K.Pedersen@gd-is.com">Robert.K.Pedersen@gd-is.com</a>
IBM	Penokie	George	<a href="mailto:gop@us.ibm.com">gop@us.ibm.com</a>
IBM	Scheible	John	<a href="mailto:jpscheible@aol.com">jpscheible@aol.com</a>
Inrange Technology	Paul	Harry	<a href="mailto:harry.paul@inrange.com">harry.paul@inrange.com</a>
Interphase	Seto	Pak	<a href="mailto:pseto@iphase.com">pseto@iphase.com</a>
JNI	Stuber	Craig	<a href="mailto:cstuber@jni.com">cstuber@jni.com</a>
Lightsand Communication	Rajagopal	Murali	<a href="mailto:muralir@lightsand.com">muralir@lightsand.com</a>
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Solution Technology	Crawford	Robert	<a href="mailto:Robert@lanlab.net">Robert@lanlab.net</a>
SRB Consulting	Warden	Gary	<a href="mailto:gwarden@srbconsulting.com">gwarden@srbconsulting.com</a>
Sun Microsystems	Moe	Ken	<a href="mailto:kenneth.moe@sun.com">kenneth.moe@sun.com</a>
Troika Networks	Ybarra	Danny	<a href="mailto:dybarra@troikanetworks.com">dybarra@troikanetworks.com</a>
Unisys	Gentry	Wayne	<a href="mailto:Wayne.gentry@unisys.com">Wayne.gentry@unisys.com</a>
Vixel	Hirata	Ken	<a href="mailto:khirata@vixel.com">khirata@vixel.com</a>
Vixel	Lewis	Dave	<a href="mailto:dlewis@vixel.com">dlewis@vixel.com</a>