

Draft Minutes

T11.3 FC-AL-2/FS Working Group Meeting

January 15, 2002 – Houston, TX

9 AM – 7 PM

An meeting of working groups FC-FS and FC-AL-2 of NCITS Technical Committee T11 Task Group T11.3 was held at Houston, Texas on January 15, 2002, in conjunction with the T10 Plenary Week meetings. Attendance at this meeting was 16 people and is tabulated at the end of this document.

1. Opening remarks and introductions: John Scheible

Facilitator John Scheible opened the meeting at 9:03 AM Tuesday, January 15, 2002. He thanked our host company, Compaq, and led a round of introductions.

2. Call for changes to minutes

2.1 AL-2/FS report to T11.3 – 12/06/01 01-670v1 John Scheible

Approved as written.

2.2 AL-2/FS minutes – 11/06/01 01-599v0 Bob Nixon

Approved last time, but facilitator later pointed out that a reference to Gadzoox-097 in 5.19.5 should be Gadzoox-094. This was confirmed by examining the referenced problems in 01-138v9.

This additional change was approved.

2.3 AL-2/FS minutes – 12/05/01 01-693v0 Bob Nixon

Add Jim Nelson's name to the attendance list.

Approved with these changes.

3. Approval of this agenda: 02-002v0 John Scheible

Bob Snively requested a question concerning the FC-AL-2 amendment during review of action items.

Approved with this change.

4. Review of old action items: 02-002v0 John Scheible

4.1 AL/2 Action Items

- 4.1.1 Horst Truedstedt to update 01-343v2 to include comment resolutions agreed at the FC-FS ad hoc meeting 10/10/01 and publish it.
(OPENED 10/10/01) (CARRYOVER)

Bob Snively, following up on T11 action items, asked whether we moved to forward the FC-AL-2 change document or the full document, or if the change document was to be forwarded with change bars. John Scheible believes it to have been the change document with change bars, expecting them to be removed as part of the ANSI edit. Bob Nixon to research the minutes during the lunch break. This was done: At the FC-FS ad hoc meeting October 10, 2001, it was approved to request forwarding of the change document, 01-287v2, with change bars intact. Due to later confusion, the action item to prepare the change document, 01-287v2, was dropped from the second version of the minutes of the meeting. The document does not appear to exist yet. The facilitator requested post-meeting to restore the following action item from the original minutes of the October 10 meeting:

ACTION: Horst Truedstedt to update 01-287v1 to include comment resolutions agreed at the FC-FS ad hoc meeting 10/10/01 and publish it.

4.2 FS Action Items

- 4.2.1 Bob Snively to propose structure for Intermix to the reflector.
(OPENED 5/9/01) (CLOSED by 01-672v0)
- 4.2.2 Bob Snively will post the required correction to 12.2.2.2.2, item a.
(OPENED 7/17/01) (CLOSED by 01-671v0)
- 4.2.3 Craig Carlson to update 01-483v0 to incorporate modifications to clarify the usage of the bit when the address has not changed, and to allow the editor to assign the bit.
(OPENED 10/10/01) (CLOSED by 02-001v0)
- 4.2.4 Jim Nelson to suggest definition of "Common Controlling Entity" in the next revision of FC-FS
(OPENED 11/6/01)(CLOSED by 02-011v0)
- 4.2.5 Jim Nelson to suggest definition of "Domain Controller" in the next revision of FC-FS
(OPENED 11/6/01)(CLOSED by 02-011v0)
- 4.2.6 Dave Peterson to revise 01-498v0 to reflect discussion at the meeting 11/6/01.
(OPENED 11/6/01)(CLOSED by 01-498v2)
- 4.2.7 Bob Kemble and Bob Snively to discuss resolution to Brocade-018 further
(OPENED 11/6/01)(CLOSED by discussion this meeting)
- 4.2.8 Craig Carlson to set up a conference call to discuss issues with the PLOGI proscription if issues are forthcoming.
(OPENED 12/5/01)(CLOSED by lack of issues)

5. Scheduled FS Business

- 5.1 Status of FC-FS rev 1.50 01-024v5 Jim Nelson

All comments raised through the December FC-FS ad hoc meeting have been incorporated in an editor's private draft. This meeting's changes will be incorporated and published before the next meeting.

ACTION: Jim Nelson to publish a new version and comment resolution by Monday 1/21/02.

5.2 How long to hold class 2 for F_BSY Tivoli-621 Group

Clause 13.5.2 rule e) in FS version 1.50 contains the not very specific but normative text "for a period of time". The text will vanish if the resolution of Intermix proposed by 01-672v0 is adopted. It was.

No change needed.

5.3 AI7- Incorrect defs Active & Open Brocade-018 Snively/Kemble

Brocade-018 will be rejected, with possibility of being raised again in next letter ballot after more time to study.

5.4 AI1 – Intermix 01-672v0 Bob Snively

The proposal is to

- obsolete intermix;
- obsolete camp-on, which depends on intermix, correct stacked connection to not require intermix;
- correct the (conflicting) statements some of which suggest a dependency of Class 4 on intermix.

Bob's key point was no one needs intermix and camp on any more because switches are much more capable of maintaining performance without them. He had verified this with Boeing and the Class 4 folks.

Correction: The last sentence in the revision recommended for 4.10.3 references intermix. It was marked in a color used for deletions, but not struck out. The presenter confirmed the sentence was to be deleted.

Correction: The paragraph introducing the revision to 20.5.3 is marked in a color used for insertions but not underlined. It is an explanatory note from the writer and is NOT to be inserted.

The FC-FS change proposed by 01-672v0 with the corrections noted at the FC-FS ad hoc meeting 1/15/02 was approved without objection.

ACTION: John Scheible to send a reflector message to inform the community that intermix and camp-on are now obsolete.

5.5 AI2 - No end-to-end credit ABTS 01-671v0 Bob Snively

01-671v0 identified discrepancies in FC-FS concerning sending ABTS in absence of end to end credit and proposed to eliminate that option. 02-012v0 counterproposed to allow it and correct the discrepancies. The latter was a somewhat more complicated change since it affected flow control management as well as sequence time out recovery.

The FC-FS change proposed by 02-012v0, with the addition of a warning that ABTS in absence of end to end credit may fail leading to the need to Link Reset, was approved without objection. Reference to other text on ABTS recovery would be preferred if it can be found.

ACTION: Bob Nixon to update 02-012v0 to include the changes requested at the FC-FS ad hoc meeting 1/15/02.

5.6 AI4 - Common Controlling Entity def 02-011v0 Jim Nelson
Incorporating the definition of Common Controlling Entity from 02-011v0 into FC-FS was approved without objection.

5.7 AI5 - Domain Controller definition 02-011v0 Jim Nelson
Incorporating the definition of Domain Controller from 02-011v0 into FC-FS with change to say "an address" rather than "addresses" was approved without objection.

5.8 Misc FC-FS issues 01-590v4 Jim Nelson

5.8.1 Topic 8, Apparent conflict, is the only one still open.

A new issue had been raised at the last meeting, so the question was deferred pending presence of Bob Kembel, who identified the original issue. It was realized the new issue was in the writer's list, not in FS, so is a non-issue.

The FC-FS change proposed by 01-590v4 topic 8 was approved without objection.

5.9 Frame size limitation reflector Jim Coomes

This is a continuing discussion of conflicts between the size of ELSs and constraints that may be established by standard (128 byte maximum frame size prior to first FLOGI/PLOGI) or practice (single-frame limits in known implementations). The discussion originated at the FC-FS ad hoc meeting 11/6/2001 and was summarized in email from Jim Coomes "Heads Up on Large ELS Payloads" on 11/28/2001.

Discussion this time raised the need for at least a warning that some devices may not properly deal with a multiframe ELS, or even a large single-frame ELS. "May not properly deal with" may not be just rejection, but possibly acceptance of a fragment.

MI prohibits FLOGI/PLOGI extended payload because some implementations accept it without actually having handled it.

An extended FLOGI/PLOGI exceeds the 128-byte frame size required prior to FLOGI/PLOGI. It was suggested that an interoperable implementation could use an unextended FLOGI/PLOGI to set frame size larger, then do an extended FLOGI/PLOGI.

It was noted that the requirement for maximum frame size 128 prior to FLOGI/PLOGI was applicable after any logout, including an implicit logout, not just after poweron. This would prohibit login frames larger than 128, even if a prior login established a larger operating size.

An inconsistency was pointed out in 15.5.2.6, which says both the specified minimum maximum frame size must be 128 and 256. The editor had already changed this to 256 in his working draft.

It was reiterated that FS isn't broken: It allows ELSs including FLOGI/PLOGI to be delivered in multiframe sequences. But no implementations were claimed that could actually support multiframe ELS sequences and/or arbitrarily large ELS payloads.

The proposed vendor specific login extension further stresses the constraints on FLOGI/PLOGI implementations, since it adds an arbitrarily large extension. The only implementation of the proposed vendor specific login extension requires it to reside in a single frame, so even the allowance for multiframe does not help it. On the other hand, the known implementation requires only a very small extension: 256 bytes of total frame size is sufficient.

It was requested to formalize that "no response" is an acceptable response to an ELS that exceeds the payload size capability of a recipient.

Agreed: Increase the default maximum frame size to be 256 bytes; prohibit login extensions beyond 256 for FLOGI; warnings should be added to FS that ELSs greater than 256 and multiframe ELSs may be discarded. These warnings will be recommended to FC-DA as prohibitions.

ACTION: Jim Coomes to publish the changes and warnings agreed concerning frame sizes agreed at the FC-FS ad hoc meeting on 1/15/02.

5.10 N_Port ID virtualization 02-008v0 Frazier/Dugan

Giles Frazier presented 02-008v0 which enumerates the changes necessary to allow using FDISC to establish virtual N_Port IDs. The general effects of the changes include:

- splitting the descriptions of FDISC and PDISC so changes can be made to FDISC without affecting PDISC;
- emphasizing a virtual port login shall not change service parameters;
- allow use of LOGO to a fabric to eliminate a single virtual login, while a new FLOGI or implicit logout would eliminate ALL virtual logins and the underlying real one.

Correction: references to 12.4 should be 15.4.

Correction: a reference to "well-known F_Port address" should be simply "well-known address".

The FC-FS change proposed by 02-008v0 with the corrections noted at the FC-FS ad hoc meeting 1/15/02 was approved without objection.

5.11 Change REC and SRR to VS reflector Snively/Nixon

This topic was raised by an email from Bob Snively "Required addition to FC-FS to protect legacy usage of reserved codes for FCP-2" dated 11/9/2001. The discussion is summarized in the suggested "note a)" below. The following changes to FC-FS were requested:

In table 59, "ELS Command Codes", two new rows should be defined, each having no abbreviation and no reference:

- hex '13' vendor specific (see note a)
- hex '14' vendor specific (see note a)

A footnote "a" should be provided to the table as follows:

Note a) Some implementations of early revisions of FCP-2 may have used the value hex '13' for REC (Read Exchange Concise) and hex '14' for SRR (Sequence Retransmission Request). These codes are made vendor specific in this standard to avoid conflicts with such noncompliant implementations. See FCP-2 for the standard implementation of REC and SRR as FC-4 Link Services. Noncompliant implementations may be identified by attempting to perform REC first as an FC-4 LS and then as an ELS. A compliant implementation will succeed on the FC-4 LS, obviating the need for the ELS. A noncompliant implementation will fail the FC-4 LS and succeed on the ELS.

Changing REC and SRR to Vendor Specific as documented in the minutes of the FC-FS ad hoc meeting 1/15/02 was approved without objection.

5.12 Problem w/ definition of FDISC 01-691v0 Snively

Some very limited changes to the description of the behavior of FDISC in 12.3.40 were recommended in order to allow using FDISC for virtual port establishment while assuring it can not change Service Parameters.

The FC-FS change proposed by 01-691v0 was approved without objection.

5.13 ABTX/RRQ issues 02-003v0 Scheible/Palekar

The referenced document identifies four issues in FC-FS and proposes resolutions.

Need definition of Recovery Qualifier in ABTX. Proposed it be copied from FC-PH. Accepted.

Need clarification on which "exchange originator" is meant by the "exchange originator" S_ID in the payload of ABTX. Proposed it means the originator of the exchange to be aborted. Accepted.

Need clarification on which "exchange originator" is meant by the "exchange originator" S_ID in the payload of RRQ. Proposed it means the originator of the exchange to be aborted. Accepted.

An inconsistency in FC-FS version 1.3 table 49. Left to editor to resolve.

The general nature of the FC-FS changes proposed by 02-003v0 were approved without objection, leaving details to the editor.

5.14 Removal of Annex A 02-009v0 Snively

It is proposed that Annex A be removed because there is no reference to it and the material it supported was either removed (e.g., simplex) or improved to where the annex is irrelevant. The annex also was purported to carry some misinformation.

Some additional corrections to the body of FS were also recommended in order to eliminate remnant references to removed features.

The FC-FS change proposed by 02-009v0 was approved without objection.

5.15 Deletion of FC-4 ELS material 02-005v0 Monia

Charles pointed out that in our enthusiasm to remove FC-4 link service definitions, we also removed the basic framework for FC-4 LS protocol. He proposed restoring it since such a framework would be useful and had no other obvious or convenient location.

The FC-FS change proposed by 02-005v0 was approved without objection.

5.16 Discuss FC-FS-2 Scheible

Once we send FC-FS to T11, we can not add to it any further. Although there are ways to wiggle around this, it is preferred to be strictly proper. Then... Is it time to kick off a project for FS-2? (not yet) Can we live with a less formal bucket for deferred items? (the answer was no, but the alternative was not clearly described) Whatever we do as followon should be a full document not an incremental document.

5.17 Kembel Email 1/10/2002 Scheible

Several issues were raised in emails from Bob Kembel dated 1/10/02. The resolutions were:

Subject "[T11.3] FC-FS, RPS": Jim Coomes to answer on the reflector.

Subject "[T11.3] FC-FS: RPS ELS definition" : First issue was accepted, second issue first part was rejected, second issue second part was accepted (use "Name_Identifier" rather than WWN).

Subject "[T11.3] FC-FS" starting "In Table 207": Bob is respectfully requested to bring in specific wording changes.

Subject "[T11.3] FC-FS" concerning FAN: This has broader impact than described...In general, you may not LS_RJT if you recognize the ELS as responseless. You may also only LS_RJT sequence management permitting (e.g., having sequence initiative). An originator of an ELS that has no reply would probably terminate the exchange without transferring initiative. The recipient has no way to send a reply even if it didn't recognize the request. Editor will wordsmith this for the link service rules in 12.1.2.

Subject "[T11.3] FC-FS" concerning definition of an Fx_Port: Accepted.

Subject "[T11.3] FC-FS, Table 177" is editorial, the editor will fix it.

6. Review of AL-2/FS action items

6.1 AL/2 Action Items

- 6.1.1 Horst Truedtedt to update 01-343v2 to include comment resolutions agreed at the FC-FS ad hoc meeting 10/10/01 and publish it.
(OPENED 10/10/01) (CARRYOVER)
- 6.1.2 Horst Truedtedt to update 01-287v1 to include comment resolutions agreed at the FC-FS ad hoc meeting 10/10/01 and publish it.
(OPENED 1/17/02) (CLOSED by 02-014v0)

6.2 FS Action Items

- 6.2.1 Jim Nelson to publish a new version and comment resolution by Monday 1/21/02.
(OPENED 1/15/02) (CLOSED by 02-015v0 and 02-018v0)
- 6.2.2 John Scheible to send a reflector message to inform the community that intermix and camp-on are now obsolete.
(OPENED 1/15/02) (CLOSED by email 1/15/2002)
- 6.2.3 Bob Nixon to update 02-012v0 to include the changes requested at the FC-FS ad hoc meeting 1/15/02.
(OPENED 1/15/02) (CLOSED by 02-012v1)
- 6.2.4 Jim Coomes to publish the changes and warnings agreed concerning frame sizes agreed at the FC-FS ad hoc meeting on 1/15/02.
(OPENED 1/15/02)

6.3 FS Changes Approved

- 6.3.1 01-672v0 with the corrections noted at the FC-FS ad hoc meeting 1/15/02, obsoleting the intermix feature.
- 6.3.2 02-012v1, resolving inconsistency in requirement for end to end credit to send ABTS.
- 6.3.3 02-011v0, defining Common Controlling Entity and Domain Controller.
- 6.3.4 01-590v4 resolution proposed for topic 8.
- 6.3.5 Changes noted in this document ameliorating impact of ELS frame size limitations in common implementations
- 6.3.6 02-008v0 with the corrections noted at the FC-FS ad hoc meeting 1/15/02, allowing use of FDISC and LOGO to manage virtual ports.
- 6.3.7 Text captured in this document changing REC and SRR to vendor specific.
- 6.3.8 01-691v0, resolving an ambiguity in behavior of FDISC.
- 6.3.9 02-003v0, resolving four issues in general as proposed, leaving details to the editor.
- 6.3.10 02-009v0, removing Annex A.
- 6.3.11 02-005v0, requesting reinstatement of general rules for FC-4 Link Service protocols.
- 6.3.12 Changes noted in this document deriving from issues raised in email from Bob Kembel dated 1/10/2002.

7. Future meeting plans

4 hours in February T11 week.

8. Adjournment (FS WG)

The meeting was adjourned at 4:39 PM Tuesday, January 15, 2002.

9. Attendance

Company Represented	Last Name	First Name	Email
Brocade	Forbes	L. Brian	bforbes@brocade.com
Brocade	Snively	Robert	rsnively@brocade.com
Brocade	Teow	Kha Sin	khasin@brocade.com
Cisco Systems	Peterson	David	dap@cisco.com
Emulex	Nixon	Bob	bob.nixon@emulex.com
Fujitsu	Fitzpatrick	Mike	mfitzpatrick@fcpa.fujitsu.com
IBM	Dugan	Robert	dugan@us.ibm.com
IBM	Frazier	Giles	grf@us.ibm.com
IBM	Scheible	John	jpscheible@aol.com
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Qlogic	Carlson	Craig	craig.carlson@qlogic.com
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Vixel	Nelson	James	jnelson@vixel.com