

Approved Minutes
T11.3 FC-FS Working Group Meeting
December 5, 2001 – Austin, TX
1 PM – 6 PM

A meeting of working group FC-FS of NCITS Technical Committee T11 Task Group T11.3 was held at Austin, Texas on December 5, 2001, in conjunction with the T11 Plenary Week meetings. Attendance at this meeting was 46 people and is tabulated at the end of this document.

1. Opening remarks and introductions: John Scheible

Facilitator John Scheible opened the meeting at 1:10 PM Wednesday, December 5, 2001. He thanked our host company, Crossroads, and led a round of introductions.

2. Call for changes to minutes

2.1 AL-2/FS report to T11.3 - 10/10/01 01-543v0 John Scheible

Approved as written.

2.2 AL-2/FS minutes – 10/10/01 01-565v0 Bob Nixon

Wrong document references: In action item 8.1.4 (Martin) change 01-287v1 to 01-540v0.
In action item 8.1.5 (Trustedt) change 01-287v1 to 01-343v2.

Claudio DeSanti's name is misspelled.

Bob Kembel's name is misspelled several times.

Approved with these changes.

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

Claudio DeSanti's name is misspelled.

Bob Kembel's name is misspelled several times.

Approved with these changes.

Facilitator later pointed out that a reference to Gadzoox-097 in 5.19.5 should be Gadzoox-094. This was confirmed by examination of the referenced problems in 01-138v9.

Publication of final minutes will be delayed until group approval of this change is obtained.

3. Approval of this agenda: 01-635v0 John Scheible

Need to add carryover from 10/06 meeting: "Making REC Vendor-Specific" based on a reflector message by Bob Snively

Removed 6.21, QoS changes

Approved with these changes.

4. Review of old action items: 01-635v0 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)

4.2 FS Action Items

- 4.2.1 Bob Snively to rewrite 15.5.25-27 to eliminate inappropriate examples using "IU"
(OPENED 5/9/01) (CLOSED)
- 4.2.2 Bob Snively to propose structure for Intermix to the reflector.
(OPENED 5/9/01) (CARRYOVER)
- 4.2.3 Bob Snively will post the required correction to 12.2.2.2.2, item a.
(OPENED 7/17/01) (CARRYOVER)
- 4.2.4 Jim Coomes to propose text for when a port becomes unidentified as part of a general topic of change of login
(OPENED 9/11/01) (DROPPED)
- 4.2.5 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) (CARRYOVER, just need upload)
- 4.2.6 Bob Nixon to rewrite the statement on interframe primitives to incorporate the concept of allowing idle deletion only in synchronous paths.
(CLOSED by 01-604v0)
- 4.2.7 Jim Coomes to set up a teleconference to review the statement on interframe primitives as revised by Bob Nixon.
(DROPPED)
- 4.2.8 Craig Stuber to update 01-531v2 with changes approved at the meeting 11/6/01 as changes to FC-FS.
(OPENED 11/6/01)(CLOSED by 01-531v3)
- 4.2.9 John Scheible to update 01-568v0 to reflect discussion at the meeting of 11/6/01 and provide to the editor for incorporation into FC-FS.
(OPENED 11/6/01)(CLOSED by 01-568v1)
- 4.2.10 Dave Peterson to write the revised version of rules for PLOGI to the reflector.
(OPENED 11/6/01)(CLOSED by email 11/13/01)

- 4.2.11 Jim Nelson to suggest definition of "Common Controlling Entity" in the next revision of FC-FS
(OPENED 11/6/01)(CARRYOVER)
- 4.2.12 Jim Nelson to suggest definition of "Domain Controller" in the next revision of FC-FS
(OPENED 11/6/01)(CARRYOVER)
- 4.2.13 Jim Coomes to promote a discussion of ELS frame size limitation issues in the community.
(OPENED 11/6/01)(CLOSED by email 11/28/01)
- 4.2.14 John Scheible to include an agenda item for ELS frame size limitations at the December meeting.
(OPENED 11/6/01)(CLOSED by 01-635v0)
- 4.2.15 Dave Peterson to revise 01-498v0 to reflect discussion at the meeting 11/6/01.
(OPENED 11/6/01)(CARRYOVER, 01-498v? presented but not yet published)
- 4.2.16 Bob Kemble and Bob Snively to discuss resolution to Brocade-018 further
(OPENED 11/6/01)(CARRYOVER)

5. Scheduled AL-2 Business

6. Scheduled FS Business

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

All comments raised through the November FC-FS ad hoc meeting have been incorporated, except changing "Port" references.

6.2 AI10 - PLOGI rules reflector Dave Peterson

See 01-592v1 (Peterson), which proposes rules intended to constrain use of PLOGI. See also 01-662v0 (Carlson), which identifies further cases where PLOGI may be justified.

Moved by John Scheible and seconded to roll in a combination of the two statements. The motion was withdrawn because of the belief that the statement in 01-592v1 had been previously approved. Examination of the minutes of the November meeting indicated the approval was informal, not by vote. Also, the proposed resolution did not match that published on the reflector. These issues led to an agreement that the previous "agreement" did not justify accepting the 01-592v1 wording. The text was further revised during the discussion. This text follows:

Clause 15.3.1 wording to be:

Due to the resetting behavior of a PLOGI (e.g., termination of all open exchanges with the destination port), a port shall only send a PLOGI to a destination port if it is not logged in with the destination port. Examples of why a port is not logged in include;

- a) it has determined that a configuration change has occurred;*

- b) *it has lost knowledge of the login parameters with the destination port;*
- c) *the destination port has responded with a frame that indicates an error condition (e.g., LOGO, P_RJT);*
- d) *the local port has logged out the destination port, either implicitly or explicitly, due to resource constraints;*
- e) *the destination port failed to respond after 2 times R_A_TOV has expired; and*

A configuration change shall be determined by comparing the Port_Name, Node_Name, and Address_Identifier received in the ACC from an ADISC or PDISC with the values established during the previous login process. A configuration change has occurred if any of the three parameters do not match.

It was moved and seconded to incorporate the prohibition of PLOGI into FC-FS as developed during the meeting 12/5/01, publish it on the reflector, and if there are any comments by December 19, hold a conference call the week of January 7 to resolve the issues. Approved 22y-5N-2A

Jim Coomes voted NO because he felt a warning of the deleterious effects would be sufficient.

Louis Odenwald voted NO because he felt that the proposed text did not really resolve the understood problem.

Action: Craig Carlson to set up a conference call to discuss issues with the PLOGI proscription if issues are forthcoming.

6.3 AI4 - ELS and Login 01-574v2 Jim Nelson

Jim presented the latest revision of the table. It has not yet been revised to show only the responses to the condition of "not logged in". Jim felt there were still a few changes needed.

Jim Coomes and George Penokie said RNID should be permitted without login. Jim added that an RNID response prior to login must be limited to 128 bytes (later discussion).

LS-RJT should be permitted as a response to violation of a required login.

Several people suggested how to reduce the table to simply the login requirement. One was to indicate only whether login was required, adding it to the existing table of ELSs if it would fit. The proper response, which is the same for all ELSs, would be indicated in a footnote.

Moved and seconded to incorporate the information from 01-574v2 into FC-FS as discussed and corrected at the meeting 12/05/01. Approved with no objections.

6.4 AI6/7 - Interframe gap rules 01-604v0 Bob Nixon

Presented and modified by markup. The revised changes and the resulting change in

Moved and seconded to incorporate 01-604v0 into FC-FS with the changes noted at the meeting 12/05/01, and publish the revised document for wider review. Approved without objection.

6.5 AI08 - EUI-64 to WWN mapping 01-531v3 Craig Stuber

This is an update to a proposal reflecting discussion at the meeting 11/6/01.

It was observed that some of the terminology does not match ANSI standard terminology. The editor will fix this.

Moved and seconded to incorporate 01-531v3 into FC-FS with the changes noted at the meeting 12/05/01. Approved with no objections

6.6 WWN to EUI-64 mapping 01-630v0 Claudio DeSanti

This is a new proposal which establishes a mapping from current IEEE based WWN formats (NAA 1, 2, or 5) to an EUI-64 (The mappings for the new NAA formats described in 01-531v3 are defined in both directions, but only for the new NAA formats, not the existing ones). It makes use of there being fewer than 4 NAAs to map, each contains an OUI, and there being 2 "spare" bits in an OUI. There may be conflicts in the EUI space if the EUI space contains any 64-bit locally (rather than OUI-based) identifiers.

Moved and seconded to incorporate 01-630v0 into FC-FS as an informative annex, with corrections to use informative rather than normative terminology. Approved with no objections

6.7 Misc FC-FS issues 01-590v3 Jim Nelson

6.7.1 Considering only those issues not resolved at the November meeting...

6.7.2 Topic 4, Login required for ABTX
No changes will be made to FS.

6.7.3 topic 7, F_Port reaction to Class F frame
FS will be modified to state the same rules for an F_Port as are already stated for an N_Port (discard and ignore the frame). Also need to clarify that an R_RDY is sent. This clarification will be deferred to a letter ballot comment.

6.7.4 Topic 8, Apparent conflict
Not a no-brainer. Deferred until Bob Kembel can participate.

6.8 AI13 - Frame size limitation reflector Jim Coomes

Jim's action at the last meeting was to notify the community of conflicts identified at the November meeting between the size of ELSs and frame size constraints that may be established by standard (128 bytes prior to FLOGI) or practice (single-frame limits in known implementations). He did so. He presented some additional observations: FC-MI currently protects end devices because it happens to exclude the problematic ELSs and ELS formats. It is believed that FS is not broken because it does not prevent use of multiframe sequences for ELSs in excess of the agreed frame size. But if this actually happened, many implementations would break. Future work needs protective guidance. This will be continued on the reflector.

6.9 AI16 - Definition of active/open reflector Kemble/Snively
deferred

6.10 AI1 - IU re-write 01-___v_ Bob Snively
deferred

6.11 AI2 – Intermix 01-___v_ Bob Snively

Intermix is broken.

Moved and seconded to remove Intermix from FS 8Y-6N-12A. But...

Facilitator invoked the 2-week rule to invalidate the vote. Discussion must continue.

- 6.12 AI3 - No end-to-end credit ABTS** **01-___v_** **Bob Snively**
deferred
- 6.13 AI05 - Clean Address bit update** **01-483v** **Craig Carlson**
No discussion necessary, it was agreed long ago. Text was provided to the editor, Craig only needs to upload the revised document.
- 6.14 AI05 - Acknowledged classes** **01-___v_** **Group**
mistakenly carried, delete it.
- 6.15 AI11 - Common Controlling Entity def** **01-___v_** **?**
deferred
- 6.16 AI12 - Domain Controller definition** **01-___v_** **?**
deferred
- 6.17 AI15 - Revise login extensions** **01-498v?** **Dave Peterson**
Dave presented a revision to his original proposal which has not been published yet. It has added a description of what an N_Port that did not support this extension or various of its features *should* do. But it resolve the issue of a predictable way to deal with devices that do not recognize there is an extension. Although in Dave's case, he knows what he would do, in general, devices may accept it ignoring the extension, reject it, or blow up.
It was moved and seconded to include 01-498v? into FS. Approved 11Y-9N-7A.
- 6.18 S_ID parm in RES/RLS/RSS** **01-653v1** **Charles Monia**
Charles wanted to know if the Originator S_ID parameter in the RES/RLS/RSS ELS payloads can be any FC_ID, or must it be either the originator or recipient of the ELS. Consistent opinion from a very small but usually reliable community: Any, otherwise a parameter in the payload would not have been necessary.
- 6.19 N_Port ID virtualization** **01-627v0** **Frazier/Dugan**
A business case was described for reducing cost of ownership of FC ports by virtualizing many logical ports, specifically their unique identifications, through fewer physical ports / adapters. One key issue is that InfiniBand already provides this. Another is that the cost of FC access can be adapted to demand by allocating more or fewer physical ports to a fixed collection of virtual end points.
A set of constraints on their design was presented...good stuff like non-disruptive addition of new logical endpoints, minimal or no impact on current spec, easy, simple, nondisruptive to legacy devices...
A design based on FDISC was proposed: Get first ID with FLOGI, get additional ones with FDISC, using the currently unused combination of zero S_ID and a new WWPN. Legacy stuff would ignore or error it, new equipment (switches) would assign a new N_Port ID.

Recommended for FS: Allow FDISC with a zero S_ID to invoke port virtualization, but not on loops.

And a request for SW-3 (not so time-critical): Describe the virtualization behavior of FDISC with zero S_ID.

Moved and seconded that 01-627v0 be accepted in concept, that the recommended placeholder text for FDISC be incorporated into FS, and any necessary elaborated text be returned for final review in a future meeting. Approved with no objection and one abstention.

6.20 REC and SRR ELS codes to VS reflector Snively/Nixon
deferred

6.21 Forwarding FS

There was a motion to forward FS. The T11.3 chair pointed out that there are open comments, and forwarding is not allowed. The motion was withdrawn.

7. Unscheduled new FS business –

8. Review of AL-2/FS action items

8.1 AL/2 Action Items

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(OPENED 10/10/01) (CARRYOVER)

8.2 FS Action Items

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- 8.2.8 Craig Carlson to set up a conference call to discuss issues with the PLOGI proscrition
if issues are forthcoming.
(OPENED 12/5/01)

9. Future meeting plans

8 hours in January T10 week.
4 hours in February T11 week.

10. Adjournment (FS WG)

The meeting was adjourned at 6:00 PM Wednesday, December 5, 2001.

11. Summary of approved changes

11.1 Changes to FC-FS

- 11.1.1 Statement of prohibition of PLOGI into FC-FS as developed during the meeting 12/5/01.
- 11.1.2 01-574v2 (Login requirements for ELSs) as discussed and corrected at the meeting 12/05/01.
- 11.1.3 01-604v0 (Interframe gap rules) with the changes noted at the meeting 12/05/01.
- 11.1.4 01-531v3 (EUI-64 to WWN Mapping) with the changes noted at the meeting 12/05/01.
- 11.1.5 01-630v0 (WWN to EUI-64 mapping) into FC-FS as an informative annex, with corrections to use informative rather than normative terminology.
- 11.1.6 F_Port reaction to Class F frame is discard and ignore the frame.
- 11.1.7 01-498v? (Login Extensions) as presented at the meeting 12/05/01.
- 11.1.8 01-627v0 (N_Port ID Virtualization) placeholder text for FDISC.

12. Attendance

Company Represented	Last Name	First Name	Email
Agilent	Jackson	Dylan	dylan_jackson@agilent.com
Akara	Wanamaker	Neil	nwanamaker@akara.com
Ancot	Dedek	Jan	dedek@ancot.com
Andiamo Systems	DeSanti	Claudio	cds@andiamo.com
Ario Data Network	Nguyen	Michael	mnguyen@ariodata.com
Boeing	Foster	Michael	michael.s.foster@boeing.com
Boeing	Wilson	Steven H.	steven.h.wilson@boeing.com
Brocade	Snively	Robert	rsnively@brocade.com
Compaq	Fraser	Don	don.frazier@compaq.com
Crossroads	Tyndall	John	jtyndall@crossroads.com
Emulex	Nixon	Bob	bob.nixon@emulex.com
Exabyte	Rose	Roger	rogerr@exabyte.com
FSI	Weber	Ralph	roweber@acm.org
Fujitsu	Fitzpatrick	Mike	mfitzpatrick@fcpa.fujitsu.com
Gadzoox	Martin	William R.	bmartin@gadzoox.com
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Hitachi	Edmonds	Art	art.edmonds@hds.com
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IBM	Frazier	Giles	grf@us.ibm.com
IBM	Scheible	John	jpscheible@aol.com
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MTI	Ramos	Rich	rich@chi.mti.com
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Pirus	Binford	Charles	charles.binford@pirus.com
Primarion	Desai	Samir	samir.desai@primarion.com
Qlogic	Carlson	Craig	craig.carlson@qlogic.com
San Valley	Lamers	Larry	ljlamers@ieee.org
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Seagate	Suhler	Paul	paul_a_suhler@seagate.com
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Sony	Mendiola	Jeff	jeff_mendiola@asd.sel.sony.com
SRB Consulting	Warden	Gary	gwarden@srbconsulting.com
StorageTek	Gaffney	Matt	matt_gaffney@stortek.com
Sun	Novak	Vit	vit.novak@sun.com
Systran	Fearday	Alan	afearday@systran.com
Tivoli	Penokie	George	g_penokie@tivoli.com
True Focus	Truestedt	Horst	hotruess@attglobal.net
Unisys	Gentry	Wayne	wayne.gentry@unisys.com
Vixel	Hirata	Ken	khirata@vixel.com
Vixel	Nelson	James	jnelson@vixel.com