

Draft Minutes

T11.3 FC-FS Working Group Meeting

February 6, 2001 – Huntington Beach, CA

1 PM – 5:30 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 Huntington Beach, California on February 6, 2001, 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

Facilitator John Scheible opened the meeting at 1:05 PM. He thanked our host company, Qlogic, for the facilities. He led a round of introductions.

2. Call for changes to minutes

2.1 FS report to T11.3 – 12/05/00 [00-718v0](#) John Scheible

Accepted with no changes

2.2 FC-FS minutes – 12/05/00 [00-731v0](#) Bob Nixon

Accepted with no changes.

3. Approval of agenda: [01-062v0](#) John Scheible

Accepted with no changes.

4. Review of old AL-3/FS action items: [01-062v0](#) John Scheible

4.1 AL-3

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 write an amendment to FC-AL-2 proposing ERRINIT behavior be deprecated.
(OPENED 10/00) CARRYOVER

- 4.1.4 Bill Martin and Jim Coomes to prepare a proposed amendment to FC-AL-2 to resolve the starvation problem as described in [00-714v0](#).
(OPENED 12/5/00)

4.2 FS

- 4.2.1 Mike Dorsett to provide clarifications to Class 6 behavior to Jim Nelson.
NEW (9/00) CARRYOVER - CLOSED (expect letter ballot)
- 4.2.2 Gary Stephens will organize a study group to investigate the impact of fractional bandwidth in classes 2 and 3, particularly on the switches.
(OPENED 12/5/00) CLOSED (include in main FS meeting)
- 4.2.3 Mike O'Donnell to provide revised text for "Set Bit Error Reporting Parameters" based on [00-684v0](#) in a format acceptable to the editor
(OPENED 12/5/00) CLOSED (by editor)
- 4.2.4 Mike O'Donnell to provide revised text for "Report port speed capabilities" based on [00-686v0](#) in a format acceptable to the editor
(OPENED 12/5/00) CLOSED (by editor)

5. Old AL-3 Business (none)

6. Scheduled New Business AL-3

7. Unscheduled new AL-3 business

- 7.1 Removal of ERRINIT and modification of ARB PEND – Bill Martin**
Amendment or new project? Amendment is sufficient, according to Monica Vago, of NCITS. We are only "removing defects".

Bill and Horst are working on a set of change pages. Expect document in a week or so. Expect some significant changes to the state tables (major for ARB PEND, minor for removal of ERRINIT)

8. Scheduled New Business FS

8.1 Update on FC-FS rev 1.10 ([01-024v1](#)) - Jim Nelson

This version has bookmarks, lacking only section numbers. Section numbers may not be possible with Word for Windows.

All changes approved to date are included, except a couple of very recent corrections pointed out by Gary Stephens.

8.2 Add FC and SW-2 port and class definitions ([01-21v0](#)) – John Scheible

Several port types and service classes used in SW-2 are not defined in FS. FS is intended to be the document that coalesces all such definitions.

John presented definitions to be added to the FC-FS glossary. It was agreed that his references to FC-FG should be changed to FC-SW-2.

It was noted that Nx_port is used in FS, but not defined. It was agreed to add a definition for Nx_Port, which can reference SW-2.

Moved by John Scheible, seconded by Bill Martin to incorporate the definitions as modified at this meeting. Passed with no objections.

ACTION: John Scheible to provide text for definitions in [01-021v0](#) modified as discussed 2/6/01 to Jim Nelson to incorporate into FC-FS.

8.3 Obsolete PH/FS Version ([01-040v0](#)) – Dave Peterson

This proposal is to obsolete the referenced field in PLOGI, setting it permanently to a value that would allow old equipment to work: 9 is the value selected.

There was some contention whether to “obsolete” and/or specify a value. “Obsolete” is not defined, so its meaning is arguable. “Obsolete” will be defined as “The value is not used in this standard, but may be constrained by need for compliance with a prior standard”. Given this, the proposal is changed to obsolete the fields for both the high and low PH/FS versions supported, and not specify a fixed value. Changes are needed in at least PLOGI, FLOGI, and ADISC.

Dave Peterson moved and Gary Stephens seconded that [01-040v0](#) with changes noted above be incorporated into FC-FS at its next revision. Passed with no objections.

8.4 ESTC Ambiguity ([01-061v0](#)) – Michael Haworth

Issue: ESTC is described as having no reply in several places (eg, FC-FS 15.6.2), but in FC-FS 17.8.2.2, it is described as optional and may be rejected if not supported.

This turned out to be a very difficult question despite the many experts present. After much discussion, it was agreed that ESTC should NEVER be responded under any circumstances. FC-FS 15.6.2 is correct. The wording in FC-FS 17.8.2.2 suggesting it might be optional is considered misleading and will be adjusted.

ACTION: John Scheible will write up the [necessary document changes](#). Several changes in addition to the above were pointed out (including FC-FS 15.1.2, table 195, 15.5.5. Also, 15.5.6 says ESTC should say ESTS)

8.5 QOS, class 4, and fractional bandwidth proposals ([00-603v0](#) and [00-650v0](#)) – Gary Stephens

Review:

- Class 4, though not yet implemented, has been retained. The many corrections to FC-FS that were needed have been provided (thanks, Gary!) and incorporated (thanks, Jim!)
- A new fractional bandwidth function has been proposed as an optional and backward compatible enhancement to classes 2 and 3. It has been observed that class 2 fractional bandwidth is redundant to class 4.

Areas of technical discussion:

- Fractional Bandwidth Applications
 - Switches are waiting for a customer.
 - Disks don't care, inherently.
 - Streaming tapes care.
 - Streaming video cares.
 - Hosts care, if they are customers of a third-party fabric services provider.
 - OS swap disks care.
 - Military applications mixing low-latency and high-bandwidth traffic.
 - IP and SCSI over same FC connection.
 - Cluster heartbeat inband
- Fabric internals
 - There is no interswitch communication in support of QOS / Class 4 yet. It is expected some will be needed
- Cost of entry
- N_Port entry
 - Fabric won't start without an Nport and / or device partner
 - No control over the PCI bandwidth. Maybe treatable with onboard buffering.

Study group will continue with its focus on validation of Class 4, independent of FS review.

9. Unscheduled new FS business

9.1 FS to letter ballot? – John Scheible

The three changes listed below (10.3) will be made.

The Mike Dorsett action (10.2.1) may be delivered to Jim within a week, else it must be pursued by letter ballot if at all.

Moved by John Scheible and seconded by Jim Nelson that the FS working group recommends that T11.3 hold a letter ballot to authorize forwarding FC-FS version 1.11 01-024v2 (when complete) to T11 for further processing. Passed with no objection.

ACTION: John Scheible to prepare a form to encourage easy organization of letter ballot comments.

It was moved by Dave Peterson and seconded by George Penokie to eliminate the index from the FC-FS document. Passed with no objection.

10. Review of FS action items

10.1 AL-3

- 10.1.1 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.
- 10.1.2 Upload Horst Truedstedt proposal presented at the meeting (When an FL_Port detected, how does F/NL Port retire?) .
CARRYOVER.
- 10.1.3 Bill Martin to write an amendment to FC-AL-2 proposing ERRINIT behavior be deprecated.
(OPENED 10/00) CARRYOVER
- 10.1.4 Bill Martin and Jim Coomes to prepare a proposed amendment to FC-AL-2 to resolve the starvation problem as described in [00-714v0](#).
(OPENED 12/5/00) CARRYOVER

10.2 FS

- 10.2.1 John Scheible to provide text for new definitions ([01-021v0](#) as modified at the 2/6/01 meeting) to Jim Nelson to incorporate into FC-FS.
(OPENED 2/6/01) (CLOSED by [01-021v1](#))
- 10.2.2 Dave Peterson to provide text for obsoleting the FC-PH version numbers ([01-040v0](#) as modified at the 2/6/01 meeting) to Jim Nelson to incorporate into FC-FS.
(OPENED 2/6/01)
- 10.2.3 John Scheible will write up the necessary document changes to resolve the ambiguity about response to ESTC
(OPENED 2/6/01) (CLOSED by [01-061v1](#))
- 10.2.4 John Scheible to prepare a form to encourage easy organization of letter ballot comments.
(OPENED 2/6/01)

10.3 Changes to the FC-FS specification approved at this meeting

Definitions from [01-021v0](#) as modified at the 2/6/01 meeting.
Obsolete the FC-PH version numbers as in [01-040v0](#) as modified at the 2/6/01 meeting.
Resolution to the ambiguity about response to ESTC reported in [01-061v0](#).
Remove the index. It is difficult to maintain and the bookmark links to the section headers are better.

10.4 Amendments to the FC-AL-2 specification approved at this meeting

None

11. Future meeting plans

No time will be requested at the T10 plenary for FS or QOS.
Lots of hours will be requested in the T11 April plenary.

12. Adjournment (FS WG)

The meeting was adjourned at 4:30 PM.

T11 FC-FS Working Group Meeting Attendance – 2/6/01

Company Represented	Last Name	First Name	Email
Adaptec	MacLean	Neil	neil_maclean@corp.adaptec.com
Adaptec	Moore	Dennis	dmoore@ix.netcom.com
Boeing	Foster	Michael	Michael.s.foster@boeing.com
Boeing	Wilson	Steven H.	Steven.h.wilson@boeing.com
Brocade	Martin	Kreg	Kreg@brocade.com
Brocade	Wilson	Steven L.	swilson@brocade.com
Cisco Systems	DeSanti	Claudio	Cds@cisco.com
Cisco Systems	Peterson	David	dap@cisco.com
Connectivity Solutions	Kembel	Robert W.	kembel@compuserve.com
Crossroads Systems	Wanamaker	Neil	ntw@crossroads.com
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