

Minutes
T11.3 FC-FS-5 ad hoc work group regular meeting
05 December 2017 – 10:00AM – 12:00PM PST
Santa Rosa, CA, USA

The FC-FS-5 ad hoc work group of the Fibre Channel Protocol (T11.3) Task Group held a regular meeting at Santa Rosa, California on 05 December 2017, hosted by Broadcom-Brocade Storage Network Division. Attendance was 15 people from 7 organizations and is tabulated at the end of this document.

Minutes were taken by Patty Driever (IBM) (pgd@us.ibm.com). Please report any corrections by email to the T11.3 reflector at T11_3@mail.T11.org.

1 Opening remarks & Introductions

Chairperson Dave Peterson (Broadcom) opened the regular meeting Tuesday, 05 December 2017 at 09:52 AM PST. He thanked our host organization, Broadcom-Brocade Storage Network Division, and led a round of introductions.

1.1 Attendance and Membership

The chair explained that attendance is recorded electronically at www.incits.org, and explained the procedure. 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). The chair stated that all persons present are considered members of this meeting and may vote on questions, limited to one vote per company present. He advised that although T11 does not limit participation in the activities of its work groups to representatives of T11 member organizations, it requires nonmembers to identify themselves as such. Nonmembers that expect they may participate in the activities of T11 regularly were encouraged to become members.

1.2 Patents

The chair indicated that among the rules and policies under which this working group operates are the ANSI intellectual property policies as specified in pages 1-3 of http://www.incits.org/pat_slides.pdf. He displayed these pages without comment or explanation, and directed that questions about the policy should be referred to the questioner's legal counsel or the ANSI General Counsel.

1.3 Antitrust

The chair 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. As examples, there should never be discussion of the following topics at any INCITS or INCITS subgroup meeting:

- Any company's prices or pricing policies;
- Specific R&D, sales and marketing plans;
- Any company's confidential product, product development or production strategies;
- Whether certain suppliers or customers will be served;
- Prices paid to input sources; or
- Complaints about individual firms or other actions that might tend to hinder a competitor in any market.

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>.

2 Approval of Agenda

An agenda for the FC-FS-5 ad hoc work group regular meeting 05 December 2017 has been posted as T11-2017-00352-v000.

Dave made modifications to adjust some small errors plus add agenda item 5.3.

Roger Hathorn (IBM) moved and Howard Johnson (Broadcom) seconded to accept T11-2017-00352-v000 as modified as the agenda for this regular meeting. Approved unanimously.

3 Review of Past Business

3.1 Review of Minutes

Minutes for the FC-FS-5 ad hoc work group regular meeting 03 October 2017 have been posted as T11/2017-00305-v000.

Roger Hathorn (IBM) moved and Howard Johnson (Broadcom) seconded to accept T11/2017-00305v000 as the minutes of the FC-FS-5 ad hoc work group meeting on 03 October 2017. Approved unanimously.

3.2 Review of Old Action Items

Action Items Carried Forward from Prior Meetings:

None

New Action Items Identified Last Meeting:

- 1710-01 Anil to propose new wording on 32GFC in section 8.5.2 of FC-FS-5 to replace statement that 'For optical links transmitter training shall not be used' with a more clarifying one since various implementations interpreted this differently. New wording must allow those that did not use it at all with those that used it in the manner as clarified for 64GFC, where Training Frame Status field bit is set to 1 indicating the used of fixed coefficients, to both be compliant. **(COMPLETE)**
- 1710-02 Dave to post the document with Adrian's comments **(COMPLETE)**
- 1710-03 Adrian Butter to supply Dave with two diagrams for inclusion in FC-FS-5 in 2017-00171-v003. **(COMPLETE)**
- 1710-04 Dave to upload 2017-00171-v003, with resolution to the comments supplied by Adrian, to the document repository **(COMPLETE)**
- 1710-05 Editor to incorporate 2017-00171-v003 into FC-FS-5 **(COMPLETE)**

4 Old Business

4.1 ABTS and RRQ discussion – (2017-00238-v000) Peterson (Broadcom)

This discussion was deferred again to the next meeting.

5.0 Scheduled Business

5.1 Xilinx Public Review comment on FC-FS-4 (email)

Craig moved that the committee has reviewed this and no action is warranted at this time. If Xilinx wants to pursue this they need to come to the committee with a proposal to discuss. Seconded by Dave Peterson (Broadcom). This will be carried forward to T11.3 and T11 for their approval. Motion passed unanimously.

5.2 Comments against T11-2017-00171-v003 (2017-00342-v001) – (2017-00238-v000) Butter (Global Foundries)

The latest version of comments contains approximately 60 comments, including Adrian's plus some from Anil. Adrian walked through the doc and reviewed them, including proposed resolutions.

Adrian moved to incorporate changes documented in 2017-00342-v001 as modified for inclusion in FC-FS-5. Seconded by Craig Carlson (QLogic). Motion passed unanimously.

5.3 Proposed text to update Annex L with 64GFC & 256GFC compliance bit streams – (2017-00335-v001 & 2017-00337-v001) Butter (Global Foundries)

FC-FS-4 contains an informational annex with RS-FEC code word examples for 32GFC/126GFC. Significant differences between 32GFC/128GFC and 64GFC/256GFC processing of data for transmission drives the need to add a new set of examples. Adrian presented new text with 6 new examples. Global Foundries and Cavium have done validation of these (results duplicated by the two companies), so there is confidence that these are technically correct.

Adrian moved that the content of T11-2017-00337-v001 be included in FC-FS-5 as the RS-FEC code word examples informative annex with editorial license granted to the FC-FS-5 editor. Motion seconded by Craig Carlson. Motion passed unanimously.

6 Unscheduled Business

Dave Peterson moved that we move forward with a 'Request for Comments' 30-day ballot on the next revision (Rev.0.3) of FC-FS-5 (documented in 2017-00083-v002). Seconded by Craig Carlson. Motion passed unanimously.

Craig requested comments in spreadsheet format. He (or Dave) will supply a template for everyone to use.

7 Project Schedule

Milestone	Expected Date
Last technical input	October 2017
T11 Letter Ballot	February 2018
Forward to INCITS	TBD

8 Review of Action Items

Action Items Carried Forward:

None.

New Action Items:

- 1712-01 Adrian to post updates to document in 2017-00342-v001 as agreed to today in 2017-00342-v002.
- 1712-02 Editor to incorporate 2017-00342-v002 into FC-FS-5
- 1712-03 Chair to request T11.3 to move forward with a 30-day 'Request for Comment' ballot through INCITS on Rev. 0.3 of FC-FS-5
- 1712-04 Editor to incorporate 2017-00337-v001 into FC-FS-5

9 Meeting Schedule

9.1 Next Plenary Week

Request 6 hours for FC-FS-5 at the T11 plenary week in Fort Worth, TX, 05 February - 09 February 2018.

10 Adjournment

Howard Johnson (Broadcom) moved and Roger Hathorn (IBM) seconded to adjourn. Approved unanimously.

The regular meeting was adjourned at 11:10 AM PST on 05 December 2017.

11 Attendance

Organization	Representative	T11.3 Member Company
BROADCOM LIMITED	Gautam Shiroor	Y
BROCADE/BROADCOM	David Peterson	Y
BROCADE/BROADCOM	Howard Johnson	Y
BROCADE/BROADCOM	Anil Mehta	Y
BROCADE/BROADCOM	Steven L. Wilson	Y
CISCO SYSTEMS INC	Abhinav Chander	Y
CISCO SYSTEMS INC	Harsha Bharadwaj	Y
CISCO SYSTEMS INC	J Metz	Y
GLOBAL FOUNDRIES	Adrian Butter	Y
IBM	Patty Driever	Y
IBM	Roger Hathorn	Y
QLOGIC CORPORATION	Craig W. Carlson	Y
QLOGIC CORPORATION	Raul Oteyza	Y
TELEDYNE LECROY CORPORATION	Henry Poelstra	N
VIAVI SOLUTIONS	Jason Rusch	Y