

Minutes
T11.3 FC-FS-5 ad hoc work group regular meeting
06 February 2017 – 10:00AM – 12:00PM CST
07 February 2017 – 09:00AM – 12:00PM CST

Fort Worth, TX, USA

The FC-FS-5 ad hoc work group of the Fibre Channel Protocol (T11.3) Task Group held a regular meeting at Ft. Worth, Texas on 06 February 2018, hosted by Data Center Systems (DCS). Attendance was 19 people from 11 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, 06 February 2018 at 10:01 AM CST. He thanked our host organization, Data Center Systems (DCS), 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 03 October 2017 has been posted as T11-2018-00033-v000.

Roger Hathorn (IBM) moved and Fred Knight (NetApp) seconded to accept T11-2018-00033-v000 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 05 December 2017 have been posted as T11/2017-00376-v001. A missing action item (**1712-04** Editor to incorporate 2017-00337-v001 into FC-FS-5) was added to the initial version (v000) posted. Patty has also made additional minor updates regarding the documentation of the date of the October agenda and meeting minutes that were approved last meeting.

Roger Hathorn (IBM) moved and Fred Knight (NetApp) seconded to accept T11/2017-00376v001 as the minutes of the FC-FS-5 ad hoc work group meeting on 05 December 2017. Approved unanimously.

3.2 Review of Old Action Items

Action Items Carried Forward from Prior Meetings:

None

New Action Items Identified Last Meeting:

- 1712-01 Adrian to post updates to document in 2017-00342-v001 as agreed to today in 2017-00342-v002. **(COMPLETE)**
- 1712-02 Editor to incorporate 2017-00342-v002 into FC-FS-5 **(COMPLETE)**
- 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 **(COMPLETE)**
- 1712-04 Editor to incorporate 2017-00337-v001 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 RFC Ballot Resolution (T11-2018-00002-v001)

Craig reviewed the spreadsheet of letter ballot comments received and worked through them individually towards resolution. All of the comments were reviewed, with some remaining open to be addressed over the coming months in preparation for the April meeting. Resolutions are documented in a revision of the above document.

5.2 NVMe Queuing (T11-2018-00031-v000) - Bharadwaj (Cisco)

Harsha presented a proposal to change to FC-FS related to the NVMe queuing proposal that crosses multiple FC standard working groups. He feels that the current wording for Priority for Value 0 is confusing...today it indicates 'no priority'. Yet it is also described as meaning 'best effort' in Section 12.5.1.1 (where CS_CTL is defined). Harsha proposed wording changes to Section 12. 5.2 such that the phrase "that no priority has been assigned to the frame" be changed to say "that no priority has been assigned to the frame or is mapped to the "Best-Effort" priority class". Harsha showed that in FC-LS when it talks about QoS Priority (under Table 169, for Extensions to Priority Tagging) it describes a value of 00h as "No QoS priority provided (i.e. best effort)". However Howard pointed out that this section is about a specific implementation/use case of the priority field. The group seemed to feel that 'no priority has been assigned' is sufficient, and allows the implementer to do as they see fit. For NVMe, which is the target of Harsha's concern, we should be explicit about the value of 0 in that context/spec, but group consensus is that we don't need to change the base definition here in FC-FS.

6 Unscheduled Business

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:

None.

9 Meeting Schedule

9.1 Next Plenary Week

Request 4 hours for FC-FS-5 at the T11 plenary week in Deerfield Beach, FL, 02 April - 06 April 2018.

10 Adjournment

David Baldwin (Broadcom) moved and Jason Rusch (Viavi) seconded to adjourn. Approved unanimously.

The regular meeting was adjourned at 09:29 AM CST on 07 February 2018.

11 Attendance

Organization	Representative	T11.3 Member Company
BROADCOM LIMITED	David Baldwin	Y
BROADCOM LIMITED	David Peterson	Y
BROADCOM LIMITED	Howard Johnson	Y
BROADCOM LIMITED	James Smart	Y
BROADCOM LIMITED	Steven L. Wilson	Y
CISCO SYSTEMS INC	Mike Blair	Y
CISCO SYSTEMS INC	Harsha Bharadwaj	Y
CISCO SYSTEMS INC	J Metz	Y
DELL INC	Alan Rajapa	Y
FUJITSU AMERICA	Mark Malcolm	Y
GLOBAL FOUNDRIES	Adrian Butter	Y
HEWLETT PACKARD ENTERPRISE	Barry Maskas	Y
IBM	Patty Driever	Y
IBM	Roger Hathorn	Y
NETAPP	Frederick Knight	Y
QLOGIC CORPORATION	Craig W. Carlson	Y
QLOGIC CORPORATION	Raul Oteyza	Y
TELEDYNE LECROY CORPORATION	Henry Poelstra	N

VIAVI SOLUTIONS	Jason Rusch	Y
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