

Minutes

T11.3 FC-FS-6 ad hoc work group regular meeting

03 June 2019 – 02:30PM – 05:00PM CDT

Virtual Conference

The FC-FS-6 ad hoc work group of the Fibre Channel Protocol (T11.3) Task Group held a regular meeting via virtual conferencing using the Zoom platform on 03 June 2020, hosted by Marvell. Attendance was 13 people from 8 organizations and is tabulated at the end of this document.

Minutes were taken by Patty Driever (IBM) (pgd@us.ibm.com). Corrections may be requested either before the subsequent meeting by email to pgd@us.ibm.com or at the subsequent meeting in person.

1 Opening remarks & Introductions

Chairperson Dave Peterson (Broadcom) opened the regular meeting Wednesday, 03 June 2020 at 02:35 PM CDT. He thanked our host organization, Marvell, for setting up the Zoom meeting 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-6 ad hoc work group regular meeting 03 June 2020 has been posted as T11-2020-00112-v000.

Howard Johnson (Broadcom) moved and Roger Hathorn (IBM) seconded to accept T11-2020-00112-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-6 ad hoc work group regular meeting 08 April 2020 have been posted as T11/2020-00082-v000.

Howard Johnson (Broadcom) moved and Mark Malcolm (Fujitsu) seconded to accept T11/2020-00082-v000 as the minutes of the FC-FS-6 ad hoc work group meeting on 08 April 2020. Approved unanimously.

3.2 Review of Old Action Items

Action Items Carried Forward:

- 1910-01** Editor to remove Annex J and any references to it from the next draft version of FC-FS-6 (**CARRY**)
- 1910-02** Dave Peterson to work with Howard Johnson on best means to craft diagrams to ensure they can be incorporated by the editor using FrameMaker (**CARRY**)

New Action Items Identified Last Meeting:

None

4 Old Business

4.1 A Beautiful Day in the Neighborhood (2020-00011-v001 and 2020-00012-v001) Howard Johnson (Broadcom)

Based on the April meeting where we expanded Annex N to include some congestion signal examples, Howard made some modifications to address feedback received. He reviewed those changes, which basically included the addition of new examples he developed to address things. See 5.1.

5.0 New Business

5.1 Congestion Management Informative Annex Diagrams (2020-00068-v000) Johnson (Broadcom)

So we reviewed the examples Howard crafted. It was noted that we need to add a note at the beginning of the examples to indicate that they are just that--examples. Each example

is showing behavior when a particular algorithm or set of rules is applied. A different algorithm/set of rules would yield a different result against the same data. We also discussed using the same data in two examples where a different algorithm is applied to that data in order to show in example form how doing so yields different results.

6 Unscheduled Business

6.1 Target Credit Stall – A Proposal (2020-00004-v003) Johnson (Broadcom)

Defining the Frame Forwarding Value (F_F_TOV) is the key piece of the credit stall proposal that applies for FC-FS. Howard proposed adding a new subclause of 22.3 where timeout values such values as E_D_TOV and R_A_TOV are defined is added (as 22.3. 6) to describe this timeout value. There was an objection raised as to the need to have such a new timer to apply to devices (fabric is okay) without a clear indication that it will really solve anything. It will impact hardware and need to be applied to every transmit buffer.

When a target N_Port determines that its internal resources are being consumed too fast, it can send a new FPIN peer notification to initiators to indicate this situation exists, with the hopes of the initiator throttling the condition.

The timeout being proposed says when resources are exhausted an N_Port would have a foundation upon which to discard frames (today it's generally up to the fabric to drop them—although it was noted that there is a known N_Port implementation which does do this behavior). The benefit of the fabric telling the device it's hold time in the EDC exchange is to provide info to the N_Port implementations so they can decide when to take action before the F-Port does. Perhaps if the timer is described in the context of an optional descriptor within the EDC descriptor, rather than in FS-6, it might be more acceptable. Although with appropriate text it could also be defined in FS-6. Usage for switches may be easier to define than for devices. Howard to take back these thoughts and come back with a revised proposal.

7 Project Schedule

Milestone	Expected Date
Last technical input	TBD
T11 Letter Ballot	TBD
Forward to INCITS	TBD

Once the physical layer work progresses, we will have a better sense of how to set realistic dates for this.

8 Review of Action Items

Action Items Carried Forward:

1910-01 Editor to remove Annex J and any references to it from the next draft version of FC-FS-6. **(CARRY)**.

1910-02 Dave Peterson to work with Howard Johnson on best means to craft diagrams to ensure they can be incorporated by the editor using FrameMaker **(CARRY)**

New Action Items:

None

9 Meeting Schedule

9.1 Next Plenary Week

Request 3 hours for FC-FS-6 at the virtual T11 plenary week 10 August – 14 August 2020.

10 Adjournment

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

The regular meeting was adjourned at 03:44 PM CDT on 03 June 2020.

11 Attendance

Organization	Representative	T11.3 Member Company
BROADCOM LIMITED	Howard Johnson	Y
BROADCOM LIMITED	David Peterson	Y
BROADCOM LIMITED	James Smart	Y
BROADCOM LIMITED	Steven Wilson	Y
CISCO SYSTEMS INC	Mark Allen	Y
CISCO SYSTEMS INC	Mike Blair	Y
FUJITSU AMERICA INC	Mark Malcolm	Y
IBM	Patty Driever	Y
IBM	Roger Hathorn	Y
MARVELL SEMICONDUCTOR	Craig W. Carlson	Y
NETAPP INC	Frederick Knight	Y
TELEDYNE LECROY CORPORATION	Henry Poelstra	N
VIAVI SOLUTIONS	Jason Rusch	Y