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Minutes
T11.3 FC-FS-6 ad hoc work group regular meeting
07 June 2021 – 03:30PM – 05:00PM CDT
Virtual Conference

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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 07 June 2021, hosted by Marvell. Attendance was 15 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 Monday, 07 June 2021 at 04:02 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 Code of Conduct

The chair referenced the INCITS Code of Conduct and suggested everyone become familiar with its content. It can be found on the INCITS website at the following link: https://standards.incits.org/apps/group_public/document.php?document_id=124850&wg_abbrev=eb

It will be reviewed at the plenary meetings and in all Ad Hoc meetings as well.

1.3 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.

1.4 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 07 June 2021 has been posted as T11-2021-00130-v000.

Mike Blair (Cisco) moved and Dave Peterson (Broadcom) seconded to accept T11-2021-00130-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 05 April 2021 have been posted as T11/2021-00097-v000.

Mike Blair (Cisco) moved and Barry Maskas (HPE) seconded to accept T11/2021-00097-v000 as the minutes of the FC-FS-6 ad hoc work group meeting on 05 April 2021. Approved unanimously.

3.2 Review of Old Action Items

Action Items Carried Forward:

None

New Action Items Identified Last Meeting:

None

4 Old Business

4.1 End-to-End Data Protection with Encryption (2021-00087-v000) Carlson (Marvell)

Craig presented an update to the previous proposal on this topic of negotiating end-to-end CRC. Proposal in favor was to define a FC specific range out of the vendor specific range of vendor IDs for the Transform_ID to be used in the negotiation. Since FC-SP is not open now this proposal is really just to solicit comments on this. We may do an FC-SP amendment to cover this as well as adding support for TLS1.3. Craig will raise the question in T11.3 plenary as to how we want to proceed.

4.2 Sequential Delivery and FC (2021-00039-v002) Peterson (Broadcom)

Dave presented charts to try to conclude the discussion around sequential and in-order delivery. SW-8 talks about sequential delivery and points to FS, but FS talks about 'in-order' delivery. And LS defines the 'sequential delivery' bit. Normally things are delivered in-order, but FC-4s have to handle 'out of order' in any case. Dave is suggesting removing sequential and in/out of order delivery text. He uploaded 00131 version of the FC-FS-6 draft and included comments where he's proposing changes.

It was discussed however, that we should not totally remove all text regarding in-order delivery, but instead it should be couched in relation to "in order within the context of an exchange". And the case where a topology change could result in frames being delivered out of order from the order in which they were sent should be stated explicitly as well.

Dave to take this input into account and come back with proposed text changes.

5.0 New Business

5.1 In/Out of Order Cleanup (2021-00131-v000) Peterson (Broadcom)

This doc was the FC-FS-6 draft spec with comments as to where Dave felt changes were required. See above (4.2) for specifics of the discussion around this document.

5.2 BLSs – Mandatory or Optional (2021-00132-v000) Peterson (Broadcom)

Dave presented this to address the comment in FCP-5 raised because FC-FS-6 says an NX_port shall support *all* Basic Link Services, yet we defined ones for FCP-5 that are not mandatory. Dave is proposing we change the 'shall support all' to 'shall support' and add a column in Table 77 to indicate which BLSs are mandatory and which are optional. Dave wanted to make a motion that we accept these changes, but Mike called the 2-week rule so that there is time for Harsha to review the changes (since he made the FCP-5 comment that got us here).

5.3 Platform Name (2021-00133-v000) Peterson (Broadcom)

This is related to the lack of an identifier for an enclosure (that is clearly defined to be for the enclosure). GS-9 already has a concept of a Platform and a Platform name, and Dave is proposing that we just need to update FS-6 and LS-5 to point to that, with minor updates to FC-FS and FC-LS.

5.3 Missing condition/action in Train_Remote state (2021-00126-v000) Oteyza (Marvell)

Raul presented on a bit (the TF bit, bit 12 of the Transmitter Training signal) used in the TTS during Transmitter training. Seeking clarification on how devices should operate on a particular condition related to this bit. TF=1 is generally related to optical applications and TF=0 is generally related to copper applications. TF is both sent and received by each side of the link. When mixed TF status occurs, the spec is not clear on how endpoints should operate (e.g. sent TF=1 and receive TF=0 and vice versa). Raul proposed wording to clarify the behavior in both the Train_Local and Train_Remote sections of the spec. It was agreed that everyone should think more about this for next time and we can discuss again at next meeting.

6 Unscheduled Business

6.1

7 Project Schedule

Milestone	Expected Date
Last technical input	October 2021
RFC Ballot	February 2022
T11 Letter Ballot	TBD
Forward to INCITS	TBD

8 Review of Action Items

Action Items Carried Forward:

None

New Action Items:

2106-01   Everyone to review Raul's proposal (T11-2021-00126-v000) on training signal clarifications for further discussion next time.

9 Meeting Schedule

9.1 Next Plenary Week

Request 3 hours for FC-FS-6 at the hybrid face-to-face/virtual T11 plenary week 16 August – 20 August 2021.

10 Adjournment

Mike Blair (Cisco) moved and Howard Johnson (Broadcom) seconded to adjourn. Approved unanimously.
The regular meeting was adjourned at 04:24 PM CDT on 07 June 2020.

11 Attendance4

Organization	Representative	T11.3 Member Company
AMPHENOL CORP	Michael Klempa	Y
BROADCOM LIMITED	Howard Johnson	Y
BROADCOM LIMITED	David Peterson	Y
BROADCOM LIMITED	James Smart	Y
BROADCOM LIMITED	Steven Wilson	Y
CISCO SYSTEMS INC	Mike Blair	Y
CISCO SYSTEMS INC	Ed Mazurek	Y
CISCO SYSTEMS INC	Ramesh Sivakolundu	Y
DELL INC	David Brown	Y
HEWLETT PACKARD ENTERPRISE	Barry Maskas	Y
IBM	Patty Driever	Y
IBM	Roger Hathorn	Y
MARVELL SEMICONDUCTOR	Craig W. Carlson	Y
MARVELL SEMICONDUCTOR	Raul Oteyza	Y
NETAPP INC	Frederick Knight	Y