

Minutes

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

05 February 2019 – 11:00AM – 12:00PM CST

Fort Worth, TX, USA

The FC-FS-6 ad hoc work group of the Fibre Channel Protocol (T11.3) Task Group held a regular meeting at Fort Worth, Texas on 05 February 2019, hosted by Teledyne-LeCroy. Attendance was 15 people from 10 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 February 2019 at 10:31 AM CST. He thanked our host organization, Teledyne-LeCroy, 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 04 December 2018 has been posted as T11-2019-00007-v000.

Howard Johnson (Broadcom) moved and Roger Hathorn (IBM) seconded to accept T11-2019-00007-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 04 December 2018 have been posted as T11/2018-00332-v001.

Howard Johnson (Broadcom) moved and Roger Hathorn (IBM) seconded to accept T11/2018-00332-v001 as the minutes of the FC-FS-6 ad hoc work group meeting on 04 December 2018. Approved unanimously.

3.2 Review of Old Action Items

Action Items Carried Forward:

1808-01 Editor to incorporate 2018-00047-v006 into FC-FS-6. **(COMPLETE) Rev0.1 spec**

New Action Items Identified Last Meeting:

1812-01 Dave to post 2018-00266-v002. **(COMPLETE)**
1812-02 Editor to incorporate 2018-00266-v002 into FC-FS-6. **(COMPLETE)**
1812-03 Dave to forward Ralph's email to the T11 roster **(OVERTAKEN BY EVENTS – See 6.1)**

4 Old Business

5.0 Scheduled Business

5.1

6 Unscheduled Business

6.1 NAA Email from Ralph Weber

Ralph presented on the fact that IEEE has indicated that they expect to run out of MAC addresses. The 48-bit address specification specifies particular uses of some of the

bytes/bits. But they will no longer sell unique 24-bit Company IDs/OUIs. These bits include the ‘Locally Administered Address’ bit, but IEEE has been selling Company IDs with this bit set to 0 and OUIs have that bit set to 1. And they deprecated the 802.1 Universal LAN MAC Address (ULA).

Ralph wants to get FC-FS aligned with the current IEEE thinking. IEEE has been changing the meaning of the contents of the IEEE Name_Identifiers, so any current documentation of them is likely no longer correct. But T11 does own NAA format definitions. Basically Ralph wants to change the Name Identifiers clause of FC-FS, which will likely require a lot of red-lining. Ralph would like to know each company’s ‘sacred cows’ in this area so that we maintain what we need to, but we’ll likely need to at a minimum change all the IEEE mappings referred to.

Ralph and Fred are going to reach to IEEE to discuss updating T11 usage of company identifiers.

The issue came up where a new FC-NVMe vendor tried to get a 24 bit OUI, but was only able to get a 28 bit one, which doesn’t fit inside the FC-NVMe data structures that contain the value.

7 Project Schedule

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

8 Review of Action Items

Action Items Carried Forward:

None

New Action Items:

1902-01 Each member company is requested to review the current FC-FS specification of Name Identifiers to understand what elements cannot be changed.

1902-02 Chair to request interim conference call to discuss Name Identifier changes for 28 March 2019 at 3:00PM EST.

9 Meeting Schedule

9.1 Next Plenary Week

Request 2 hours for FC-FS-6 at the T11 plenary week in Deerfield Beach, Florida 08 April – 12 April 2019.

10 Adjournment

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

The regular meeting was adjourned at 11:00 AM CST on 05 February 2019.

11 Attendance

Organization **Representative** **T11.3 Member Company**

Organization	Representative	T11.3 Member Company
BROADCOM LIMITED	David Baldwin	Y
BROADCOM LIMITED	David Peterson	Y
BROADCOM LIMITED	Howard Johnson	Y
BROADCOM LIMITED	Steven L. Wilson	Y
CISCO SYSTEMS INC	Mike Blair	Y
DELL INC	Alan Rajapa	Y
FUJITSU AMERICA	Mark Malcolm	Y
HEWLETT PACKARD ENTERPRISE	Barry Maskas	Y
IBM	Patty Driever	Y
IBM	Roger Hathorn	Y
MARVELL SEMICONDUCTOR	Raul Oteyza	Y
MARVELL SEMICONDUCTOR	Craig W. Carlson	Y
NETAPP	Fred Knight	Y
VIAVI SOLUTIONS	Jason Rusch	Y
WESTERN DIGITAL	Ralph Weber	N