

Minutes

T11.3 FC-GS-8 ad hoc work group regular meeting

05 February 2019 – 1:30PM – 4:00PM CST

Fort Worth, TX, USA

The FC-GS-8 ad hoc work group of the Fibre Channel Protocol (T11.3) Task Group held a regular meeting at Fort Worth, TX 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 11:15 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-GS-8 ad hoc work group regular meeting 05 February 2019 has been posted as T11-2019-00009-v000.

Howard Johnson (Broadcom) moved and Mike Blair (Cisco) seconded to accept T11-2019-00009-v000 as the agenda for this regular meeting. Approved unanimously.

3 Review of Past Business

3.1 Review of Minutes

Minutes for the FC-GS-8 ad hoc work group regular meeting 04 December 2018 have been posted as T11/2018-00333-v000.

Minutes for the FC-GS-8 ad hoc interim conference call meeting 22 January 2019 have been posted as T11/2019-00013-v000.

Howard Johnson (Broadcom) moved and Mike Blair (Cisco) seconded to accept T11/2018-0033-v000 as the minutes of the FC-GS-8 ad hoc work group meeting on 04 December 2018 and T11/2019-00013-v000 as the minutes of the FC-GS-8 ad hoc interim conference call on 22 January 2019. Approved unanimously.

3.2 Review of Old Action Items

Action Items Carried Forward From Prior Meetings:

None

New Action Items Identified Last Meeting:

2018-12-01 Editor to incorporate 2018-00329-v000. **(CARRY)**

2018-12-02 Chair to schedule interim conference call for Tuesday, January 22nd at 2:00pm EST. **(COMPLETE)**

4 Old Business

4.1 How Low Can You Go? (2019-00014-v000) Johnson (Broadcom)

Howard did a follow-up on the proposal to add queue depths to FDMI. At the last meeting we asked for clarification of the description and explicitly have attributes individually articulated for the Initiator and Target.

Fred pointed out that each LUN could have its own queue depth that could be different, and you could have millions of LUNs. And he would oppose architecting a single value to cover this that in essence would force all LUNs to have the same value. But this registration would simply show the global setting that shows the value before the user tweaks them per LUN. So it's of limited value, but might there still be value? If registered, SAN administrators could get at this value and at least have a sense of the original global value...but what does this really tell them if what you're registering isn't what you're really running? Call it 'Initiator SCSI Target Port Per LUN Default Queue Depth'.

But Howard is trying to address a real issue where a SCSI Target Port gets flooded with unsolicited commands beyond its capability to handle, which causes things to back up into the fabric (via buffer credit starvation). He'd like to understand what value represents this 'unsolicited command full' problem...what's the resource that's relevant to this and can we register this value? Howard ultimately decided that down the road we could expand the FDMI specs in this area to gain more info (counts per port per target-initiator pairing, for example), but that's a significant amount of work...beyond GS-8. But for now all he really wants is counts of each port (initiators and targets) of their limits on number of open operations. One remaining issue with this is that ports that report are not physical ports....they could be logical NPIV ports. And with oversubscription the sum of the logicals does not likely represent the overall physical port limitation.

Howard will go back with all this info and re-think what he wants/needs to do with this one.

4.2 Port Speed Capabilities (2019-00012-v001) – Rusch (Viavi)

Jason reviewed the output of what was reviewed and agreed to in the interim call.

There was a lot of discussion centered around the port speed capabilities reported when the port speed has been administratively configured to a specific speed. Should we report what the ASIC/optics are capable of, or just the single speed that has been configured? We ultimately decided to leave this alone for now....we may add something as we go forward in order to know what speed has been configured in the case where a link is down and one cannot obtain it directly (through an ELS like RDP). People may choose to address this in LS or GS letter ballot.

Lots of other minor edits along the way.

One other relatively major decision was made: for the Enhance Fabric Configuration server, we will not make this look like the Extended commands we defined (i.e. with separate pages with speeds for separate Transport Types) We will leave the Fabric Configuration Server as discussed (section 6.2), but for Enhanced Fabric Configuration server (section 6.8) we will simply define new bits for new speeds (since we have room) and leave everything else as it is. We can address the transport type/paging concept in FC-GS-9.

Howard moved to incorporate 2019-00012-v001 as modified today into FC-GS-8. Seconded by Jason Rusch (Viavi). Motion passed unanimously.

5.0 Scheduled Business

6 Unscheduled Business

7 Project Schedule

Milestone	Expected Date
Last technical input	October 2018
RFC Letter Ballot	April 2019
T11 Letter Ballot	August 2019
Forward to INCITS	October 2019

Based on the amount of changes in flight we agreed to move out the Project Schedule dates by one meeting cycle as reflected in the table above.

8 Review of Action Items

Action Items Carried Forward:

2018-12-01 Editor to incorporate 2018-00329-v000. **(CARRY)**

New Action Items:

2019-02-01 Jason to post 2019-00012-v001 with updates agreed to today

2019-02-02 Editor to incorporate 2019-00012-v002

9 Meeting Schedule

9.1 Next Plenary Week

Request 3 hours for FC-GS-8 at the T11 plenary week in Deerfield Beach, FL, 08 April - 12 April 2019.

10 Adjournment

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

The regular meeting was adjourned at 03:43 PM CST on 05 February 2019.

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	Steven 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	Craig Carlson	Y
MARVELL SEMICONDUCTOR	Raul Oteya	Y
NETAPP	Frederick Knight	Y
TELEDYNE LECROY CORP	David Rodgers	Y
VIAVI SOLUTIONS	Jason Rusch	Y