



InterNational Committee for Information Technology Standards (INCITS)
Secretariat: Information Technology Industry Council (ITI)
1101 K Street NW, Suite 610, Washington, DC 20005
www.INCITS.org



T11-2020-00045-v000

**Minutes Fibre Channel Protocol
(T11.3) Task Group plenary meeting #132
2020 February 06 – 10:30 to 11:30 CST
Fort Worth, Texas, US**

1 Opening remarks and introductions

The chair convened plenary meeting #132 of the Fibre Channel Protocol (T11.3) Task Group on 2020 February 06 at 10:30 CST. He introduced himself as Craig Carlson (Marvell), and the group thanked Todd Wheeler and DCS, for the meeting facilities. Roger Hathorn introduced himself as Vice-Chair and Patty Driever (IBM) introduced herself as secretary. Members then introduced themselves.

2 Approval of the Agenda

An electronic version of the agenda, [T11-2020-00018-v000](#), and supporting documents were made available among the documents for this meeting. The agenda was in HTML format with links to the appropriate supporting documents. The chair presented the agenda and made a call for any new agenda items. No new items were requested.

David Peterson (Broadcom) moved and Alan Rajapa (Dell) seconded that [T11-2020-00018-v000](#) be approved as posted as the agenda for this meeting. The motion passed unanimously.

3 Administrative Matters

3.1 T11.3 Admin Is Trivia

The chair, Craig Carlson (Marvell), stated that T11.3 administrative information is available among the documents for this meeting: Starting with the web page <https://standards.incits.org/apps/org/workgroup/t11.3/> links lead to contact information for T11.3 officers, membership rules, project information, procedures and operating rules, patent rules, and internet resources. The chair recommended that members familiarize with these rules so the business of the Task Group may be conducted expeditiously.

Members were advised to see any of the officers if they require additional assistance.

3.2 Document Distribution

The chair instructed those present how to access meeting documents via the INCITS T11 Web Site Center page <https://standards.incits.org/apps/org/workgroup/t11/documents.php> The chair uploaded a zip file document containing all documents reviewed at this meeting: [T11-2020-00053-v000](#).

3.3 Other matters of grave concern

The chair instructed those present how to register using the electronic attendance list for this meeting. He reminded those present that the electronic attendance list would become the only formal record of attendance at this meeting.

4 Patents

The chair presented an overview of INCITS patent policies and guidelines, as found in INCITS Policies and Guidelines (<http://www.incits.org/standards-information/legal-info>), sub clause 8.4. In accordance with those policies, the chair made a call for patents that related to the standards being developed by this task group. Those companies wishing to file a patent declaration should send it to the chair of TC T11, with copies to Lynn Barra at INCITS (lbarra@itic.org).

5 Antitrust Policies

The chair noted that the INCITS Antitrust Guidelines applied to this task group meeting. The chair further noted that it was the responsibility of all attendees, and not just the officers, to ensure that the Guidelines are followed, and to terminate discussions if they are not. 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.

The INCITS Antitrust Guidelines are available on the INCITS web site (<http://www.incits.org/standards-information/legal-info>).

6 Attendance and Membership

6.1 Current membership list

The chair encouraged those who attend T11 meetings regularly or intend to attend T11 meetings regularly and are not T11 members to consider joining the organization.

Information on how membership is gained, maintained, and lost in any INCITS Technical Committee or Task Group may be found in INCITS Organization and Procedures (<http://www.incits.org/standards-information/policies>) sub clause 3.8. An overview of these requirements was introduced by the chair and was available to all attendees in the electronically distributed meeting documents.

The Vice-chair presented the current list of members and representatives, and invited corrections. The membership effective for this meeting, as adjusted for changes introduced at this meeting, is shown in Annex A. Attendance for this meeting is shown in Annex B.

6.2 Voting memberships in jeopardy

No company was in jeopardy after the last meeting.

6.3 Changes in Membership

6.3.1 Changes in representation since last meeting

Urmi Misra was removed as Alternate for NetApp Inc.. Other representation for NetApp remains the same.

Amit Bakshi and Rakesh Kathiresan Natarajan were added as Alternates for Teledyne LeCroy Corp. Other representation for Teledyne LeCroy remains the same.

6.3.2 New voting memberships

Teledyne-LeCroy requested, and was granted, voting membership at this meeting.

6.3.3 Voting memberships changed for other reasons

None

6.3.4 Changes in advisory membership

Microsoft Corporation was removed from the Advisory Membership list.

Hitachi Ventara was removed from the Advisory Membership list.

Foxconn Interconnect Technologies was removed from the Advisory Membership list.

6.3.5 Changes in emeritus membership

None

6.3.6 Membership for this meeting and call for quorum

Task Group T11.3 had 11 voting members at the previous T11.3 plenary meeting (December 05, 2019).

At this meeting, December 05, 2019:

- 1 new voting member organizations (see 6.3.2);
- 0 reinstated voting member organization (see 6.3.3)
- 0 voting member organizations losing voting membership for not attending the required number of meetings (see 6.2); and
- 0 voting member organizations losing voting membership for other reasons (see 6.3.3), the voting membership of T11.3 is now 12 members.

6.3.7 Quorum Call

10 voting members responded to the call for quorum. A quorum of one third of the voting membership for this meeting requires at least 4 voting members present. The number 10 exceeds or equals one third of the voting membership for this meeting and also exceeds or equals 4. A quorum is therefore present for this meeting.

7 Approval of Minutes - Meetings #131

The prior plenary meeting of the Fibre Channel Protocol (T11.3) Task Group was #131 on 2019 December 05. The draft minutes of that meeting were posted as document [T11-2019-00369-v000](#).

You may review the T11.3 minutes by reviewing the version that is posted on the web site and requesting corrections either before the subsequent meeting using the Internet mail reflector (fc_protocol@standards.incits.org) or at the subsequent meeting in person. Non-editorial and/or substantial requests for corrections will be noted in detail at the next plenary meeting prior to the plenary body voting on the minutes. Until approved by the plenary body, these minutes are unofficial draft minutes only.

Dave Peterson (Broadcom) moved and Alan Rajapa (Dell) seconded to accept at this meeting [T11-2019 - 003699-v000](#) as posted as the minutes of T11.3 meeting #131 on 2019 December 05. The motion passed unanimously.

See Action Item [20-001](#).

8 Review of Old Action Items

ACTION 19-022	T11.3 secretary to post T11-2019-00303-v001 as the approved minutes of T11.3 meeting #130.
ACTION 19-023	T11.3 secretary to post T11-2019-00369-v000 as the draft minutes of T11.3 meeting #131.
ACTION 19-024	Chair to request T11 accept T11-2019-00341-v001 as T11 letter ballot comment resolution and forward the resulting FC-NVMe-2 draft standard Rev. 1.08 contained in T11-2019-00210-v004 to INCITS for further processing.

All of the above action items were completed.

9 Liaison Reports

9.1 *TC T11 and INCITS*

T11 chair Steve Wilson (Brocade) asked if anyone wanted him to review the T11 TC report to other committees (posted as [T11-2019-00384-v000](#) . When no one requested a review of the report, Steve noted that the report is always available on the T11 web site for future inspection. Steve Wilson (Brocade) presented extracts relevant to T11.3 from the INCITS Report to T11 posted as [T11-2020-00019-v000](#).

9.2 *Other liaison reports*

No other liaison reports were presented.

10 Project Status

10.1 *FC-FS-6*

Dave Peterson (Broadcom) presented the information posted as [T11-2020-00006-v000](#) about FC-FS-6 ad hoc activity since the last plenary meeting of this Task Group.

10.2 *FC-GS-9*

Dave Peterson (Broadcom) presented the information posted as [T11-2020-00008-v000](#) about FC-GS-9 ad hoc activity since the last plenary meeting of this Task Group.

10.3 *FC-LS-5*

Patty Driever (IBM) presented the information posted as [T11-2020-00044-v000](#) about FC-LS-5 ad hoc activity since the last plenary meeting of this Task Group.

10.4 *FC-NVMe-2*

There was no meeting of this working group during this meeting cycle.

10.5 *FC-RDMA*

Dave Peterson (Broadcom) presented the information posted as [T11-2019-00052-v000](#) about FCP-5 ad hoc activity since the last plenary meeting of this Task Group.

10.6 *FC-SW-8*

Craig Carlson (Marvell) presented the information posted as [T11-2020-00047-v000](#) about FC-SW-7 ad hoc activity since the last plenary meeting of this Task Group.

10.7 FCP-5

Dave Peterson (Broadcom) presented the information posted as [T11-2019-00051-v000](#) about FCP-5 ad hoc activity since the last plenary meeting of this Task Group.

10.7 Joint T11.2/T11.3

Craig Carlson (Marvell) presented the information posted as [T11-2020-00039-v001](#) about Joint T11.2/T11.3 ad hoc activity since the last plenary meeting of this Task Group.

11 Other Business and Technical Items

12 Review T11.3 Project Status

The current project status is available among the electronically distributed meeting documents as well as on the INCITS web site

(https://standards.incits.org/apps/org/workgroup/portal/projects.php?end_in_year=_never_&page=1).

The chair asked that if the facilitators or anyone else finds errors that they inform him.

13 Future Meeting Schedule

13.1 *Plan for the next meeting week*

Amphenol will host the next T11 meeting on 2020 April 09 in Deerfield Beach, FL.

Refer to the INCITS T11 meeting web site page

(https://standards.incits.org/apps/org/workgroup/t11/documents.php?folder_id=2202) for the meeting announcement, which will always contain the latest information on future T11.3 plenary meetings.

PLEASE NOTE: If there is any conflict between the website schedule database, and the single ASCII sheet, the database is to be considered correct.

13.2 *Ad-hoc meetings*

Refer to the INCITS T11 meeting web site page for further details.

(https://standards.incits.org/apps/org/workgroup/t11/documents.php?folder_id=2202). This URL will always contain the latest announcements of pending work group interim meetings and teleconferences.

14 Action Items

ACTION 20-001	T11.3 secretary to post <u>T11-2019-00369-v001</u> as the approved minutes of T11.3 meeting #131. See Clause 7 .
ACTION 20-002	T11.3 secretary to post <u>T11-2020-00045-v000</u> as the draft minutes of T11.3 meeting #132.

15 Final Attendance Notice/Check

The chair reviewed the electronically registered attendance list, advised that the list was about to close, and reminded those who had not registered that the list would then become the only formal record of attendance at this meeting.

Chair also reminded everyone that physical presence at the meeting is required in order to count towards membership requirements. If you sign in but are not physically present at the meeting, the sign-in will be discarded by INCITS.

16 Adjournment

David Peterson (Broadcom) moved and Jason Rusch (Viavi) seconded to adjourn at 2020 February 06 10:50 AM CST. The motion passed unanimously.

A Membership

Reflecting the changes at this meeting, the voting membership of T11.3 for this meeting is:

Organization	Name	Principal/ Alternate
Amphenol Corporation	Chris Lyon	Principal
	Hu Silver	Alternate
Broadcom Inc	David Baldwin	Principal
	Ben Chu	Alternate
	Mark Jones	Alternate
	David Peterson	Alternate
	James Smart	Alternate
	Steven L. Wilson	Alternate
Cisco Systems, Inc.	Mike Blair	Principal
	Mark Allen	Alternate
	Harsha Bharadwaj	Alternate
	Fabio Maino	Alternate
	J Metz	Alternate
	Joe Pelissier	Alternate
	Xiaohong Wu	Alternate

Dell	Alan Rajapa David Black David Brown Gaurav Chawla Erik Smith Joseph White Jeff Young	Principal Alternate Alternate Alternate Alternate Alternate Alternate
Fujitsu	Mark Malcolm Kun Katsumata Gene Owens	Principal Alternate Alternate
Global Foundries	John Ewen	Principal
Hewlett Packard Enterprise	Barry Maskas Rupin Mohan Krishna Babu Puttagunta	Principal Alternate Alternate
IBM Corporation	Roger Hathorn Patty Driever Stephen Guendert	Principal Alternate Alternate
Marvell Semiconductor Inc	Craig W. Carlson Raul Oteyza Alan Spalding Darren Trapp Dean Wallace	Principal Alternate Alternate Alternate Alternate
NetApp Inc	Frederick Knight	Principal
Teledyne LeCroy Corporation	David Rodgers Amit Bakshi Rakesh Kathiresan Natarajan Douglas Lee Henry Poelstra	Principal Alternate Alternate Alternate Alternate
Viavi Solutions Inc.	Jason Rusch Scott Baxter George Bullis Paul Gentieu	Principal Alternate Alternate Alternate

Reflecting the changes at this meeting, the advisory (i.e., nonvoting) membership of T11.3 for this meeting is:

Organization	Name	Principal/ Alternate
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Futurewei Technologies Inc	Timothy Jeffries Lei Wang	Principal Alternate
MediaTek USA Inc	Tamer Ali Mau-Lin Wu	Principal Alternate
TE Connectivity	Matt Schumacher	Principal
Unisys Corporation	Jeffrey Dremann Phil Shelton	Principal Alternate
VMware Inc	Neil MacLean Wenchao Cui Wenhua Liu Murali Rajagopal Ahmad Tawil	Principal Alternate Alternate Alternate Alternate

Reflecting the changes at this meeting, these people have been granted Emeritus membership in INCITS Fibre Channel (T11) Technical Committee, recognizing their many years of skilled leadership and high quality technical contribution:

- Dr. William Ham
- Mr. Gary Stephens
- Mr. James Coomes
- Mr. Robert Kembel
- Mr. Joseph Mathis
- Mr. Horst Truustedt

B Attendance

The following table lists those persons who electronically recorded their attendance at this plenary meeting. This includes representatives from voting member companies and may include representatives from non-voting advisory companies, as well as non-voting emeritus members and visitors.

This table also records the affiliations claimed by those who registered their attendance. The presence of a company or organization in the affiliation column does not imply that it is a member of T11.3, nor does it imply that the person in attendance is a representative of that company or organization.

See "Section A: Membership" above for a complete list of voting members of T11.3 as well as a list of non-voting advisory companies and emeritus members.

Sequence	Affiliation	Name
1	BROADCOM INC	David Peterson
2	BROADCOM INC	Steven L. Wilson
3	CISCO SYSTEMS INC	Mark Allen
4	CISCO SYSTEMS INC	Harsha Bharadwaj
5	CISCO SYSTEMS INC	Mike Blair
6	DELL INC	Alan Rajapa
7	FUJITSU AMERICA INC	Mark Malcolm
8	HEWLETT PACKARD ENTERPRISE	Barry Maskas
9	IBM CORPORATION	Patty Driever
10	IBM CORPORATION	Roger Hathorn
11	MARVELL SEMICONDUCTOR INC	Craig W. Carlson
12	NETAPP INC	Frederick Knight
13	TELEDYNE LECROY CORPORATION	Henry Poelstra
14	VIAVI SOLUTIONS	Jason Rusch

C Attendance at Ad Hoc Meetings

C.1 FC-NVMe-2

This working group was not active during this meeting cycle.

Organization	Representative	Member Company
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C.2 FC-LS-5

Organization	Representative	Member Company
Broadcom Inc	David Baldwin	Y
Broadcom Inc	Howard Johnson	Y
Broadcom Inc	David Peterson	Y
Broadcom Inc	Steven Wilson	Y
Cisco Systems Inc	Harsha Bharadwaj	Y
Cisco Systems Inc	Mike Blair	Y
Corning Inc	David Kozischek	N
Dell Inc.	Alan Rajapa	Y
Fujitsu America Inc	Mark Malcolm	Y
Hewlett-Packard Enterprise	Barry Maskas	Y
IBM Corporation	Patty Driever	Y
IBM Corporation	Roger Hathorn	Y
Marvell Semiconductor Inc	Craig Carlson	Y
Marvell Semiconductor Inc	Raul Oteyza	Y
NetApp Inc	Frederick Knight	Y
Teledyne LeCroy Corporation	Henry Poelstra	Y
Teledyne LeCroy Corporation	David Rodgers	Y
Viavi Solutions Inc	Jason Rusch	Y

C.3 FC-FS-6

Organization	Representative	Member Company
Broadcom Inc	David Baldwin	Y
Broadcom Inc	David Peterson	Y
Broadcom Inc	Howard Johnson	Y
Cisco Systems Inc	Mike Blair	Y
Cisco Systems Inc	Harsha Bharadwaj	Y
Dell Inc.	Alan Rajapa	Y
Fujitsu America Inc	Mark Malcolm	Y
Hewlett-Packard Enterprise	Barry Maskas	Y
IBM Corporation	Patty Driever	Y
IBM Corporation	Roger Hathorn	Y
Marvell Semiconductor Inc	Craig W. Carlson	Y
NetApp Inc	Frederick Knight	Y
Teledyne LeCroy Corporation	Henry Poelstra	Y
Viavi Solutions	Jason Rusch	Y

C.4 FC-SW-8

Organization	Representative	Member Company
Broadcom Inc	Howard Johnson	Y
Broadcom Inc	David Peterson	Y
Broadcom Inc	David Baldwin	Y
Cisco Systems Inc	Mike Blair	Y
Cisco Systems Inc	Mark Allen	Y
Cisco Systems Inc	Harsha Bharadwaj	Y
Dell Inc	Alan Rajapa	Y
Fujitsu America Inc	Mark Malcolm	Y
Hewlett-Packard Enterprise	Barry Maskas	Y
IBM Corporation	Patty Driever	Y
IBM Corporation	Roger Hathorn	Y
NetApp Inc	Frederick Knight	Y
Viavi Solutions	Jason Rusch	Y

C.5 FC-RDMA

Organization	Representative	Member Company
Broadcom Inc	David Baldwin	Y
Broadcom Inc	Howard Johnson	Y

Broadcom Inc	David Peterson	Y
Broadcom Inc	Steven Wilson	Y
Cisco Systems Inc	Mike Blair	Y
Cisco Systems Inc	Mark Allen	Y
Cisco Systems Inc	Harsha Bharadwaj	Y
Dell Inc.	Alan Rajapa	Y
Fujitsu America Inc	Mark Malcolm	Y
Hewlett-Packard Enterprise	Barry Maskas	Y
IBM Corporation	Patty Driever	Y
IBM Corporation	Roger Hathorn	Y
NetApp Inc	Frederick Knight	Y

C.6 FC-GS-9

Organization	Representative	Member Company
Broadcom Inc	David Baldwin	Y
Broadcom Inc	Howard Johnson	Y
Broadcom Inc	Dennis Makishima	Y
Broadcom Inc	David Peterson	Y
Broadcom Inc	Steven Wilson	Y
Cisco Systems Inc	Mike Blair	Y
Cisco Systems Inc	Mark Allen	Y
Cisco Systems Inc	Harsha Bharadwaj	Y
Dell Inc.	Alan Rajapa	Y
Fujitsu America Inc	Mark Malcolm	Y
Hewlett-Packard Enterprise	Barry Maskas	Y
IBM Corporation	Patty Driever	Y
IBM Corporation	Roger Hathorn	Y
NetApp Inc	Frederick Knight	Y
Viavi Solutions	Jason Rusch	Y

C.7 Joint T11.2/T11.3

Organization	Representative	Member Company
Amphenol Corporation	Gregory McSorley	Y
Broadcom Inc	David Baldwin	Y
Broadcom Inc	Ben Chu	Y
Broadcom Inc	Howard Johnson	Y
Broadcom Inc	David Baldwin	Y
Broadcom Inc	Steven Wilson	Y
Cisco Systems Inc	Mike Blair	Y
CommScope	Gary Gibbs	Y
Corning Inc	David Kozischek	Y

Fujitsu America Inc	Mark Malcolm	Y
Hewlett-Packard Enterprise	Barry Maskas	Y
IBM Corporation	Patty Driever	Y
IBM Corporation	Roger Hathorn	Y
Marvell Semiconductor Inc	Craig Carlson	Y
Marvell Semiconductor Inc	Raul Oteyza	Y
OFS Fitel LLC	Mabud Choudhury	Y
Teledyne LeCroy Corporation	Henry Poelstra	Y
Teledyne LeCroy Corporation	David Rodgers	Y
Viavi Solutions Inc	Jason Rusch	Y