



InterNational Committee for Information Technology Standards (INCITS)
Secretariat: Information Technology Industry Council (ITI)
700 K Street NW, Suite 600, Washington, DC 20001
www.INCITS.org



T11-2022-00199-v000

**Minutes Fibre Channel Protocol
(T11.3) Task Group plenary meeting #146
2022 June 16 – 10:30AM to 11:30AM CDT
Duluth, MN + Virtual
Meeting**

1 Opening remarks and introductions

The Chair convened plenary meeting #146 of the Fibre Channel Protocol (T11.3) Task Group on 2022 June 16 at 10:34 CDT. He introduced himself as Craig Carlson (Marvell), and the group thanked Marvell for the hotel arrangements and for the virtual meeting facility. Roger Hathorn (IBM) introduced himself as Vice-Chair and Patty Driever (IBM) introduced herself as secretary. Members present and on Zoom introduced themselves.

2 Approval of the Agenda

An electronic version of the agenda, [T11-2022-00172-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 Jason Rusch (Viavi) seconded that [T11-2022-00172-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 Vice-chair, Roger Hathorn (IBM), 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 Vice-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: [T11-2022-00191-v000](#).

3.3 Other matters of grave concern

The Vice-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 Code of Conduct

The Vice-Chair reminded everyone that we are operating under the INCITS Code of Conduct (found at <https://www.incits.org/standards-information/policies>). The General Principles of this code include:

- Respect others
- Behave ethically
- Escalate and resolve disputes
- Work for the net benefit of the community
- Uphold consensus and governance
- Agree to a clear purpose and scope
- Participate actively and manage effective participation

5 Patents

The Vice-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).

6 Antitrust Policies

The Vice-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>).

7 Attendance and Membership

7.1 Current membership list

The Vice-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.

7.2 Roll Call of Members in Jeopardy; Jeopardy Letter (Non-Attendance and Letter Ballots)

No company was in jeopardy for this meeting cycle.

7.3 Announcement of New Members & Membership List Update

7.3.1 Changes in representation since last meeting

Yi Tang was added as Alternate for Cisco Systems, Inc. All other representation for Cisco remains the same.

Dwayne Crawford was added as an Alternate for TE Connectivity. All other representation for TE Connectivity remains the same.

7.3.2 New voting memberships

No new voting memberships were granted at this meeting.

7.3.3 Voting memberships changed for other reasons

No changes to voting memberships were made at this meeting.

7.3.4 Changes in advisory membership

No changes to advisory memberships were made at this meeting.

7.3.5 Changes in emeritus membership

None

7.4 Call for Quorum

7.4.1 Membership for this meeting and call for quorum

Task Group T11.3 had 10 voting members at the previous T11.3 plenary meeting (April 07, 2022). At this meeting, June 16, 2022:

- 0 new voting member organizations (see 7.3.2);
- 0 reinstated voting member organization (see 7.3.3)
- 0 voting member organizations losing voting membership for not attending the required number of meetings (see 7.2); and
- 0 voting member organizations losing voting membership for other reasons, the voting membership of T11.3 remains at 10 members.

7.4.2 Quorum Call

9 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 9 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.

8 Approval of Minutes - Meetings #145

The prior plenary meeting of the Fibre Channel Protocol (T11.3) Task Group was #145 on 2022 April 07. The draft minutes of that meeting were posted as document [T11-2022-00129-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 [Roger Hathorn \(IBM\)](#) seconded to accept at this meeting [T11-2022-00129-v000](#) as the minutes of T11.3 meeting #145 on 2022 April 07. The motion passed

unanimously.

See Action Item [22-007](#).

9 Review of Old Action Items

ACTION 22-003	T11.3 secretary to post T11-2021-00042-v001 as the approved minutes of T11.3 meeting #144.
ACTION 22-004	T11.3 secretary to post T11-2022-00129-v000 as the draft minutes of T11.3 meeting #145.
ACTION 22-005	T11.3 chair to send the approved Statement of Work for the task group as documented in T11-2022-00115-v001 to the INCITS Secretariat for approval and posting.
ACTION 22-006	T11.3 chair to forward the FC-NVMe-3 revised project proposal as documented in T11-2022-00085-v001 to T11 for further processing.

All of the above action items were completed.

10 Liaison Reports

10.1 TC T11 and INCITS

T11 chair Steve Wilson (Brocade) has posted the T11 TC report to other committees (posted as [T11-2022-00161-v000](#) along with the INCITS Report to T11 posted as [T11-2022-00182-v000](#). Since these will be reviewed in the T11 plenary we did not review them during this meeting but they are available online for review.

10.2 Other liaison reports

No other liaison reports were presented.

11 Project Status

11.1 FC-FS-6

[Dave Peterson \(Broadcom\)](#) presented the information posted as [T11-2022-00176-v000](#) about FC-FS-6 ad hoc activity since the last plenary meeting of this Task Group.

11.2 FC-GS-9

Dave Peterson (Broadcom) presented the information posted as [T11-2022-00174-v000](#) about FC-GS-9 ad hoc activity since the last plenary meeting of this Task Group.

11.3 FC-LS-5

Patty Driever (IBM) presented the information posted as [T11-2022-00210-v000](#) about FC-LS-5 ad hoc activity since the last plenary meeting of this Task Group.

11.4 FC-NVMe-3

Craig Carlson (Marvell) presented the information posted as [T11-2022-00216-v000](#) about FC-NVMe-3 ad hoc activity since the last plenary meeting of this Task Group.

11.5 FC-RDMA

Craig Carlson (Marvell) presented the information posted as [T11-2022-00215-v000](#) about FC-PM ad hoc activity since the last plenary meeting of this Task Group.

11.6 FC-SP-2/AM2

Roger Hathorn (IBM) presented the information posted as [T11-2022-00189-v000](#) about FC-SP-2/AM2 ad hoc activity since the last plenary meeting of this Task Group.

11.7 FC-SW-8

Craig Carlson (Marvell) presented the information posted as [T11-2022-00214-v000](#) about FC-SW-8 ad hoc activity since the last plenary meeting of this Task Group.

11.8 FCP-5

There was no meeting of the FCP-5 ad hoc Task Group during this meeting cycle.

11.9 Joint T11.2/T11.3

There was no meeting of the Joint T1.2/T11.2 Task Group during this meeting cycle.

12 Other Business and Technical Items.

12.1 Profile Study Group

Some of the changes that have been made over time in FC-GS and other T11 working group standards have called into question the ‘currency’ of the data contained in the FC-DA-2 and FC-MI-3 technical reports.

Craig Carlson (Marvell) moved that we establish an informal Ad Hoc Group to understand what, if anything, needs to be done relative to updating the current FC-DA-2 and FC-MI-3 technical reports. Dave

Peterson (Broadcom) seconded the motion. Motion carried: In Favor – 9, Opposed – 0, Abstain - 0.

13 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](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.

14 Future Meeting Schedule

14.1 Plan for the next meeting week

The next meeting cycle will be a hybrid of both face-to-face in Itasca, IL (outside Chicago) and virtual via Zoom the week of August 08-12. More discussion on this will occur at the T11 plenary meeting. Cisco will host the face-to-face portion and Marvell will continue to provide the Zoom virtual meeting capability.

Refer to the INCITS T11 meeting web site page

(https://standards.incits.org/apps/org/workgroup/t11/documents.php?folder_id=2213) 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.

14.2 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.

15 Action Items

ACTION 22-007	T11.3 secretary to post T11-2021-00129-v001 as the approved minutes of T11.3 meeting #145. See Clause 8 .
ACTION 22-008	T11.3 secretary to post T11-2022-00199-v000 as the draft minutes of T11.3 meeting #146.

16 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 (via Face-to-Face or dial-in during the meeting) is required in order to count towards membership requirements. If you sign in but are not physically present (or logged in at the meeting for hybrid meetings), the sign-in will be discarded by INCITS.

17 Adjournment

David Peterson (Broadcom) moved and Jason Rusch (Viavi) seconded to adjourn at 2022 June 16 10:50 AM CDT. 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 Paul Coddington Michael Klempa Sam Kocsis Hu Silver	Principal Alternate Alternate Alternate Alternate
Broadcom Inc	David Peterson Ben Chu Howard Johnson Mark Jones James Smart Anil Veerabhadrapa Steven L. Wilson	Principal Alternate Alternate Alternate Alternate Alternate Alternate
Cisco Systems, Inc.	Mike Blair Harsha Bharadwaj Fabio Maino Edward Mazurek Mark Nowell Sai Pavan Kiran Ranabhor Ramesh Sivakolundu Yi Tang Xiaohong Wu	Principal Alternate Alternate Alternate Alternate Alternate Alternate Alternate Alternate Alternate
Dell	Erik Smith Jai Bansai David Black David Brown Vinay Sawal Joseph White	Principal Alternate Alternate Alternate Alternate Alternate

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 Andrew Joy Raul Oteyza Alan Spalding Dean Wallace	Principal Alternate Alternate Alternate Alternate
NetApp Inc	Frederick Knight	Principal
Teledyne LeCroy Corporation	Henry Poelstra Amit Bakshi Rakesh Kathiresan Natarajan Nick Kriczky Douglas Lee Srikant Tadigadapa Jim Yasueda	Principal Alternate Alternate 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
Credo Semiconductor	Phil Sun Dr. Fang Cai Yasuo Hidaka	Principal Alternate Alternate
Futurewei Technologies Inc	Victor Cao Timothy Jeffries	Principal Alternate
MediaTek USA Inc	Tamer Ali Mau-Lin Wu	Principal Alternate
TE Connectivity	Daniel Gorenc Dwayne Crawford Matt Schumacher	Principal Alternate Alternate

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. Robert Kembel
Mr. Joseph Mathis
Mr. Horst Truestedt

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.

Sequence	Affiliation	Name	In Person
1	AMPHENOL CORP	Paul Coddington	Y
2	BROADCOM INC	Howard Johnson	N
3	BROADCOM INC	David Peterson	Y
4	BROADCOM INC	Steven L. Wilson	Y
5	CISCO SYSTEMS INC	Mike Blair	N

6	CISCO SYSTEMS INC	Ramesh Sivakolundu	N
7	DELL INC	David Brown	N
8	HEWLETT PACKARD ENTERPRISE	Barry Maskas	N
9	HEWLETT PACKARD ENTERPRISE	Krishna Babu Puttagunta	N
10	IBM CORPORATION	Patty Driever	Y
11	IBM CORPORATION	Roger Hathorn	Y
12	MARVELL SEMICONDUCTOR INC	Craig Carlson	Y
13	NETAPP INC	Frederick Knight	Y
14	VIAVI SOLUTIONS INC	Jason Rusch	Y

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.

C Attendance at Ad Hoc Meetings

C.1 FC-NVMe-3

Organization	Representative	Member Company
Broadcom Inc	Howard Johnson	Y
Broadcom Inc	David Peterson	Y
Cisco Systems Inc	Harsha Bharadwaj	Y
Cisco Systems Inc	Edward Mazurek	Y
Dell Inc	David Brown	Y
IBM Corporation	Patty Driever	Y
IBM Corporation	Roger Hathorn	Y
Marvell Semiconductor Inc	Craig Carlson	Y
NetApp Inc	Frederick Knight	Y
Viavi Solutions Inc	Jason Rusch	Y

C.2 FC-LS-5

Organization	Representative	Member Company
Broadcom Inc	Howard Johnson	Y
Broadcom Inc	David Peterson	Y
Cisco Systems Inc	Harsha Bharadwaj	Y
Cisco Systems Inc	Mike Blair	Y
Cisco Systems Inc	Edward Mazurek	Y
Dell Inc	David Brown	Y
IBM Corporation	Patty Driever	Y
IBM Corporation	Roger Hathorn	Y
Marvell Semiconductor Inc	Craig Carlson	Y
NetApp Inc	Frederick Knight	Y
Viavi Solutions Inc	Jason Rusch	Y

C.3 FC-FS-6

Organization	Representative	Member Company
Broadcom Inc	David Peterson	Y
Cisco Systems Inc	Mike Blair	Y
Cisco Systems Inc	Ed Mazurek	Y
Dell Inc	David Brown	Y
Hewlett Packard Enterprise	Barry Maskas	Y
IBM Corporation	Patty Driever	Y
IBM Corporation	Roger Hathorn	Y

Marvell Semiconductor Inc	Craig W. Carlson	Y
Marvell Semiconductor Inc	Raul Oteyza	Y
Viavi Solutions Inc	Jason Rusch	Y

C.4 FC-SW-8

Organization	Representative	Member Company
Broadcom Inc	Howard Johnson	Y
Broadcom Inc	David Peterson	Y
Cisco Systems Inc	Harsha Bharadwaj	Y
Cisco Systems Inc	Edward Mazurek	Y
Dell Inc	David Brown	Y
IBM Corporation	Patty Driever	Y
IBM Corporation	Roger Hathorn	Y
Marvell Semiconductor	Craig Carlson	Y
NetApp Inc	Frederick Knight	Y
Viavi Solutions Inc	Jason Rusch	Y

C.5 FC-RDMA

Organization	Representative	Member Company
Broadcom Inc	Howard Johnson	Y
Broadcom Inc	David Peterson	Y
Cisco Systems Inc	Harsha Bharadwaj	Y
Cisco Systems Inc	Edward Mazurek	Y
Dell Inc	David Brown	Y
IBM Corporation	Patty Driever	Y
IBM Corporation	Roger Hathorn	Y
Marvell Semiconductor Inc	Craig Carlson	Y
NetApp Inc	Frederick Knight	Y
Viavi Solutions Inc	Jason Rusch	Y

C.6 FC-GS-9

Organization	Representative	Member Company
Broadcom Inc	Howard Johnson	Y
Broadcom Inc	David Peterson	Y
Cisco Systems Inc	Harsha Bharadwaj	Y
Cisco Systems Inc	Edward Mazurek	Y

Dell Inc	David Brown	Y
IBM Corporation	Patty Driever	Y
IBM Corporation	Roger Hathorn	Y
NetApp Inc	Frederick Knight	Y
Viavi Solutions Inc	Jason Rusch	Y

C.7 FC-SP-2/AM2

Organization	Representative	Member Company
Broadcom Inc	David Peterson	Y
Cisco Systems Inc	Edward Mazurek	Y
Hewlett Packard Enterprise	Barry Maskas	Y
IBM Corporation	Patty Driever	Y
IBM Corporation	Roger Hathorn	Y
Marvell Semiconductor Inc	Craig Carlson	Y
NetApp Inc	Frederick Knight	Y
Viavi Solutions Inc	Jason Rusch	Y

C.8 Joint T11.2/T11.3

Organization	Representative	Member Company
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