



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



T11-2018-00255-v000

**Approved Minutes
INCITS Fibre Channel (T11) Technical Committee
Regular Meeting #147
7 June 2018 – 1 PM to 4 PM MDT
Santa Fe, NM**

1 Opening Remarks and Introductions

1.1 Introductory Remarks

TC T11 chair Steve Wilson (Broadcom) convened regular meeting #147 of the INCITS Fibre Channel (T11) Technical Committee on Thursday, 7 June 2018 at 1:02 PM MDT. He introduced himself, and thanked our host Craig Carlson and QLogic for the meeting facilities and amenities.

He next introduced Craig Carlson (QLogic) as vice chair and Richard Johnson (Finisar) as secretary.

1.2 Self-introductions

The chair requested those present to introduce themselves, with identification of the organizations they represent.

1.3 Operating under INCITS Procedures

1.3.1 Patent Information

The chair indicated that among the rules and policies under which this Technical Committee operates are the ANSI intellectual property policies as specified in pages 1-3 of INCITS patent policy slides available from <http://www.incits.org/standards-information/legal-info>.

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.

1.3.2 Antitrust Guidelines

The chair indicated that among the rules and policies under which this Technical Committee operates are the INCITS Antitrust Guidelines as specified in <http://www.incits.org/standards-information/legal-info>. Any person present at 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.

1.3.3 Public access rules

The chair indicated that among the rules and policies under which this Technical Committee operates are the INCITS rules for operating in Public Access Mode, as specified in Section 3.11 of INCITS Organization, Policies, and Procedures (found at <http://www.incits.org>).

The chair encouraged those nonmembers who attend T11 meetings regularly or intend to attend T11 meetings regularly to join the organization. He further advised that nonmembers, by remaining in this meeting, acknowledge that they understand and agree to the policies of this meeting.

1.4 Attendance

The chair instructed those present how to register using the electronic attendance list for this meeting, found via the URL <http://standards.incits.org/login>. He reminded those present that both the electronic attendance list and physical presence at the meeting will be required to qualify as attendance for formal records of this meeting.

2 Approval of the Agenda

An electronic version of the agenda was posted as T11-2018-00149-v001. The chair presented the agenda with final updates as T11-2018-00149-v002 and made a call for any changes and new agenda items. No changes or new items were requested.

Steve Sekel (Keysight) moved and Chris Lyon (Amphenol) seconded that T11-2018-00149-v002 as presented at this meeting be approved as the agenda for this meeting. The motion passed by acclamation.

3 Attendance and Membership

3.1 Gaining and Losing Voting Membership

Information on how membership is gained, maintained, and lost in any INCITS Technical Committee or Task Group may be found in the INCITS Organization, Policies, and Procedures found at <http://www.incits.org>. An overview of these requirements was introduced by the chair and was available to all attendees among 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.1. Attendance for this meeting is shown in annex A.2. Attendance for the ad hoc meetings is shown in annex A.3.

3.2 Changes in Representation Since the Last Meeting

The following changes in representation have been made since the last meeting:

- **Foxconn Technology:** Randy Clark is removed from the membership list.
- **MediaTek USA Inc:** Mau-Lin Wu is added as Alternate.
- **SmartDV Technologies India Private Limited:** Tamil Selvan Ramanathan is added as

Alternate.

- **TE Connectivity:** Melissa Knox and Andy Nowak are removed from the membership list.
- **VMWare:** Wenhau Liu, Ping Huang, and Wenchao Cui are added as Alternates.

3.3 New Voting Memberships

- **Keysight** has regained voting membership effective this meeting.

3.4 Voting memberships in jeopardy for attendance

- **TE Connectivity** was in jeopardy for non-attendance, and loses voting membership effective this meeting.

3.5 Voting memberships in jeopardy for non-payment of dues

- No member is in jeopardy for non-payment of dues for this meeting cycle.

3.6 Voting memberships in jeopardy for letter ballot performance

- No member is in jeopardy for letter ballot performance.

3.7 Membership for this meeting

Technical Committee T11 had 21 voting members at the T11 regular meeting 5 April 2018. With one member gaining voting membership and one member losing voting membership, the voting membership of T11 remains at 21 effective this meeting.

Reflecting the above changes, the voting membership of T11 for this meeting is recorded in [annex A.1.2](#).

Reflecting the above changes, the advisory (i.e., nonvoting) membership of T11 for this meeting is recorded in [annex A.1.3](#).

3.8 Call for members of the press and journalists

The chair requested members of the press and journalists to introduce themselves. No person attending the meeting made such an introduction.

3.9 Call for Quorum

The total membership for this meeting is 21. One third of the total membership for this meeting is 7. The number of member organizations that responded to the call for quorum was 14. This exceeds or equals one third of the total membership for this meeting and also exceeds or equals 4. A quorum is therefore present for this meeting.

3.10 Call for Guests

The chair requested those associated with organizations that are not members of T11 to introduce themselves. No one responded.

4 Document Distribution

The chair described the process for T11 document distribution via <http://standards.incits.org>.

5 Approval of Minutes - Meeting #146

The prior regular meeting of the INCITS Fibre Channel (T11) Technical Committee was #146 on 5 April 2018. The draft Minutes of that meeting were posted as document T11/2018-00127-v000.

T11 minutes are reviewed as posted on the T11 web site. Corrections may be requested either before the subsequent meeting by email to the T11 secretary (richard.johnson@finisar.com) or at the subsequent meeting in person. No corrections were requested.

Chris Lyon (Amphenol) moved and Alan Rajapa (Dell) seconded to accept T11/2018-00127-v000 as the Minutes of T11 meeting #146 on 5 April 2018. The motion passed by acclamation.

See action item [18-012](#).

6 Review of Old Action Items

| | |
|--------|--|
| 18-004 | T11 secretary to post approved Minutes of T11 meeting #145 as agreed at T11 meeting #146. Completed by posting T11-2018-00125-v000 on April 10, 2018. |
| 18-005 | T11 chair to forward FC-NVMe AM1 project proposal to INCITS for further processing. Completed by email to Rachel Porter on April 25, 2108. (T11-2018-00147-v000) |

| | |
|--------|--|
| 18-006 | T11 chair to forward FC-FS-6 project proposal to INCITS for further processing. Completed by email to Rachel Porter on April 25, 2018. (T11-2018-00146-v000) |
| 18-007 | T11 chair to conduct T11 letter ballot on FC-FS-5 Rev. 1.0 T11-2018-00082-v001 for forwarding to INCITS including first public review. Completed by email to Rachel Porter on April 24, 2018. (T11-2018-00145-v000) |
| 18-008 | T11 chair to forward FC-EE document T11-2018-00076-v000 with accepted comments in comment resolution document T11-2018-00075-v002 to INCITS for further processing. Completed by email to Rachel Porter on April 20, 2018. (T11-2018-00143-v000) |
| 18-009 | T11 chair to forward to INCITS the results of the vote for national maintenance motion for stabilization. Completed by email to Rachel Porter on April 18, 2018. (T11-2018-00142-v000) |
| 18-010 | T11 chair to forward to INCITS the results of the vote for national maintenance motion for reaffirmation. Completed by email to Rachel Porter on April 18, 2018. (T11-2018-00142-v000) |
| 18-011 | T11 vice chair to update ICMS with approved December 2018 meeting location. Completed by posting to ICMS on April 24, 2018. |

7 Review of T11 Project and Proposal Status

7.1 Project Proposals

7.1.1 FC-NVMe AM1, INCITS 540-2018/AM 1-201x

7.1.2 FC-FS-6, INCITS 562-201x

7.2 Project Status Review

The T11 Project status sheet was displayed (see [annex B.1](#)). The current version can be viewed at any time at <http://standards.incits.org>, in the “T11 Projects” folder in the documents section.

The chair reminded all TG chairs to assure the project status sheet is maintained to reflect changes in status of their projects.

8 Results of non-ISO Letter Ballots

FC-FS-5 completed letter ballot, with 18 affirming, 0 opposing, 0 abstaining, and 4 not voting. No comments were received.

See action item [18-013](#).

9 Old Business

No old business was reopened.

10 Task Group T11.2 - Physical Interfaces

10.1 Report to T11 Plenary (T11-2018-00186-v000)

Task Group vice chair Dean Wallace (QLogic) gave the report posted as T11-2018-00186-v000 on activity at T11.2.

10.2 Actions

TG T11.2 requests that the T11 chair issue a letter ballot on FC-PI-7 T11-2017-00156-v009, as modified with the accepted content of presentations T11-2018-00085-v001 and T11-2018-00157-v001, and forward to INCITS for further processing including first public review.

See action item [18-014](#).

10.3 Other Items

No other items were presented for TG T11.2.

11 Task Group T11.3 - Interconnection Schemes

11.1 Report to T11 Plenary (T11-2018-00193-v000)

Task Group chair Craig Carlson (QLogic) presented the information posted as T11-2018-00193-v000 on activity at T11.3.

11.2 Actions

TG T11.3 requests that the T11 chair issue a letter ballot on FC-NVMe-AM1, T11-2018-00091-v000, and forward to INCITS for further processing including first public review.

See action item [18-015](#).

11.3 Other Items

No other items were presented for TG T11.3.

12 Joint TG T11.2 / T11.3 Items

No joint T11.2 – T11.3 meeting was held during this meeting cycle.

13 T11 project activities

None for this meeting cycle.

14 Review of International Activity

14.1 INCITS SC 25 / WG4 TAG Status Report (T11-2018-00177-v000)

T11 International Representative Dave Peterson (Broadcom) presented the information posted as T11-2018-00177-v000 on INCITS SC 25 / WG4 TAG project status (see [annex B.2](#)).

15 T11 New Business

No new business was proposed during this meeting cycle.

16 Call for Patents

16.1 Patent information registry

The chair indicated that the current record of responses to prior calls for patents can be found in the T11 web site at <http://www.t11.org/t11/docreg.nsf/v2t?openForm&ent=35>.

16.2 Call for Patents

16.2.1 Patent Information Overview

The chair reminded the meeting that among the rules and policies under which T11 operates are the INCITS intellectual property policies. An overview of patent information relevant to T11 may be found in T11-2010-008v0.

16.2.2 INCITS/ISO patent disclosure form

A template form for a patent declaration that is satisfactory to both INCITS and ISO can be found in <http://www.incits.org/standards-information/legal-info>.

No company responded to the call for patents.

17 Liaison Reports

17.1 T11 report (T11-2018-00148-v000), INCITS Liaison report (T11-2018-00165-v000)

Steve Wilson (Broadcom) presented the information posted as T11-2018-00148-v000 on activity at T11 as reported to other organizations, and the information posted as T11-2018-00165-v000 on activity at INCITS other than T11 project status.

17.2 TC T10 (none)

No report on activities of INCITS Technical Committee T10 was received.

17.3 FCIA (T11-2018-00175-v000)

Chris Lyon (Amphenol) gave report T11-2018-00175-v000 on activity at FCIA.

17.4 IEEE 802.3 (T11-2018-00183-v000)

Steve Sekel (Keysight) presented IEEE 802.3 liaison report T11-2018-00183-v000.

17.5 INCITS TC CS1 (T11-2018-00195-v000)

Eric Hibbard (Hitachi Vantara) reviewed INCITS TC CS1 liaison report T11-2018-00195-v000.

17.6 SNIA and DMTF (T11-2018-00174-v000)

Fred Knight (NetApp) discussed report T11-2018-00174-v000 on SNIA and DMTF activities.

17.7 NVMe (verbal)

Craig Carlson (QLogic) gave a brief verbal report on recent NVMe activities.

17.8 COBO (none)

No report on COBO activity was given during this plenary meeting cycle.

18 Administrative Matters

18.1 Officer Appointments

Officers of this Technical Committee and its Task Groups are:

| | |
|----------------------------------|---------------------------|
| T11 Chairman | Steve Wilson (Broadcom) |
| T11 International Representative | David Peterson (Broadcom) |
| T11 Vice Chairman | Craig Carlson (QLogic) |
| T11 Secretary | Richard Johnson (Finisar) |
| T11.2 Chairman | Tom Palkert (Macom) |
| T11.2 Vice-Chairman | Dean Wallace (QLogic) |
| T11.2 Secretary | Richard Johnson (Finisar) |
| T11.3 Chairman | Craig Carlson (QLogic) |
| T11.3 Vice-chairman | Roger Hathorn (IBM) |
| T11.3 Secretary | Patty Driever (IBM) |

18.2 T11 Information Technology

18.2.1 Website status

The website status was given in the INCITS report.

19 Future Meeting Schedule

19.1 Authorization of adhoc meetings

The chair directed members to the ICMS T11.2 calendar located at the T11 section of the web site <http://standards.incits.org> the latest announcements of pending work group interim meetings and teleconferences. He advised that authorization of ad hoc work group meetings is delegated to the appropriate TG, if any.

The vice chair will account for these requests in the schedule for the T11 plenary week hosted by Amphenol and Chris Lyon in Louisville, KY, 13-17 August 2018.

19.2 Guidelines for hosting T11 meetings (T11-2017-00151-v000)

For members who are considering hosting future plenary meetings, the chair directed their attention to “Guidelines for hosting T11 Plenary Weeks” T11-2017-00151-v000. This information includes guidelines for hosting a T11 meeting week and room night histories of past meeting weeks. This is required reading for those who are considering hosting because it summarizes the needs of the committee for meeting facilities and gives considerations that may reduce costs for the host.

Groups arranging to meet with T11 were strongly advised to confirm with the host any changes in their needs for meeting space well before the meeting. Failure to do so could easily cause serious inconvenience to the host and/or the group.

19.3 Request for hosts and 2018–2019 meeting schedule

The chair announced the following schedule for 2018-2019.

| Date | Location | Host Organization | Host Person |
|--------------------|-----------------|-------------------|---------------|
| August 13-17, 2018 | Louisville, KY | Amphenol | Chris Lyon |
| October 1-5, 2018 | New Orleans, LA | FCIA | Shelby Laramy |
| December 3-7, 2018 | Raleigh, NC | SFF | Greg McSorley |
| February 4-8, 2019 | (tbd) | (tbd) | |
| April 8-12, 2019 | (tbd) | (tbd) | |

| | | | |
|--------------------|-------|-------|--|
| June 3-7, 2019 | (tbd) | (tbd) | |
| August 12-16, 2019 | (tbd) | (tbd) | |
| October 7-11, 2019 | (tbd) | (tbd) | |
| December 2-6, 2019 | (tbd) | (tbd) | |

19.4 Approval of Meeting Venues

Chris Lyon (Amphenol) moved and Dave Peterson (Broadcom) seconded to approve that the February 2019 meeting be held in Austin, Texas, hosted by Dave Rogers and Teledyn-LeCroy; the April 2019 meeting be held in Deerfield Beach, Florida, hosted by Tom Palkert and Macom; and the October 2019 meeting be held in Coeur d'Alene, Idaho, hosted by Shelby Laramy and FCIA.

A show-of-hands vote was taken, with 14 affirming, 0 opposing, and 0 abstaining.

See action item [18-016](#).

19.5 Next meeting information

The chair reminded the membership that the next T11 plenary week is hosted by Amphenol and Chris Lyon in Louisville, KY, 13-17 August 2018. He noted that detailed information about the hotel and the locale can be found on the INCITS website in the T11 Meeting Information folder under August 2018.

19.6 Letter to travel representatives on hotel rates (T11-2017-00150-v000)

The chair reminded the membership that

- T11 plenary meetings are hosted by volunteer organizations;
- A plenary host receives no reimbursement from T11 or INCITS for any expenses of hosting;
- A plenary host may depend on agreements with the meeting hotel in order to reduce the expenses of the host and also possibly, though not necessarily, reduced the room rates for the members; and
- A hotel may charge punitive extra fees to a host if the meeting does not achieve an agreed number of room nights identified with group members.

Therefore, T11 expects those attending meetings during a plenary week to stay at the meeting hotel and identify themselves as members of the T11 group, even though less expensive lodging may be found in the area, or even at the same hotel. Document T11-2017-00150-v000 has been posted which contains a letter to those with budget responsibilities for member organizations justifying this obligation.

19.7 Plenary week meeting map for August 2018 T11 meetings

The vice chair Craig Carlson (QLogic) presented the tentative meeting map of the next T11 meeting week. He advised members for the most recent meeting map of the next T11 regular meeting to go to the INCITS website, search the T11 Meeting Information folder under August 2018.

20 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 source of attendance for formal records of this meeting.

Final registered attendance for T11 regular meeting #147 is shown in annex A.2. 20 people from 15 member organizations were in attendance.

21 Review of Action Items

| | |
|--------|--|
| 18-012 | T11 secretary to post approved Minutes of T11 meeting #146 as agreed at T11 meeting #147. (See clause 5) |
| 18-013 | T11 chair to forward FC-FS-5, having passed letter ballot, to INCITS for further processing. (See clause 8) |
| 18-014 | T11 chair to request INCITS letter ballot for FC-PI-7. (See clause 10.2 .) |
| 18-015 | T11 chair to request INCITS letter ballot for FC-NVMe-AM1. (See clause 11.2) |
| 18-016 | T11 vice-chair to update meeting schedule on ICMS with 2019 meeting venues as voted. (See clause 19.4) |

22 Adjournment

Chris Lyon (Amphenol) moved to adjourn at 2:05 PM. The motion passed by acclamation.

Annex A Membership and Attendance

A.1 Membership for this meeting

A.1.1 Emeritus Members

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:

Mr. James Coomes

Dr. William Ham

Mr. Robert Kembel

Mr. Bob Nixon

Mr. Schelto Van Doorn

A.1.2 Voting Members

The following is the list of organizations that are voting members of record for regular meeting #147 of the INCITS Fibre Channel (T11) Technical Committee, including the recognized representatives of each member organization:

| Organization | Representative Type | Representative |
|---------------------|----------------------------|-----------------------|
| Amphenol | Principal | Gregory McSorley |
| | Alternate | Brad Brubaker |
| | Alternate | Mike Davis |
| | Alternate | Daniel Dillow |
| | Alternate | Chris Lyon |
| | Alternate | Alex Persaud |
| | Alternate | Hu Silver |
| | Alternate | Michael Wingard |
| Broadcom Limited | Principal | Steven L. Wilson |

| | | |
|-----------|-----------|-------------------|
| | Alternate | David Baldwin |
| | Alternate | Evan Beauprez |
| | Alternate | Ben Chu |
| | Alternate | Adam Healey |
| | Alternate | Howard Johnson |
| | Alternate | Mark Jones |
| | Alternate | Scott Kipp |
| | Alternate | Anil Mehta |
| | Alternate | David Peterson |
| | Alternate | Rob Peterson |
| | Alternate | James Smart |
| Cisco | Principal | Mike Blair |
| | Alternate | Harsha Bharadwaj |
| | Alternate | Rajesh L G |
| | Alternate | Fabio Maino |
| | Alternate | J Metz |
| | Alternate | Landon Noll |
| Commscope | Alternate | Joe Pelissier |
| | Principal | Yang (Sunny) Xu |
| | Alternate | Gary Gibbs |
| | Alternate | Gary Irwin |
| Corning | Alternate | Paul Kolesar |
| | Principal | Doug Coleman |
| DCS | Alternate | Steven E. Swanson |
| | Principal | Kevin Ehringer |
| | Alternate | Zach Nason |
| Dell | Alternate | Todd Wheeler |
| | Principal | Louis Ricci |
| | Alternate | David Black |
| | Alternate | Gaurav Chawla |
| | Alternate | Alan Rajapa |

| | | |
|-----------------------------------|-----------|-------------------------|
| | Alternate | Erik Smith |
| | Alternate | Joseph White |
| | Alternate | Jeff Young |
| Finisar | Principal | Chris Yien |
| | Alternate | Richard Johnson |
| | Alternate | Jonathan King |
| Foxconn Interconnect Technologies | Principal | John Petrilla |
| | Alternate | Eric Chu |
| | Alternate | Fred Fons |
| | Alternate | Glenn Moore |
| | Alternate | William Peters |
| Fujitsu | Principal | Mark Malcolm |
| | Alternate | Kun Katsumata |
| | Alternate | Osamu Kimura |
| | Alternate | Eugene Owens |
| Global Foundries | Principal | Adrian Butter |
| | Alternate | John Ewen |
| | Alternate | Jon Garlett |
| Hewlett Packard Enterprise | Principal | Barry Maskas |
| | Alternate | Curtis Ballard |
| | Alternate | Rupin Mohan |
| | Alternate | Krishna Babu Puttagunta |
| IBM | Principal | Roger Hathorn |
| | Alternate | Patty Driever |
| Keysight Technologies | Principal | Stephen Didde |
| | Alternate | Steve Sekel |
| | Alternate | Hajime Takahashi |
| | Alternate | Joachim Vobis |
| Macom | Principal | Tom Palkert |
| Molex | Principal | Alexandra Haser |
| | Alternate | Jay Neer |

| | | |
|-----------------|-----------|---------------------|
| | Alternate | Scott Sommers |
| NetApp | Principal | Frederick Knight |
| | Alternate | John Meneghini |
| | Alternate | Urmi Misra |
| OFS | Principal | Roman Shubochkin |
| | Alternate | Mabud Choudhury |
| QLogic | Principal | Craig W. Carlson |
| | Alternate | Anshul Agarwal |
| | Alternate | Girish Basrur |
| | Alternate | Kathy Caballero |
| | Alternate | Robert Friend |
| | Alternate | Duane Grigsby |
| | Alternate | Ali Khwaja |
| | Alternate | Stephen Lam |
| | Alternate | Ray Leung |
| | Alternate | Akinori Maeda |
| | Alternate | Praveen Midha |
| | Alternate | Trinh Nguyen |
| | Alternate | Raul Oteyza |
| | Alternate | Alan Spalding |
| | Alternate | Gourangadoss Sundar |
| | Alternate | Darren Trap |
| | Alternate | Andrew Vasquez |
| | Alternate | Dean Wallace |
| Teledyne LeCroy | Principal | David Rogers |
| | Alternate | Douglas Lee |
| | Alternate | Henry Poelstra |
| Viavi | Principal | Jason Rusch |
| | Alternate | Scott Baxter |
| | Alternate | George Bullis |
| | Alternate | Paul Gentieu |

A.1.3 Advisory Members

The following is the list of organizations that are advisory (i.e., nonvoting) members of record for regular meeting #147 of the INCITS Fibre Channel (T11) Technical Committee, including the recognized representatives of each member organization:

| Organization | Representative Type | Representative |
|---------------------|----------------------------|-----------------------|
| Anritsu | Principal | Ken Mochizuki |
| Ciena | Principal | Stephen Shew |
| | Alternate | Sebastien Gareau |
| Futurewei | Principal | Philip Kufeldt |
| | Alternate | Victor Gissen |
| | Alternate | Yang Liu |
| | Alternate | Xu Qi Ming |
| | Alternate | Liu Qing |
| | Alternate | Xin Qiu |
| | Alternate | Eddy Zhou |
| Hitachi Vantara | Principal | Eric Hibbard |
| | Alternate | Vincent Franceschini |
| | Alternate | Michael Hay |
| | Alternate | Akinobu Shimada |
| | Alternate | Erwin van Londen |
| | Alternate | Ken Wood |
| Lumentum | Principal | Dave Lewis |
| MediaTek | Principal | Tamir Ali |
| | Alternate | Mau-Lin Wu |
| Microsoft | Principal | Lee Prewitt |
| | Alternate | Paul Luber |
| | Alternate | Steve Olsson |
| Panduit | Principal | Jose Castro |
| | Alternate | Bulent Kose |
| | Alternate | Robert Reid |

| | | |
|-----------------|-----------|-------------------------|
| | Alternate | Steve Skiest |
| SmartDV | Principal | Deepak Kumar Tala |
| | Alternate | Tamil Selvan Ramanathan |
| TE Connectivity | Principal | Nathan Tracy |
| | Alternate | Jeff Mason |
| Unisys | Principal | Jeffrey Dremann |
| | Alternate | Phil Shelton |
| VMWare | Principal | Neil MacLean |
| | Alternate | Wenchao Cui |
| | Alternate | Ping Huang |
| | Alternate | Wenhua Liu |
| | Alternate | Murali Rajagopal |
| | Alternate | Ahmad Tawil |

A.2 Attendance at this meeting

A.2.1 Member organizations

The following is the list of member organizations and their representatives recorded in the online attendance registry as attending regular meeting #147 of the INCITS Fibre Channel (T11) Technical Committee:

| Organization | Representative(s) |
|---------------------------|-------------------|
| AMPHENOL INTERCONNECT | Chris Lyon |
| BROADCOM | David Peterson |
| | Steven L. Wilson |
| CISCO | Mike Blair |
| | Harsha Bharadwaj |
| COMMSCOPE | Gary Gibbs |
| DELL | David Black |
| | Alan Rajapa |
| FINISAR CORPORATION | Richard Johnson |
| FOXCONN INTERCONNECT TECH | John Petrilla |

| | |
|-----------------|------------------|
| GLOBALFOUNDRIES | Adrian Butter |
| HITACHI VANTARA | Eric Hibbard |
| IBM | Patty Driever |
| | Roger Hathorn |
| KEYSIGHT | Steve Sekel |
| NETAPP | Frederick Knight |
| QLOGIC | Craig W. Carlson |
| | Dean Wallace |
| TELEDYNE LECROY | David Rogers |
| VIAVI | Jason Rusch |

A.2.2 Ad hoc meeting attendance

FC-NVMe-2 ad hoc, members

| Organization | Representative(s) |
|------------------|-------------------|
| BROADCOM LIMITED | David Baldwin |
| | Howard Johnson |
| | Mark Jones |
| | David Peterson |
| | Steven L. Wilson |
| CISCO | Mike Blair |
| | Harsha Bharadwaj |
| DELL | David Black |
| | Alan Rajapa |
| IBM | Patty Driever |
| | Roger Hathorn |
| QLOGIC | Craig Carlson |
| VIAVI | Jason Rusch |

FC-SW-7 ad hoc, members

| Organization | Representative(s) |
|---------------------|--------------------------|
| BROADCOM LIMITED | David Baldwin |
| | Howard Johnson |
| | David Peterson |
| | Steven L. Wilson |
| CISCO | Mike Blair |
| | Harsha Bharadwaj |
| DELL | Alan Rajapa |
| IBM | Patty Driever |
| | Roger Hathorn |
| QLOGIC | Craig W. Carlson |
| | Raul Oteyza |
| VIAVI | Jason Rusch |

FC-PI-7 ad hoc, members

| Organization | Representative(s) |
|----------------------|--------------------------|
| BROADCOM LIMITED | Ben Chu |
| COMMSCOPE | Gary Gibbs |
| DELL | Alan Rajapa |
| FINISAR | Richard Johnson |
| FOXCONN INTERCONNECT | John Petrilla |
| GLOBALFOUNDRIES | Adrian Butter |
| KEYSIGHT | Steve Sekel |
| LUMENTUM | David Lewis |
| PANDUIT | Jose Castro |

FC-GS-8 ad hoc, members

| Organization | Representative(s) |
|---------------------|--------------------------|
| BROADCOM LIMITED | David Baldwin |
| | Howard Johnson |
| | David Peterson |
| CISCO | Mike Blair |
| | Harsha Bharadwaj |
| DELL | Alan Rajapa |
| IBM | Roger Hathorn |
| | Patty Driever |
| VIAVI | Jason Rusch |

FC-LS-4 ad hoc, members

| Organization | Representative(s) |
|---------------------|--------------------------|
| BROADCOM | David Baldwin |
| | Howard Johnson |
| | Dave Peterson |
| | Steve Wilson |
| CISCO | Mike Blair |
| | Harsha Bharadwaj |
| COMMSCOPE | Gary Gibbs |
| DELL | Alan Rajapa |
| GLOBALFOUNDRIES | Adrian Butter |
| IBM | Roger Hathorn |
| | Patty Driever |
| QLOGIC | Craig Carlson |
| VIAVI | Jason Rusch |

FC-FS-6 ad hoc, members

| Organization | Representative(s) |
|---------------------|--------------------------|
| BROADCOM | David Baldwin |
| | Howard Johnson |
| | David Peterson |
| | Steve Wilson |
| CISCO | Mike Blair |
| | Harsha Bharadwaj |
| DELL | Alan Rajapa |
| IBM | Roger Hathorn |
| | Patty Driever |
| QLOGIC | Raul Oteyza |
| VIAMI | Jason Rusch |

Annex B Supporting Documents

B.1 T11 Project Status

The following table indicates the status of all active T11 projects. It reflects the official status as reported on the T11 web site as of the T11 regular meeting #147 held on 7 June 2018.

| Standard | Status | Action | Target or Reaffirm Date | Editor | Ad Hoc Chair | Secretary |
|-------------------------------|-----------|--------------------|-------------------------|----------|--------------|-----------|
| Projects in Development Stage | | | | | | |
| FC-FS-6 | In dev. | To T11 | Jun-19 | Carlson | Peterson | Driever |
| FC-GS-8 | In dev. | To T11 | Aug-18 | Rusch | Peterson | Driever |
| FC-LS-4 | In dev. | To T11 | Dec-18 | Carlson | Driever | Rusch |
| FC-PI-7 | In dev. | To T11 | Jun-18 | Castro | Wallace | Wallace |
| FC-PI-7P | In dev. | ToT11 | Dec-18 | Castro | Wallace | Wallace |
| FC-PI-8 | In dev. | ToT11 | Dec-20 | | Wallace | Wallace |
| FC-SW-7 | In dev. | To T11.3 | Aug-18 | Peterson | Carlson | Peterson |
| FC-MSQS-3 | In dev. | ToT11 | Dec-18 | Castro | Wallace | Wallace |
| Projects in Approval Stage | | | | | | |
| FC-LS-3 | At INCITS | Pre-Edit | Aug-18 | Carlson | Peterson | Driever |
| FC-SB-6 | At INCITS | ANSI Approval | Aug-18 | Driever | Hathorn | Dickerson |
| FC-FS-5 | At INCITS | 1 st PR | Aug-18 | Peterson | Carlson | Hathorn |
| FC-EE | At INCITS | ANSI Approval | Aug-18 | Carlson | Wallace | Wallace |

B.2 INCITS SC 25 / WG4 project status

The following tables indicates the status of all active INCITS SC 25 / WG4 TAG projects. It reflects the official status as reported at the T11 regular meeting #147, 7 June 2018 in document T11-2018-00177-v000.

B.2.1 Active T11 SC25 WG4 Projects

| Document | ISO/IEC # (T11 allocated) | Step | Status |
|-------------|------------------------------|-------|-----------------------|
| FC-SP-2+AM1 | 14165-432 | 10.98 | Resurrecting project. |
| FC-BB-6 | 14165-246 | 00.60 | Resurrecting project. |
| FC-SB-5 | 14165-225 | 00.60 | Resurrecting project. |

B.2.2 Active Miscellaneous WG4 Projects

| JTC1/SC25 Project Num | Document | ISO/IEC # (T11 allocated) | Step | Status |
|--------------------------|----------|---------------------------------|------|--------|
| | | | | |

B.2.3 Published WG4 Projects

| Document | ISO/IEC # | Step | Status | Maintenance |
|--|------------|-------|-----------|----------------------|
| FC-BaseT | 14165-151 | 60.60 | Published | |
| SMI-S v1.5 | 24775:2012 | 60.60 | Published | |
| FC-AE-ASM | 14165-313 | 60.60 | Published | |
| FC-AE-RDMA | 14165-314 | 60.60 | Published | |
| FC-BB-3 | 14165-243 | 60.60 | Published | Stabilize – Dec 2017 |
| Server Management Command Line Protocol (SM-CLP) | 13187 | 60.60 | Published | Confirm – Aug 2016 |
| Storage Management | 24775 | 60.60 | Published | |
| FC-MI-2 | 14165-372 | 60.60 | Published | |

| | | | | |
|----------------------------|-------------|-------|------------|-----------------------|
| iSCSI Management API (IMA) | 11989 | 60.60 | Published | Confirm-Jun15 |
| FC-SW-3 | 14165-133 | 60.60 | Published | Confirm – Apr15 |
| FC-AV | 14165-321 | 60.60 | Published. | Confirm-Dec14 |
| FC-AE-1553 | 14165-312 | 60.60 | Published. | |
| FAIS | 14165-521 | 60.60 | Published. | Confirm-Feb14 |
| FC-GS-4 | 14165-414 | 60.60 | Published | Stabilize – Oct 2017 |
| FC-FS | 14165-251 | 60.60 | Published | Withdrawn - Feb. 2013 |
| FC-VI | 14165-331 | 60.60 | Published | Stabilize – Dec 2017 |
| 10GFC | 14165-116 | 60.60 | Published | Stabilize - Apr 2016 |
| MJSQ | 14165-117 | 60.60 | Published | |
| RL | 24740 | 60.60 | Published | |
| SMS (was SMI-S) | 24775 | 60.60 | Published | |
| SNIA MMA | 11002 | 60.60 | Published | Confirm - Aug. 2013 |
| 10GFC-Amendment 1 | 14165-116-1 | 60.60 | Published | |
| FC-AL-2-1 | 14165-122 | 60.60 | Published. | |
| FC-AL-2-2 | 14165-122 | 60.60 | Published | |

B.2.4 ISO step codes

The following explains the ISO step codes (ISC), which are two numbers separated by a dot. The first number is described in the table. The second part is percent complete.

| Stage | NWIP | Convert to ISO | FCD | Edit/DoC | FDIS | Edit/DoC | Publish |
|---------------------|----------|----------------|----------|----------|----------|----------|---------|
| Ballot Time | 2 months | | 4 months | | 2 months | | |
| first number of ISC | 10 | 20 | 40 | | 50 | 60 | 60.60 |