T11-2023-00437-v000

**Approved Minutes
INCITS Fibre Channel (T11) Technical Committee
Regular Meeting #179
05 October 2023 – 1 PM to 3 PM CDT
Galveston, TX (Hybrid Meeting)**

1 Opening Remarks and Introductions

1.1 Introductory Remarks

TC T11 chair Howard Johnson (Broadcom) convened regular meeting #179 of the INCITS Fibre Channel (T11) Technical Committee on Thursday, 05 October 2023 at 1:01 PM CDT. He introduced himself and thanked our host SNIA/SFF for the physical meeting facilities as well INCITS for the virtual meeting facilities.

He next introduced Patty Driever (IBM) as secretary. The Vice-Chair role is currently unfilled.

1.2 Introductions

There has been a call for volunteers for the T11.3 Chair role. Call closes on October 9th, after which a ballot will go out to select the next T11.3 Chair.

1.2.1 Officer appointments (Officers)

The chair introduced the officers of T11, T11.2 and T11.3. The list of officers can be found on the INCITS website at this link.

Officers of this Technical Committee and its Task Groups are:

T11 Chairman	Howard Johnson (Broadcom)
T11 International Representative	David Peterson (Broadcom)

T11 Vice Chairman	vacant
T11 Secretary	Patty Driever (IBM)
T11.2 Chairman	Tom Palkert (Macom)
T11.2 Vice-Chairman	Dean Wallace (Marvell)
T11.2 Secretary	Jason Rusch (Viavi)
T11.3 Chairman	vacant
T11.3 Vice-chairman	Roger Hathorn (IBM)
T11.3 Secretary	Patty Driever (IBM)

1.2.1.1 The Chair congratulated Tom Palkert on his 6th term as T11.2 Chair.

1.2.2 Self-introductions

The chair then asked those present in the room to introduce themselves.

1.2.3 Call for guests and journalists

The chair requested members of the press and journalists and those associated with organizations that are not members of T11 to introduce themselves. Craig Carlson (AMD) introduced himself.

1.3 Operating under INCITS Procedures (https://www.incits.org/standards-information/policies)

1.3.1 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.

The chair indicated that documents are distributed electronically (http://www.incits.org) and described the process for T11 document distribution via http://standards.incits.org.

1.3.2 Code of Conduct

The 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

1.3.3 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 guide- lines. 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.

1.3.4 Patent Policy Information
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 the INCITS patent policy, which is publicly available at INCITS Patent Policy.

The chair indicated that among the rules and policies under which this Technical Committee operates are the 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.

The Chair also pointed to the INCITS Patent Registry located on the INCITS website.

1.3.5 Call for Patents

A template form for a patent declaration that is satisfactory to both INCITS and ISO can be found in INCITS Patent Declaration Form.

No company responded to the call for patents.

2 Attendance and Membership

2.1 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 a description of the Organization and Structure/Categories of Membership/TCs, TGs, and SGs is contained in [INCITS Organization, Policies and Procedures](#).

As an active participant you are encouraged to become a member.

2.2 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.

2.3 Membership for this meeting

Technical Committee T11 had 23 voting members at the T11 regular meeting 03 August 2023. With no member losing voting privileges, membership of T11 remains at 23 for this meeting.

2.3.1 Changes in Representation Since the Last Meeting

David Brown has replaced Erik Smith as the Principal member for Dell, Inc. Erik Smith is now an Alternate member for Dell. All other representation for Dell remains unchanged.

Craig Carlson has been removed as the Principal member for Marvell Semiconductor, Inc. and replaced by Raul Oteyza. All other representation for Marvell remains the same.

Fred Knight has been removed as the Principal member for NetApp Inc. and replaced by Madhu Pai. Sridhar Balasubramanian has been added as an Alternate for NetApp.

2.3.1.1 New Voting Memberships

- No additional companies answered the vice-chair's call so none were granted voting membership at this meeting.

2.3.1.2 Voting memberships in jeopardy for attendance, for non-payment of dues, or not voting on letter ballots

- MediaTek is in jeopardy for lack of attendance at 2 of the last 3 plenary meetings. There are currently no other companies in jeopardy for lack of attendance.

- There were no companies in membership jeopardy for non-payment of dues.

- Corning Inc. and Lumentum Operations are in membership jeopardy for letter ballot performance for not having voted on two of last three T11 letter ballots.

2.3.2 T11 Voting and Advisory memberships for this meeting

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.

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.

2.4 Call for Quorum

The total voting membership for this meeting is 23. One third of the total membership for this meeting is 8. The number of member organizations that responded to the call for quorum was 18. This exceeds or equals one third of the total membership for this meeting and also exceeds or equals 8. A quorum is therefore present for this meeting.

3 Approval of the Agenda

An electronic version of the agenda was posted as T11-2023-00299-v003. The chair presented the agenda with final updates as T11-2023-00299-v004 and made a call for any changes and new agenda items. No changes or new items were requested.

Tom Palkert (Macom) moved and David Brown (Dell) seconded that T11-2023-00299-v004 as presented at this meeting be approved as the agenda for this meeting. The motion passed by acclamation.

4 Minutes of the Previous Meeting

4.1 Review of Old Action Items

23-018	Vice-chair to check with INCITS Secretariat on companies in Letter Ballot Jeopardy. Completed.
23-023	T11 secretary to post approved Minutes of T11 meeting #177 as agreed at T11 meeting #178. (See clause 4.2) Completed by posting T11/2023-00360-v000 on October 05, 2023.
23-024	Chair to forward T11 Letter Ballot Comment Resolution database documented in T11-2023-00253-002 and resultant FC-FS-6 draft version Rev. 1.3 as documented in T11-00183-v002 to INCITS for further processing. Completed by Chair via email to Rachel Porter on August 8, 2023 as documented in T11-2023-00296-v000.
23-025	Chair to send letter to INCITS and TC CS1 to inform them of our decision to terminate our formal liaison relationship with them. Completed by Chair on Sept. 7, 2023 as documented in T11-2023-00307-v000.
23-026	Chair to update meeting location file with February 2024 host. See 9.1.1. Completed by Chair on Sept. 26, 2023.
23-027	Chair will lay out the meeting dates for 2025 and 2026. Completed by Chair on Sept. 19, 2023.

4.2 Approval of Minutes - Meeting #178

The prior regular meeting of the INCITS Fibre Channel (T11) Technical Committee was #178 on 03 August 2023. The draft Minutes of that meeting were posted as document T11/2023-00279-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 (pgd@us.ibm.com) or at the subsequent meeting in person.

David Brown (Dell) moved and Ed Mazurek (Cisco) seconded to accept T11/2023-00279-

v000 as the Minutes of T11 meeting #178 on 03 August 2023. The motion passed by acclamation.

See action item 23-028.

5 Technical Committee and Task Group Reports

5.1 Review of T11 Project and Proposal Status

5.1.1 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.

5.1.2 National Project Status Report

The Chair also shared information from INCITS the National Project Status Report. The Chair will post this information in the "T11 Projects" folder in the documents section.

5.1.3 T11 Project Activity
5.1.3.1 FC-PI-8 Executive Board Approval (eb-2023-00596-Approved-INCITS 560 (FC-PI-8))
We did receive Executive Board approval for this, so are now awaiting ANSI publication.

Information technology - Fibre Channel - Physical Interfaces - 8 (FC-PI-8) (new standard)

Approval Date of Final Action: 8/28/2023

Standards Action Publication Date: 9/8/2023

5.1.3.2 FC-SP-2/AM2 Executive Board approval (eb-2023-005222-Approval-INCITS-496-AM2)

We did receive Executive Board approval, so we are now awaiting for ANSI publication.

INCITS 496-2012/AM 2-2023 Information Technology - Fibre Channel - Security Protocols - 2/Amendment 2 (FC-SP-2/AM 2)

Approval Date of Final Action: 8/3/2023

Standards Action Publication Date: 8/11/2023

5.1.3.2 FC-FS-6 Public Review (T11-2023-00296-v000, status)

INCITS 562-202x: (FC-FS-6) Information technology - Fibre Channel - Framing and Signaling - 6 (FC-FS-6)

TC submission done to initiate public review

Start Date: 2023-07-10

End Date: 2023-10-31

5.1.4 Project Proposals
No new project proposals during this meeting cycle.

5.2 T11 Letter Ballot Results
No new letter ballots during this meeting cycle.

5.3 Task Group T11.2 - Physical Interfaces

5.3.1 Report to T11 Plenary ([T11-2023-00356-v000](#))

Task Group Chair Tom Palkert (Macom) gave the report posted as T11-2023-00356-v000 on activity at T11.2.

5.3.2 Actions

5.3.2.1 There were no actions this meeting cycle.

5.3.3 Other Items

No other items were presented for TG T11.2.

5.4 Task Group T11.3 - Interconnection Schemes

5.4.1 Report to T11 Plenary ([T11-2023-00347-v000](#))

Task Group Secretary Patty Driever (IBM) presented the information posted as T11-2023-00347-v000 on activity at T11.3.

5.4.2 Actions

5.4.2.1 There were no actions this meeting cycle.

5.4.3 Other Items

No other items were presented for TG T11.3.

5.5 Joint TG T11.2 / T11.3 Items

5.5.1 Report to T11 Plenary ([T11-2023-00328-v000](#))

T11.2Task Group Chair Tom Palkert (Macom) gave the report posted as T11-2023-00328-v000 on activity at the joint T11.2/T11.3 expert working group.

5.5.2 Actions

5.5.2.1 There were no actions.

5.5.3 Other Items

No other items were presented for Joint T11.2/T11.3.

5.6 Review of International Activity

5.6.1 INCITS Computer Systems Interconnect (SC 25 / WG4 TAG) Status Report (T11-2023-00315-v000)

Dave Peterson (Broadcom) presented the information posted as T11-2023-00315-v000 on INCITS Computer Systems Interconnect (SC 25 / WG4 TAG) project status (see annex B.2).

6 Liaison Reports

6.1 T11 report (T11-2023-00300-v000)

Howard Johnson (Broadcom) presented the information posted as T11-2023-00300-v000 on activity at T11 as reported to other organizations.

6.2 INCITS Liaison report (T11-2023-00301-v002)

Howard Johnson (Broadcom) presented the information posted as T11-2023-00301-v002 on activity at INCITS other than T11 project status.

6.3 TC T10 (no report)

No report.

6.4 FCIA (no report)

There was no formal FCIA report this meeting cycle. However the Chair noted that there is a PlugFest scheduled for Oct. 23-27. Other companies are welcomed to still sign up. It will be held at the University of New Hampshire campus in Durham, NH.

6.5 IEEE 802.3 (T11-2023-00355-v000)

Tom Palkert (Macom) and Mabud Choudhury (OFS) gave report T11-2023-00355-v000 on activity at IEEE 802.3.

6.6 SNIA Report (No Report)

There was no formal SNIA report presented this meeting cycle. Paul Coddington (Amphenol) indicated SNIA held its SDC conference and it was pretty well attended. Craig Carlson (Marvell) and Rupin Mohan (HPE) gave a presentation on Fibre Channel at the conference.

6.7 NVMe (verbal)

There was no report on recent NVMe activities during this meeting cycle.

7 Old Business

7.1 2024 National Maintenance Review
The Chair reported last meeting cycle that we have been notified that there are some specs up for national maintenance review.

7.1.1 Report (eb-2023-00482)

7.1.2 Motions (T11-2023-00304-v000)
Howard Johnson (Broadcom) moved and Tom Palkert (Macom) seconded to recommend to INCITS the continued stabilization of the following standards. The rationale for continued stabilization is that the standards have ongoing validity and effectiveness, but they are mature and unlikely to require maintenance of any sort. This vote requires a 2/3 majority meeting vote in order to pass.

INCITS 508-2014[R2019]	Information Technology - Storage Management - Host Bus Adapter Application Programming Interface - 2nd Generation (SM-HBA-2)

INCITS 485-2014[R2019]	Information Technology - Fibre Channel - Single-Byte Command Code Sets Mapping Protocol - 5 (FC-SB-5)
INCITS 509-2014[R2019]	Information Technology - Fibre Channel - Backbone - 6 (FC-BB-6)

Motion passed: In Favor – 18, Against-0, Abstain-0, No Response – 5.

Howard Johnson (Broadcom) moved and Paul Coddington (Amphenol) seconded to recommend to INCITS to reaffirm the following the following standards/technical reports. This vote requires a 2/3 majority meeting vote in order to pass.

INCITS 540-2018/AM 1-2019	Information Technology – Fibre Channel – Non-Volatile Memory Express – Amendment 1 (FC-NVMe-AM 1)
INCITS 545-2019[R2019]	Information Technology - Fibre Channel - Framing and Signaling - 5 (FC-FS-5)
INCITS/TR-36-2004[R2019]	Information Technology - Fibre Channel - Device Attach (FC-DA)
INCITS/TR-41-2006/AM 1-2008[R2019]	INCITS Technical Report for Information Technology – Fibre Channel – Avionics Environment – Anonymous Subscriber Messaging (FC-AE-ASM) – Amendment 1
INCITS 543-2019	Information Technology - Fibre Channel - Physical Interfaces - 7 (FC-PI-7)

| INCITS/TR-35-2004[R2019] | Information Technology – Fibre Channel – Methodologies for Jitter and Signal Quality Specification (FC-MJSQ) |
| INCITS/TR-50-2014[R2019] | INCITS Technical Report for Information Technology – Fibre Channel – Methodologies for Signal Quality – 2 (FC-MSQS-2) |

Motion passed: In Favor – 18, Against-0, Abstain-0, No Response - 5.

7.2 2024 Continued Stabilization Review (eb-2023-00483)
The Chair reported that stabilization of docs occurs every 10 years. Some of our docs are up for stabilization review.

7.2.1 Report (eb-2023-00483)

7.2.2 Motion (T11-2023-00305-v000)
Howard Johnson (Broadcom) moved and David Brown (Dell) seconded to recommend to INCITS the continued stabilization of the following the following standards. The rationale for continued stabilization is that the standards have ongoing validity and effectiveness, but they are mature and unlikely to require maintenance of any sort. This vote requires a 2/3 majority meeting vote in order to pass.

INCITS 332-1999[S2014]	Information technology - Fibre Channel - Arbitrated Loop (FC-AL-2)
INCITS 386-2004	Information technology - Fibre Channel - Host Bus Adapter Application Programming Interface (FC-HBA)
INCITS 399-2004[S2014]	Information Technology - Fibre Channel - Switch Application Programming Interface (FC-SWAPI)
INCITS 364-2003[S2014]	Information Technology - Fibre Channel - 10 Gigabit (10GFC)

Motion passed: In Favor – 18, Against-0, Abstain-0, No Response – 5.

See action item 23-029.

7.3 T11 Project Organization on ICMS ([T11-2023-00007-v003](#))
7.3.1 Considerations

Distribution 'on' by default – Lynn is asking if we want to put the flag on by default that sends an email when we post a file. This is truly required for agendas, but not for everything else. And there's a real concern about getting a lot of extraneous emails. We agreed that committee chairs should focus on remembering to 'check the box' when posting agendas.

New project numbering scheme (example: **INCITS 562-202x: (FC-FS-6)** Information Technology – Fibre Channel…. It used to be that we put the 'FC-FS-6' tag first, but that caused problems for INCITS. So Lynn developed this new scheme that will allow us to find the project we're looking for in the pulldown, but it will also work for INCITS overall.

7.4 Room Rates and Meeting Fee Evaluation

Chair indicated that he is still working with FCIA and hopes to bring in a proposal in December for how we might establish meeting fees and the logistics of doing so in order to ease the issues we have been having with contracting with hotels. He asked that we investigate with our companies if having a meeting fee will mean our companies would want that to mean we are not required to stay at the meeting hotel. However it was noted that the meeting fee will likely be greater for those who do not stay at company hotel.

7.5 Suspension of liaison status with Technical Committee – Cybersecurity and Privacy (TC/CS1) ([T11-2023-0307-v000](#))

Chair sent correspondence to Eric Hibbard indicating that, as decided in the August plenary, that we would be suspending our liaison status with TC/CS1.

7.5.1. Reply from TC CS1 chair

Eric Hibbard, the chair of TC CS1 responded and the Chair shared that response with the group.

8 Fibre Channel (T11) New Business

8.1 Meeting venues and schedule for 2025-2026 ([2025-2026 Proposed Meeting Schedule](#))

The Chair reported that dates have been assigned for the 2025-2026 meeting cycle. He asked member companies to consider hosting on one or more of these dates.

8.2 Remote access requirement
The Chair indicated that INCITS has made a change and is allowing each TC and TG to decide if it will continue to provide remote access to its meetings. At some point we will have to vote on how we want to handle this.

9 Future Meeting Schedule

9.1 Approval of meeting venues and schedule

The chair announced the following schedule for 2023-2024.

Date	Location	Host Organization	Host Person
February 6-10, 2023	Tucson, AZ	FCIA	Chris Lyon
April 3-7, 2023	Coeur d'Alene, ID	Broadcom	Howard Johnson
June 5-9, 2023	Palm Beach Gardens, FL	Marvell	Craig Carlson
July 31 - August 3, 2023	Albuquerque, NM	Cisco	Kiran Ranabhor
October 2-6, 2023	Galveston, TX	SNIA/SFF	Paul Coddington
December 4-8, 2023	Deerfield Beach, FL	Amphenol	Chris Lyon
February 5-9, 2024	(tbd)	SNIA/SFF	Paul Coddington
April 1-5, 2024	(tbd)	FCIA	Chris Lyon
June 3-7, 2024	(tbd)	Broadcom	Dave Peterson
August 5-9, 2024	(tbd)	Cisco	Kiran Ranabhor
October 7-11, 2024	(tbd)	(tbd)	(tbd)
December 2-6, 2024	Deerfield Beach, FL	Amphenol	Chris Lyon

The Chair encouraged the member companies to consider sponsoring the 2024 October meeting.

Part of the reason so many locations are open is tied to the issue of difficulty booking hotel rooms with the room rate inclusive of the meeting expenses.

David Brown (Dell) moved and Mike Blair (Cisco) seconded to set up an interim study group meeting to discuss possible paths forward regarding instituting meeting fees. This study group meeting will be held on Tuesday November 7th at 3pm Eastern US time. Motion passed by acclamation. It should be noted that any changes in this area should follow the INCITS procedures in this regard.

Chair to add this interim meeting to the calendar. See action item 23-030.

9.1.1 December 2023 meeting venue

Chris Lyon (Amphenol) will be hosting the December 2023 meeting at the Wyndham Deerfield Beach Resort in Deerfield Beach, Florida. Members are encouraged to make their reservations soon.

9.1.2 December 2023 meeting information (Hybrid, Fibre Channel December 2023)

The Chair pointed everyone to the December meeting information regarding hotel reservations in Deerfield Beach, Florida at the Wyndham Deerfield Beach.

9.1.3 December 2023 meeting map (December 2023 Meeting Map)

The secretary Patty Driever (IBM) created and the chair presented the tentative meeting map of the next T11 meeting week. She advised members for the most recent meeting map of the next Fibre Channel regular meeting to go to the INCITS website, search the Fibre Channel Meeting Information folder under December 2023.

Dean Wallace (Marvell) made a motion to accept the meeting map as presented. Mike Blair (Cisco) seconded the motion. Motion passed by acclamation.

9.2 Request for hosts

9.2.1 Guidelines for hosting (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.

9.2.2 Letter to travel representatives on hotel rates ([T11-2023-00011-v000](http://standards.incits.org))

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 T11-2023-00011-v000 has been posted which contains a letter to those with budget responsibilities for member organizations justifying this obligation.

9.3 Authorization of adhoc groups, expert groups, and meetings

9.3.1 Authorization for adhoc groups, expert groups, and meetings are approved by their respective TGs

The chair directed members to the ICMS Fibre Channel calendar located at the Fibre Channel 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.

10 Review of Action Items

23-028	T11 secretary to post approved Minutes of T11 meeting #177 as agreed at T11 meeting #178. (See clause 4.2)
23-029	Chair to forward results of votes of Maintenance and Stabilization motions to INCITS for further processing.
23-030	Chair to add Study Group interim meeting to calendar

11 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 #178 is shown in annex A.2. 25 people from 18 member (18 voting) organizations were in attendance.

12 Adjournment

Dean Wallace (Marvell) moved to adjourn at 2:38 PM CDT. 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:

Dr. William Ham

Mr. Robert Kembel

Mr. Bob Nixon

Mr. Schelto Van Doorn

Mr. Roger Cummings

Mr. Steven Wilson

A.1.2 Voting Members

The following is the list of organizations that are voting members of record for regular meeting #179 of the INCITS Fibre Channel (T11) Technical Committee, including the recognized representatives of each member organization:

Organization	Representative Type	Representative
Amphenol	Principal	Chris Lyon
	Alternate	Brad Brubaker
	Alternate	Paul Coddington
	Alternate	Daniel Dillow
	Alternate	Fan Fu
	Alternate	Isaac Horn
	Alternate	Lie Huang

	Alternate	Sam Kocsis
	Alternate	Alex Persaud
	Alternate	Hu Silver
	Alternate	Michael Wingard
Broadcom	Principal	Howard Johnson
	Alternate	Evan Beauprez
	Alternate	Ben Chu
	Alternate	Robert Hannah
	Alternate	Adam Healey
	Alternate	Alex Hong
	Alternate	Mark Jones
	Alternate	Anil Mehta
	Alternate	Dr. Ramana Murty
	Alternate	David Peterson
	Alternate	James Smart
	Alternate	Anil Veerabhadrappa
Cisco	Principal	Mike Blair
	Alternate	Harsha Bharadwaj
	Alternate	Dhiraj Kashyap
	Alternate	Rajesh L.G.
	Alternate	Fabio Maino
	Alternate	Edward Mazurek
	Alternate	Mark Nowell
	Alternate	Prashant Pathak
	Alternate	Sai Pavan
	Alternate	Kiran Ranabhor
	Alternate	Christian Schmutzer
	Alternate	Shalom Shefa
	Alternate	Sumanth Sindiri
	Alternate	Ramesh Sivakolundu
	Alternate	Yi Tang

	Alternate	Sujith V. R.
	Alternate	Xiaohong Wu
	Alternate	Xiaokang Zhu
Coherent Inc	Principal	Vipul Bhatt
	Alternate	Vera Koleva
	Alternate	Roberto Rodes
	Alternate	Lance Thompson
CommScope	Principal	Yang (Sunny) Xu
	Alternate	Gary Gibbs
	Alternate	Earl Parsons
Corning	Principal	David Kozischek
Credo Semiconductor	Principal	Phil Sun
	Alternate	Dr. Fang Cai
	Alternate	Yasuo Hidaka
	Alternate	Furui Li
Data Center Systems	Principal	Steve Eisele
	Alternate	Eddie Taylor
Dell	Principal	David Brown
	Alternate	Jai Bansai
	Alternate	David Black
	Alternate	Doug Farley
	Alternate	David Piehler
	Alternate	Vinay Sawal
	Alternate	Erik Smith
	Alternate	Joseph White
Hewlett Packard Enterprise	Principal	Barry Maskas
	Alternate	Curtis Ballard
	Alternate	Rupin Mohan
	Alternate	Krishna Babu Puttagunta
IBM	Principal	Roger Hathorn
	Alternate	Patty Driever

	Alternate	Stephen Guendert
Keysight Technologies	Principal	Stephen Didde
	Alternate	Joachim Vobis
Lumentum Operations	Principal	Ernest Muhigana
Macom	Principal	Thomas Palkert
Marvell Semiconductor Inc	Principal	Raul Oteyza
	Alternate	Anshul Agarwal
	Alternate	Sanjaya Anand
	Alternate	Qian Banglong
	Alternate	Girish Basrur
	Alternate	Kathy Caballero
	Alternate	Mike Dudek
	Alternate	Arun Easi
	Alternate	Robert Friend
	Alternate	Duane Grigsby
	Alternate	Anil Gurumurthy
	Alternate	James Hamada
	Alternate	Andrew Joy
	Alternate	Ali Khwaja
	Alternate	Stephen Lam
	Alternate	Ray Leung
	Alternate	Raymond Liang
	Alternate	Akinori Maeda
	Alternate	Praveen Midhag
	Alternate	Trinh Nguyen
	Alternate	Arun Patil
	Alternate	Eddy Soetjahja
	Alternate	Alan Spalding
	Alternate	Gourangadoss Sundar
	Alternate	Andrew Vasquez
	Alternate	Dean Wallace

Company	Role	Name
MediaTek	Principal	Tamer Ali
	Alternate	Chihlong Dai
	Alternate	Pei-Rong Li
	Alternate	YC Lin
	Alternate	Henry Park
	Alternate	Herbert Wang
	Alternate	Mau-Lin Wu
Molex	Principal	Scott Sommers
	Alternate	Egide Murisa
NetApp	Principal	Madhu Pai
	Alternate	Sridhar Balasubramanian
OFS Fitel LLC	Principal	Roman Shubochkin
	Alternate	Mabud Choudhury
Panduit	Principal	Jose Castro
	Alternate	Bulent Kose
	Alternate	Robert Reid
TE Connectivity	Principal	Nathan Tracy
	Alternate	Dwayne Crawford
	Alternate	Daniel Gorenc
	Alternate	Jeff Mason
Teledyne LeCroy	Principal	Henry Poelstra
	Alternate	Amit Bakshi
	Alternate	Craig Foster
	Alternate	Tom Friend
	Alternate	Rakesh Kathiresan Natarajan
	Alternate	Nick Kriczky
	Alternate	Douglas Lee
	Alternate	Srikant Tadigadapa
	Alternate	Jim Yasueda
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 #179 of the INCITS Fibre Channel (T11) Technical Committee, including the recognized representatives of each member organization:

Organization	Representative Type	Representative
Anritsu	Principal	Tadanori Nishikobara
	Alternate	Yuji Sekine
Ciena	Principal	Stephen Shew
	Alternate	Sebastien Gareau
Futurewei	Principal	Timothy Jeffries
	Alternate	Victor Cao
Unisys	Principal	Jeffrey Dremann
	Alternate	Phil Shelton
VMWare	Principal	Neil MacLean
	Alternate	Wenchao Cui
	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 #179 of the INCITS Fibre Channel (T11) Technical Committee:

Organization	Representative(s)	In Person
AMPHENOL CORP	Paul Coddington	Y
BROADCOM INC	Ben Chu	N

	Howard Johnson	Y
	Anil Mehta	Y
CISCO SYSTEMS INC	Mike Blair	Y
	Edward Mazurek	Y
	Ramesh Sivakolundu	Y
	Xiaohong Wu	Y
COHERENT INC	Vera Koleva	N
COMMSCOPE	Earl Parsons	N
CORNING INC	David Kozischek	N
DELL INC	David Brown	Y
HEWLETT PACKARD ENTERPRISE	Barry Maskas	N
	Krishna Babu Puttagunta	N
IBM CORP	Patty Driever	Y
	Roger Hathorn	Y
KEYSIGHT TECHNOLOGIES INC	Stephen Didde	Y
LUMENTUM OPERATIONS	Ernest Muhigana	N
MACOM	Thomas Palkert	N
MARVELL SEMICONDUCTOR	Dean Wallace	Y
MOLEX INC	Egide Murisa	N
NETAPP INC	Madhu Pai	N
OFS FITEL LLC	Mabud Choudhury	N
PANDUIT CORPORATION	Jose Castro	N
TELEDYNE LECROY CORPORATION	Henry Poelstra	N
VIAVI SOLUTIONS INC	Jason Rusch	Y

A.2.2 Ad hoc meeting attendance

FC-SW-8 expert group, members

Organization	Representative(s)
BROADCOM INC	Howard Johnson
	David Peterson
	James Smart
CISCO SYSTEMS INC	Mike Blair
	Ed Mazurek
DELL INC	David Brown
HEWLETT PACKARD ENTERPRISE	Barry Maskas
IBM CORP	Patty Driever
	Roger Hathorn

FC-PI-9 expert group, members

Organization	Representative(s)
AMPHENOL CORPORATION	Paul Coddington
	Lei Huang
BROADCOM INC	Ben Chu
	Adam Healey
	Anil Mehta
CISCO SYSTEMS INC	Ramesh Sivakolundu
	Xiaohong Wu
COHERENT INC	Vera Koleva
COMMSCOPE	Earl Parsons
	Sunny Xu
CORNING INC	David Kozischek
CREDO SEMICONDUCTOR	Fang Cai
HUAWEI	Jonathan Ingham
INTEL	Mike Li
	Kent Lusted
KEYSIGHT TECHNOLOGIES INC	Stephen Didde
	Greg Le Cheminant
LUMENTUM OPERATIONS	Ernest Muhigana

MACOM	Thomas Palkert
MARVELL SEMICONDUCTOR INC	Mike Dudek
	Raul Oteyza
	Dean Wallace
MEDIATEK USA INC	Tobey Li
OFS FITEL LLC	Mabud Choudhury
PANDUIT CORPORATION	Jose Castro
QUANTUM	Ali Ghiasi
SAMTEC	Rich Mellitz
TELEDYNE LECROY CORPORATION	Henry Poelstra
VI SYSTEMS	Ledentsov Nikolay

FC-GS-9 expert group, members

Organization	Representative(s)
BROADCOM INC	David Peterson
	James Smart
CISCO SYSTEMS INC	Mike Blair
	Edward Mazurek
DELL INC	David Brown
IBM CORPORATION	Roger Hathorn
NETAPP INC	Madhu Pai

FC-LS-5 expert group, members

Organization	Representative(s)
BROADCOM INC	Howard Johnson
	David Peterson
	James Smart
CISCO SYSTEMS INC	Harsha Bharadwaj
	Mike Blair

	Edward Mazurek
DELL INC	David Brown
IBM CORP	Patty Driever
	Roger Hathorn

FC-FS-7 expert group, members

Organization	Representative(s)
BROADCOM	Howard Johnson
	David Peterson
	James Smart
CISCO SYSTEMS INC	Mike Blair
	Edward Mazurek
DELL INC	David Brown
HEWLET PACKARD ENTERPRISE	Barry Maskas
IBM	Patty Driever
	Roger Hathorn
MARVELL SEMICONDUCTOR INC	Raul Oteyza
NETAPP INC	Madhu Pai
VIAVI SOLUTIONS INC	Jason Rusch

FC-RDMA expert group, members

Organization	Representative(s)
BROADCOM INC	Howard Johnson
	David Peterson
	James Smart
CISCO SYSTEMS INC	Harsha Bharadwaj
	Mike Blair
	Edward Mazurek
DELL INC	David Brown

IBM CORPORATION	Patty Driever
	Roger Hathorn
MARVELL SEMICONDUCTOR INC	Raul Oteyza

FC-NVMe-3 expert group, members

Organization	Representative(s)
BROADCOM INC	Howard Johnson
	David Peterson
	James Smart
CISCO SYSTEMS INC	Mike Blair
	Edward Mazurek
DELL INC	David Brown
HEWLETT PACKARD ENTERPRISE	Barry Maskas
IBM CORPORATION	Patty Driever
	Roger Hathorn
MARVELL SEMICONDUCTOR INC	Raul Oteyza

FC-SP-3 expert group, members

Organization	Representative(s)
BROADCOM INC	Howard Johnson
	David Peterson
	James Smart
CISCO SYSTEMS INC	Harsha Bharadwaj
	Mike Blair
	Edward Mazurek
DELL INC	David Brown
IBM CORPORATION	Patty Driever
	Roger Hathorn

MARVELL SEMICONDUCTOR INC	Raul Oteyza

Joint T11.2/T11.3 expert group, members

Organization	Representative(s)
Amphenol Corporation	Paul Coddington
Broadcom Inc	Ben Chu
Broadcom Inc	Howard Johnson
Broadcom Inc	David Peterson
Broadcom Inc	James Smart
Cisco Systems Inc	Mike Blair
Cisco Systems Inc	Edward Mazurek
Cisco Systems Inc	Ramesh Sivakolundu
Cisco Systems Inc	Xiaohong Wu
CommScope	Earl Parsons
Hewlett Packard Enterprise	Barry Maskas
IBM Corporation	Patty Driever
IBM Corporation	Roger Hathorn
Lumentum Operations	Ernest Muhigana
Marvell Semiconductor Inc	Mike Dudek
Marvell Semiconductor Inc	Dean Wallace
OFS Fitel LLC	Mabud Choudhury

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 #179 held on 05 October 2023.

Standard (document link)	Expert Group Officers			Current Activity		Schedule			
	Chair	Editor	Secretary	Phase	Next Action	Last Technical Input	RFC Ballot	Letter Ballot	Forward to INCITS
FC-FS-7 (Project Proposal)	Peterson	Peterson (acting editor)	Driever	WG	RFC	TBD	TBD	TBD	TBD
FC-GS-9 (Latest draft)	Peterson	Rusch	Blair	RFC	T11 LB	Jun 2022	Apr 2023	Oct 2023	Feb 2024
FC-LS-5 (Latest draft)	Driever	Peterson (acting editor)	Rusch	RFC	T11 LB	Oct 2020	Dec 2022	Oct 2023	Feb 2024
FC-MSQS-3 (Latest draft)	Wallace	Castro	Wallace	WG	TBD				
FC-NVMe-3 (Latest draft)	Peterson (acting chair)	Peterson	Hathorn	WG	RFC	Dec 2023	Apr 2024	TBD	TBD
FC-PI-9 (Project proposal)	Wallace	Rusch	Wallace	WG	RFC	Apr 2025	Jun 2025	Dec 2025	TBD
FC-RDMA (Latest draft)	Peterson	Peterson	Hathorn	WG	RFC	Dec 2023	Jun 2024	TBD	TBD
FC-SP-3 (Latest draft)	Hathorn	Peterson	Peterson	WG	RFC	Feb 2024	Jun 2024	Dec 2024	TBD
FC-SW-8 (Latest draft)	Peterson (acting chair)	Peterson	Peterson	WG	RFC	Aug 2023	Dec 2023	TBD	TBD
Projects in Approval									
FC-FS-6	Peterson	Carlson	Driever	RFC	T11 LB	Aug 2022	Oct 2022	Jun 2023	Oct 2023

(Latest draft)									
FC-PI-8 (Last draft)	Wallace	Rusch	Wallace	PR	PUB		Apr 2022	Aug 2022	Oct 2022
FC-SP-2/AM2 (Last draft)	Hathorn	Peterson	Peterson	PR	PUB	Apr 2022	Aug 2022	Oct 2022	Oct 2022

B.2 INCITS Computer Systems Interconnect (SC 25 / WG4) project status

The following tables indicates the status of all active INCITS Computer Systems Interconnect (SC 25 / WG4) TAG projects. It reflects the official status as reported at the Fibre Channel (T11) regular meeting #179, 05 October 2023 in document T11-2023-00315-v000. The SC 25/WG 4 TAG project database is available in document sc25-wg4-2018-00011-TAG-Project-Database.

B.2.1 Active Fibre Channel (T11) Computer Systems Interconnection (SC25 WG4 TAG) Projects

	ISO/IEC # (T11 allocated)	Status
None at this time Potential Items: - *FC-PI-8 - FC-FS-6 - FC-LS-5 - FC-GS-9 - FC-SW-8 - FC-SP-3		