



**InterNational Committee for Information Technology Standards**  
**(INCITS)** Secretariat: Information Technology  
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**T11-2017-00121-v000**

**Approved Minutes**  
**INCITS Fibre Channel (T11) Technical Committee**  
**Regular Meeting #139**  
**9 February 2017 – 1 PM to 4 PM EST**  
**Raleigh, NC**

## **1 Opening Remarks and Introductions**

### **1.1 Introductory Remarks**

TC T11 chair Steve Wilson (Brocade) convened regular meeting #139 of the INCITS Fibre Channel (T11) Technical Committee on Thursday, 9 February 2017 at 1:00 PM EST. He introduced himself, and thanked Chris Lyon and our host Amphenol for the meeting facilities and amenities.

He next introduced Lew Ricci (Dell) as acting 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 the electronic attendance list would become the only source of attendance for formal records of this meeting.

## 2 Approval of the Agenda

An electronic version of the agenda was posted as T11-2017-00002-v002. The chair presented the agenda with final updates as T11-2017-00002-v003 and made a call for any changes and new agenda items. No changes or new items were requested.

Barry Maskas (HPE) moved and Dave Peterson (Brocade) seconded that T11-2017-00002-v003 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 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:

- **Luxtera:** drops membership as of this meeting.
- **Amphenol:** Brad Brubaker replaces David Sideck as Alternate, Gregory McSorley

remains as Principal and Mike Davis, Daniel Dillow, Chris Lyon, Alex Persaud, and Michael Wingard remain as Alternates.

- **Broadcom:** Ben Chu added as Alternate, with Gautam Shiroor remaining as Principal and David Baldwin, Evan Beauprez, Adam Healey, and James Smart remaining as Alternates.
- **Brocade:** Howard Johnson and Rob Peterson are added as Alternates. Steven L. Wilson remains as Principal, and John Crandall, Scott Kipp, Anil Mehta, and David Peterson remain as Alternates.
- **Commscope:** Gary Gibbs is added as Alternate. Yang (Sunny) Xu remains as Principal and Gary Irwin, Paul Kolesar, and Earl Parsons remain as Alternates.
- **DCS:** John Amato is added as Alternate, with Kevin Ehringer remaining as Principal and Todd Wheeler remaining as Alternate.
- **FIT:** Fred Fons and Glenn Moore are added as Alternates, with John Petrilla remaining as Principal and Randy Clark remaining as Alternate.
- **Keysight:** Hajime Takahashi is added as Alternate. Joachim Vobis remains as Principal and Stephen Didde and Steve Sekel remain as Alternates.
- **Molex:** Alex Haser is added as Alternate. Jay Neer remains as Principal and Mark Bugg remains as Alternate.
- **NetApp:** Urmi Misra is added as Alternate. Frederick Knight remains as Principal.
- **Oracle:** Dave Daniel is removed as Alternate. Hyon Kim and Doug Meyers are added as Alternates. Roger Dickerson remains as Principal, and Joe Chen, Matt Gaffney, and Michael Roy remain as Alternates.
- **QLogic:** Raul Oteyza is added as Alternate. Craig Carlson remains as Principal and Dean Wallace remains as Alternate.
- **Viavi:** Scott Baxter, George Bullis, and Paul Gentieu are added as Alternates. Jason Rush remains as Principal.
- **Macom:** new member eligible to become voting, with Tom Palkert as Principal.

### 3.3 New Voting Memberships

- **TE Connectivity** regains voting membership.

### 3.4 Voting memberships in jeopardy for attendance

- No member is in jeopardy for attendance for this meeting cycle.

### **3.5 Voting memberships in jeopardy for non-payment of dues**

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

### **3.6 Voting memberships in jeopardy for letter ballot performance**

- No member is in jeopardy for letter ballot performance this meeting cycle.

### **3.7 Membership for this meeting**

Technical Committee T11 had 24 voting members at the T11 regular meeting 8 December 2016. With one member regaining voting membership and one member losing membership, the voting membership of T11 remains at 24 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 24. One third of the total membership for this meeting is 8. The number of member organizations that responded to the call for quorum was 20. 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 #138

The prior regular meeting of the INCITS Fibre Channel (T11) Technical Committee was #138 on 8 December 2016. The draft Minutes of that meeting were posted as document T11/16-513v0.

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.

Jay Neer (Molex) moved and Gautam Shiroor (Broadcom) seconded to accept T11/16-513v0 as the Minutes of T11 meeting #138 on 8 December 2016. The motion passed by acclamation.

See action item [17-001](#).

#### 6 Review of Old Action Items

16-020	T11 secretary to post approved Minutes of T11 meeting #137 as agreed at T11 meeting #138. Completed by posting T11/16-513v0 on December 15, 2016.
16-021	T11 chair to forward FC-LS-3 v3.52 to INCITS for further processing. Completed by email to Rachel Porter on December 9, 2016. (See T11/16-531v0)
16-022	T11 chair to forward FC-NVMe-2 project proposal to INCITS for further processing. Completed by email to Rachel Porter on December 19, 2016. (See T11/16-532v0)
16-023	T11 international representative to inform INCITS that INCITS TC T11 recommends to Stabilize the International Standard ISO/IEC 11518-2:2000, Information technology – High Performance Parallel Interface – Part 2: Framing Protocol (HIPPI-FP). Completed by email to Rachel Porter on January 4, 2017.
16-024	T11 international representative to inform INCITS that INCITS TC T11 recommends to Stabilize the International Standard ISO/IEC 11518-6:2000, Information technology – High Performance Parallel Interface Part 6: Physical Switch Control (HIPPI-SC).

	Completed by email to Rachel Porter on January 4, 2017.
16-025	T11 chair to authorize one conference call to review T11 web transition issues. Completed. Conference call set up and held on January 30, 2017.

## **7 Review of T11 Project and Proposal Status**

### **7.1 Project Proposals**

There were no new project proposals for this reporting period.

### **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**

There were no non-ISO letter ballots held during this meeting cycle.

## **9 Old Business**

No old business was reopened.

## **10 Task Group T11.2 - Physical Interfaces**

### **10.1 Report to T11 Plenary (T11-2017-00068-v000)**

Task Group chair Tom Palkert (Macom) gave the report posted as T11-2017-00068-v000 on activity at T11.2.

### **10.2 Actions**

There were no actions requested during this plenary meeting cycle.

### **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 (T11-2017-00059-v000)**

Task Group chair Craig Carlson (QLogic) presented the information posted as T11-2017-00059-v000 on activity at T11.3.

### **11.2 Actions**

#### **11.2.1 FC-LS-3 (Approval of T11/16-395v2)**

Craig Carlson (Qlogic) moved and Dave Peterson (Brocade) seconded the following motion:

Move to forward FC-LS-3 v3.53 document T11/16-395v3 to INCITS for further processing and approve T11-2017-00029-v000 as containing the history of omitted T11.3 letter ballot comment resolutions.

A show-of-hands vote was held, with 20 affirming, 0 opposing, and 0 abstaining. Motion passes.

See Action Item [17-002](#).

### **11.3 Other Items**

No other items were presented for TG T11.3.

## **12 Joint TG T11.2 / T11.3 Items**

The joint TG T11.2 / T11.3 meeting report was presented as part of the Task Group T11.2 report.

## **13 T11 project activities**



No T11 project activities were reviewed during this plenary meeting cycle.

## **14 Review of International Activity**

### **14.1 ISO Status Report (T11-2017-00040-v000)**

T11 International Representative Dave Peterson (Brocade) presented the information posted as T11-2017-00040-v000 on project status at ISO (see [annex B.2](#)).

### **14.2 ISO Motions (US meeting vote, T11-2017-00041-v000)**

One ISO motion was presented for vote during this meeting cycle.

#### **14.2.1 BaseT Approval**

Dave Peterson (Brocade) moved and Mark Malcolm (Fujitsu) seconded the following motion:

INCITS TC T11 recommends to approve:

DIS 14165-151, Information technology – Fibre Channel – Part 151: BaseT.

Members were asked if anyone wanted to change their vote from the previous motion. None requested a change, so 20 affirming, 0 opposing, and 0 abstaining. Motion passes.

See Action Item [17-003](#).

## **15 T11 New Business**

### **15.1 National Maintenance**

#### **15.1.1 Stabilization Motion**

Steve Wilson (Brocade) moved and Fred Knight (NetApp) seconded to recommend to INCITS that the following standards be recommended for Stabilization (2/3 Meeting). The rationale for stabilization is that the standards have ongoing validity and effectiveness, but they are mature and unlikely to require maintenance of any sort.

INCITS 435-2007[R2012]	Information technology – Fibre Channel BaseT (FC-BaseT)
INCITS 432-2007[R2012]	Information technology – Fabric Application Interface Standard (FAIS)
INCITS 411-2007[R2012]	Information technology – Storage Management – Host Bus Adapter Application Interface (SM-HBA)
INCITS 413-2007[R2012]	Information technology – RapidIO™ Interconnect Specification (version 1.3)
INCITS 374-2003/AM1-2007 [R2012]	Information technology – Fibre Channel – Single-Byte Command Sets – 3 Amendment 1 (FS-SB-3/AM1)
INCITS 364:2003/AM1-2007 [R2012]	Information technology – Fibre Channel – 10 Gigabit Amendment 1 (10GFC/AM1)
INCITS/ISO/IEC 14165-414:2007 [R2012]	Information technology – Fibre Channel Generic Generic Services-4 (FC-GS-4)
INCITS 424:2007/AM1-2007 [R2012]	Information technology – Fibre Channel – Framing and Signaling – 2 Amendment 1 (FC-FS-2/AM1)
INCITS 433-2007[R2012]	Information technology – Fibre Channel – Link Services (FC-LS)
INCITS 427-2007[R2012]	Information technology – Fibre Channel Generic Services – 5 (FC-GS-5)
INCITS 424-2007[R2012]	Information technology – Fibre Channel Framing and Signaling – 2 (FC-FS-2)
INCITS 426-2007[R2012]	Information technology – Fibre Channel Security Protocols (FC-SP)

Members were asked if anyone wanted to change their vote from the previous motion. None requested a change, so 20 affirming, 0 opposing, and 0 abstaining. Motion passes.

See action item [17-004](#).

### 15.1.2 Reaffirmation Motion

Steve Wilson (Brocade) moved and Fred Knight (NetApp) seconded to recommend to INCITS that the following standards/technical reports be recommended for Reaffirmation (2/3 Meeting):

INCITS 495-2012	Information technology – Platform Management Specification
INCITS 498-2012	Information technology – CIM Representations for Management Specification
INCITS 483-2012	Information technology – Virtualization Management Specification
INCITS/TR-49-2012	Information technology – Fibre Channel – Device Attach (FC-DA-2)
INCITS/TR-48-2012	Information technology – Fibre Channel – Methodologies for Interconnects – 3 (FC-MI-3)
INCITS 462-2010/AM1-2012	Information technology – Fibre Channel – Backbone – 5 Amendment 1 (FC-BB-5/AM1)
INCITS 496-2012	Information technology – Fibre Channel Security Protocols 2 (FC-SP-2)
INCITS/TR-47-2012	Information technology – Fibre Channel – Simplified Configurations and Management (FC-SCM)
INCITS/TR-42-2007[R2012]	Information technology – Fibre Channel Avionics Environment – Upper Layer Protocol and Profile based on MIL-STD-1553B Notice 2 (FC-AE-1553)

Members were asked if anyone wanted to change their vote from the previous motion. None requested a change, so 20 affirming, 0 opposing, and 0 abstaining. Motion passes.

See action item [17-005](#).

## **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 (T11-2016-533v0), INCITS Liaison report (T11-2017-00019-v000)**

Steve Wilson (Brocade) presented the information posted as T11-2016-533v0 on activity at T11 as reported to other organizations, and the information posted as T11-2017-00019-v000 on activity at INCITS other than T11 project status.

### **17.2 TC T10 (T11-2017-00003-v000)**

Fred Knight (NetApp) reviewed report T11-2017-00003-v000 on activity at INCITS Technical Committee T10.

### **17.3 SNIA and DMTF (T11-2017-00060-v000)**

Fred Knight (NetApp) discussed report T11-2017-00060-v000 on SNIA and DMTF activities.

### **17.4 FCIA (T11-2017-00061-v000)**

Greg McSorley (Amphenol) gave report T11-2017-00061-v000 on activity at FCIA.

### **17.5 IEEE 802.3 (T11-2017-00062-v000)**

Tom Palkert's IEEE liaison report T11-2017-00062-v000 was presented in the T11.2 plenary, and not repeated in the T11 plenary.

### **17.6 INCITS TC CS1 (none)**

No report on INCITS TC CS1 activity was given during this plenary meeting cycle.

### **17.7 NVMe (verbal)**

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

### **17.8 COBO (none)**

No COBO liaison report was presented during this plenary meeting cycle.

## **18 Administrative Matters**

### **18.1 Officer Appointments**

Officers of this Technical Committee and its Task Groups are:

T11 Chair	Steve Wilson (Brocade)
T11 International Representative	David Peterson (Brocade)
T11 Secretary	Richard Johnson (Finisar)

T11 Vice chair	Claudio DeSanti (Cisco)
T11.2 Chair	Tom Palkert (Macom)
T11.2 Secretary	Richard Johnson (Finisar)
T11.2 Vice-chair	Dean Wallace (QLogic)
T11.3 Chair	Craig Carlson (QLogic)
T11.3 Secretary	Patty Driever (IBM)
T11.3 Vice-chair	Lou Ricci (Dell)

## **18.2 T11 Information Technology**

### **18.2.1 Web site status (none)**

With the transition of T11 documents and activities to the INCITS Committee Management System (ICMS) at <http://standards.incits.org>, no website status report was given for <http://www.t11.org>.

## **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 Molex and Tom Palkert in Deerfield Beach, FL, 27-31 March 2017.

### **19.2 Guidelines for hosting T11 meetings (T11-2016-036v0)**

Lou Ricci (EMC) has recently updated the important information for those considering hosting a T11 meeting week, which is now available as (T11-2016-036v0). 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 – 2017 & 2018 future meeting plans**

The chair announced the following schedule for 2017 meetings and asked members to volunteer to host 2018 meetings.

<b>Date</b>	<b>Location</b>	<b>Host Organization</b>	<b>Host Person</b>
March 27-31, 2017	Deerfield Beach, FL	Molex	Tom Palkert
June 5-9, 2017	Anchorage, AK	QLogic	Craig Carlson
August 7-11, 2017	Providence, RI	HPE	Rupin Mohan
October 2-6, 2017	Coeur d'Alene, ID	FCIA	Susan Crolla
December 4-8, 2017	Santa Rosa, CA	Brocade	Steve Wilson
February 5-9, 2018	(tbd)		
April 9-13, 2018	(tbd)		
June 4-8, 2018	(tbd)		
August 6-10, 2018	(tbd)		
October 1-5, 2018	(tbd)		
December 3-7, 2018	(tbd)		

### **19.4 Approval of Meeting Venues**

No approvals were requested during this meeting cycle.

### **19.5 Next meeting information**

The chair reminded the membership that the next T11 plenary week is hosted by Molex and Tom Palkert in Deerfield Beach, FL, 6-10 February 2017. He noted that detailed information about the hotel and the locale can be found at T11-2017-00007-v000.

### **19.6 Letter to travel representatives on hotel rates (T11-2016-028v0)**

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 T11-2016-028v0 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 March 2017 T11 meetings**

The acting vice chair Lou Ricci (Dell) 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 [https://standards.incits.org/apps/org/workgroup/t11/documents.php?folder\\_id=2202](https://standards.incits.org/apps/org/workgroup/t11/documents.php?folder_id=2202).

## **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 #139 is shown in annex A.2. 22 people from 20 member organizations were in attendance.

## **21 Review of Action Items**



17-001	T11 secretary to post approved Minutes of T11 meeting #138 as agreed at T11 meeting #139. (See <a href="#">clause 5</a> ).
17-002	T11.3 chair to forward FC-LS-3 (INCITS 487) revision 3.53 document T11/16-395v3 to INCITS for further processing and approve T11-2017-00029-v000 as containing the history of omitted T11.3 letter ballot comment resolutions. (See <a href="#">clause 11.2.1</a> )
17-003	T11 international representative to inform INCITS that INCITS TC T11 recommends to approve DIS 14165-151, Information technology –Fibre channel – Part 151: Base T. (T11 IR motion T11-2017-00041-v000; see <a href="#">clause 14.2.1</a> )
17-004	T11 chair to recommend to INCITS stabilization of standards per Motion 1 of T11-2017-00004-v000. (See <a href="#">clause 15.1.1</a> )
17-005	T11 chair to recommend to INCITS stabilization of standards per Motion 2 of T11-2017-00004-v000. (See <a href="#">clause 15.1.2</a> )

## 22 Adjournment

Greg McSorley (Amphenol) moved to adjourn at 2:10 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**

**Mr. Roger Cummings**

**Dr. William Ham**

**Mr. Robert Kembel**

**Mr. Joseph Mathis**

**Mr. Bob Nixon**

**Mr. Schelto Van Doorn**

**Mr. Gary Stephens**

**Mr. Horst Truestedt**

#### **A.1.2 Voting Members**

The following is the list of organizations that are voting members of record for regular meeting #139 of the INCITS Fibre Channel (T11) Technical Committee, including the recognized representatives of each member organization:

<b>Organization</b>	<b>Representative Type</b>	<b>Representative</b>
Amphenol	Principal	Gregory McSorley
	Alternate	Michael Wingard

	Alternate	Alex Persaud
	Alternate	Chris Lyon
	Alternate	Daniel Dillow
	Alternate	Brad Brubaker
	Alternate	Mike Davis
Broadcom Limited	Principal	Gautam Shiroom
	Alternate	Evan Beauprez
	Alternate	Adam Healey
	Alternate	James Smart
	Alternate	David Baldwin
	Alternate	Ben Chu
Brocade	Principal	Steven L. Wilson
	Alternate	David Peterson
	Alternate	Scott Kipp
	Alternate	John Crandall
	Alternate	Anil Mehta
	Alternate	Howard Johnson
	Alternate	Rob Peterson
Cisco	Principal	Claudio DeSanti
	Alternate	Fabio Maino
	Alternate	J Metz
	Alternate	Landon Noll
	Alternate	Joe Pelissier
Commscope	Principal	Yang (Sunny) Xu
	Alternate	Paul Kolesar
	Alternate	Gary Irwin
	Alternate	Earl Parsons
	Alternate	Gary Gibbs
Corning	Principal	Doug Coleman
	Alternate	Steven E. Swanson

DCS	Principal	Kevin Ehringer
	Alternate	Todd Wheeler
	Alternate	John Amato
Dell	Principal	Louis Ricci
	Alternate	David Black
	Alternate	Erik Smith
	Alternate	Joseph White
	Alternate	Gaurav Chawla
	Alternate	Jeff Young
Finisar	Principal	Chris Yien
	Alternate	Richard Johnson
Foxconn Interconnect Technologies	Principal	John Petrilla
	Alternate	Randy Clark
	Alternate	Fred Fons
	Alternate	Glenn Moore
Fujitsu	Principal	Mark Malcolm
	Alternate	Kun Katsumata
	Alternate	Eugene Owens
	Alternate	Osamu Kimura
Global Foundries	Principal	Adrian Butter
	Alternate	John Ewen
Hewlett Packard Enterprise	Principal	Barry Maskas
	Alternate	Siamack Ayandeh
	Alternate	Krishna Babu Puttagunta
	Alternate	Rupin Mohan
IBM	Principal	Roger Hathorn
	Alternate	Patty Driever
Keysight Technologies	Principal	Joachim Vobis
	Alternate	Stephen Didde
	Alternate	Steve Sekel

	Alternate	Hajime Takahashi
Lumentum	Principal	Dave Lewis
Molex	Principal	Jay Neer
	Alternate	Mark Bugg
	Alternate	Alex Haser
NetApp	Principal	Frederick Knight
	Alternate	Urmi Misra
OFS	Principal	Roman Shubochkin
	Alternate	Mabud Choudhury
Oracle	Principal	Roger Dickerson
	Alternate	Michael Roy
	Alternate	Matt Gaffney
	Alternate	Joe Chen
	Alternate	Doug Meyers
	Alternate	Hyon Kim
Panduit	Principal	Robert Elliot
	Alternate	Jose Castro
	Alternate	Steve Skiest
	Alternate	Robert Reid
QLogic	Principal	Craig W. Carlson
	Alternate	Dean Wallace
	Alternate	Raul Oteyza
TE Connectivity	Principal	Nathan Tracy
	Alternate	Jeff Mason
	Alternate	Melissa Knox
	Alternate	Andy Nowak
Viavi	Principal	Jason Rusch
	Alternate	George Bullis
	Alternate	Paul Gentieu
	Alternae	Scott Baxter

### A.1.3 Advisory Members

The following is the list of organizations that are advisory (i.e., nonvoting) members of record for regular meeting #139 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
Hitachi Data Systems	Principal	Eric Hibbard
	Alternate	Vincent Franceschini
	Alternate	Michael Hay
	Alternate	Akinobu Shimada
	Alternate	Ken Wood
Macom	Principal	Tom Palkert
Microsoft	Principal	Lee Prewitt
	Alternate	Steve Olsson
	Alternate	Paul Luber
Oclaro	Principal	Kohichi Tamura
Optoway	Principal	PC Chen
	Alternate	Judy Chen
Semtech Canada	Principal	David Brown
	Alternate	Ed Frlan
	Alternate	Francois Tremblay
SmartDV	Principal	Deepak Kumar Tala
Unisys	Principal	Jeffrey Dremann
	Alternate	Phil Shelton
VMWare	Principal	Neil MacLean
	Alternate	Murali Rajagopal
	Alternate	Ahmad Tawil

ZTE	Principal	Xiaoxiang Wu
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## 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 #139 of the INCITS Fibre Channel (T11) Technical Committee:

Organization	Representative(s)
AMPHENOL INTERCONNECT	Gregory McSorley
	Chris Lyon
BROADCOM LIMITED	Gautam Shiroor
BROCADE	David Peterson
	Steven L. Wilson
COMMSCOPE	Gary Gibbs
CORNING	Doug Coleman
DCS	Zach Nason
DELL INC	Louis Ricci
FINISAR CORPORATION	Richard Johnson
FOXCONN INTERCONNECT	John Petrilla
FUJITSU	Mark Malcolm
GLOBALFOUNDRIES	Adrian Butter
HEWLETT PACKARD ENTERPRISE	Barry Maskas
IBM	Roger Hathorn
MOLEX	Jay Neer
NETAPP	Frederick Knight
OFS	Mabud Choudhury
PANDUIT	Jose Castro
QLOGIC	Craig W. Carlson
TE CONNECTIVITY	Jeff Mason

VIAVI	Jason Rusch
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## A.2.2 Nonmember organizations

The following is the list of nonmember organizations and their representatives recorded in the online attendance registry as attending regular meeting #139 of the INCITS Fibre Channel (T11) Technical Committee:

Organization	Representative(s)
	None

## A.2.3 Ad hoc meeting attendance

FC-NVMe ad hoc, members

Organization	Representative(s)
BROADCOM LIMITED	David Baldwin
	Gautam Shiroor
	James Smart
BROCADE	John Crandall
	Howard Johnson
	David Peterson
	Steven L. Wilson
DELL	Louis Ricci
FUJITSU	Mark Malcolm
HPE	Barry Maskas
IBM	Patty Driever
	Roger Hathorn
NETAPP	Frederick Knight
QLOGIC	Craig Carlson
	Raul Oteyza
VIAVI	Jason Rusch



FC-SW-7 ad hoc, members

Organization	Representative(s)
BROADCOM LIMITED	Gautam Shiroor
BROCADE	John Crandall
	Howard Johnson
	David Peterson
	Steven L. Wilson
DELL	Louis Ricci
FUJITSU	Mark Malcolm
HPE	Barry Maskas
IBM	Patty Driever
	Roger Hathorn
NETAPP	Frederick Knight
QLOGIC	Raul Oteyza
	Craig W. Carlson
VIAVI	Jason Rusch

FC-PI-7 ad hoc, members

Organization	Representative(s)
AMPHENOL	Gregory McSorley
BROADCOM LIMITED	Ben Chu
BROCADE	Steve Wilson
COMMSCOPE	Gary Gibbs
CORNING	Doug Coleman
DCS	Todd Wheeler
FINISAR	Richard Johnson
FOXCONN INTERCONNECT	John Petrilla
GLOBALFOUNDRIES	Adrian Butter
OFS	G. Mabud Choudhury

PANDUIT	Jose Castro
TE CONNECTIVITY	Jeff Mason

And one nonmember:

NETAPP	Fred Knight
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FC-GS-8 ad hoc, members

Organization	Representative(s)
BROADCOM LIMITED	Gautam Shiroor
BROCADE	John Crandall
	Howard Johnson
	David Peterson
	Steve Wilson
DELL	Louis Ricci
FUJITSU	Mark Malcolm
HPE	Barry Maskas
IBM	Roger Hathorn
	Patty Driever
NETAPP	Frederick Knight
QLOGIC	Raul Oteyza
VIAVI	Jason Rusch

FC-LS-4 ad hoc, members

Organization	Representative(s)
BROADCOM LIMITED	Gautam Shiroor
BROCADE	Howard Johnson
	David Peterson
	Steve Wilson
DELL	Louis Ricci
FUJITSU	Mark Malcolm

HPE	Barry Maskas
IBM	Roger Hathorn
	Patty Driever
NETAPP	Fred Knight
QLOGIC	Raul Oteyza
	Craig W. Carlson
VIAVI	Jason Rusch

FC-FS-5 ad hoc, members

Organization	Representative(s)
BROADCOM LIMITED	Gautam Shiroor
BROCADE	John Crandall
	Howard Johnson
	Steve Wilson
DELL	Louis Ricci
FUJITSU	Mark Malcolm
HPE	Barry Maskas
IBM	Roger Hathorn
	Patty Driever
NETAPP	Frederick Knight
QLOGIC	Raul Oteyza
VIAVI	Jason Rusch

Joint T11.2 / T11.3 ad hoc, members:

BROADCOM LIMITED	David Baldwin
	Ben Chu
	Gautam Shiroor
BROCADE	John Crandall
	Howard Johnson
	David Peterson
	Steve Wilson

COMMSCOPE	Gary Gibbs
DELL	Louis Ricci
FINISAR	Richard Johnson
FOXCONN INTERCONNECT	John Petrilla
FUJITSU	Mark Malcolm
HPE	Barry Maskas
IBM	Patty Driever
NETAPP	Fred Knight
OFS	G. Mabud Choudhury
QLOGIC	Craig Carlson
VIAVI	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 9 February 2017.

Standard	Status	Action	Target or Reaffirm Date	Editor	Ad Hoc Chair	Secretary
Projects in Development Stage						
FC-EE	At T11	To T11	Jun-17		Wallace	
FC-FS-5	In dev.	To T11.3	Oct-17	Carlson	Peterson	Driever
FC-GS-8	In dev.	To T11.3	Aug-17	Rusch	Ricci	Dickerson
FC-LS-4	In dev.	To T11	Jun-17	Carlson	Ricci	Driever
FC-NVMe	In dev.	To T11.3	Jun--17	Peterson	Carlson	Hathorn
FC-PI-7	In dev.	To T11.2	Jun-17	Castro	Wallace	Wallace
FC-SW-7	In dev.	To T11.3	Aug-17	Peterson	Carlson	Peterson
MSQS-3	In dev.	To T11.2	Oct-17	Vobis	Wallace	Wallace
Projects in Approval Stage						
FC-FS-4	At INCITS	Pre-Edit	Apr-17	Carlson	Peterson	Driever
FC-GS-7	At INCITS	End 2 <sup>nd</sup> PR	Apr-17	Rusch	Ricci	Dickerson
FC-LS-3	At INCITS	1 <sup>st</sup> PR	Jun-17	Carlson	Peterson	Driever
FC-SB-6	At INCITS	1 <sup>st</sup> PR	Jun-17	Driever	Hathorn	Dickerson

## B.2 T11 project status at ISO

The following tables indicates the status of all active T11 projects at ISO. It reflects the official status as reported at the T11 regular meeting #139, 9 February 2017 in document T11-2017-00040-v000.

### B.2.1 Active T11 SC25 WG4 Projects

JTC1/SC25 Project	Document	ISO/IEC # (T11 allocated)	Step	Status
1.25.13.19.x	FC-BaseT	14165-151	40.20	Recommendation to approve today.
1.25.13.19.x	FC-SP-2+AM1	14165-432	?	JTC 1 resolution to allow less than 5 p-member countries approved.
1.25.13.19.x	FC-BB-6	14165-246	?	JTC 1 resolution to allow less than 5 p-member countries approved.
1.25.13.19.x	FC-SB-5	14165-225	?	JTC 1 resolution to allow less than 5 p-member countries approved.

### B.2.2 Active Miscellaneous WG4 Projects

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

### B.2.3 Published WG4 Projects

JTC1/SC25 Project Num	Document	ISO/IEC #	Step	Status	Maintenance
1.25.13.13.x	SMI-S v1.5	24775:2012	60.60	Published	
1.25.13.13.49	FC-AE-ASM	14165-313	60.60	Published	
1.25.13.13.50	FC-AE-RDMA	14165-314	60.60	Published	
1.25.13.13.30	FC-BB-3	14165-243	60.60	Published	

1.25.13.22	Server Management Command Line Protocol (SM-CLP)	13187	60.60	Published	Confirm – Aug16
1.25.13.19.01	Storage Management	24775	60.60	Published	
1.25.13.13.47	FC-MI-2	14165-372	60.60	Published	
1.25.13.21	iSCSI Management API (IMA)	11989	60.60	Published	Confirm-Jun15
1.25.13.13.25	FC-SW-3	14165-133	60.60	Published	Confirm – Apr15
1.25.13.13.18	FC-AV	14165-321	60.60	Published.	Confirm-Dec14
1.25.13.13.19	FC-AE-1553	14165-312	60.60	Published.	
1.25.13.13.29	FAIS	14165-521	60.60	Published.	Confirm-Feb14
1.25.13.13.15	FC-GS-4	14165-414	60.60	Published	
1.25.13.13.22	FC-FS	14165-251	60.60	Published	Withdrawn - Feb. 2013
1.25.13.13.26	FC-VI	14165-331	60.60	Published	
1.25.13.13.27	10GFC	14165-116	60.60	Published	Stabilize-Apr16
1.15.13.13.28	MJSQ	14165-117	60.60	Published	
1.25.13.10.18	RL	24740	60.60	Published	
1.25.13.19	SMS (was SMI-S)	24775	60.60	Published	
1.25.13.20	SNIA MMA	11002	60.60	Published	Confirm - Aug. 2013
1.25.13.13.27-1	10GFC-Amendment 1	14165-116-1	60.60	Published	
1.25.13.13.06-1	FC-AL-2-1	14165-122	60.60	Published.	
1.25.13.13.06-2	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