



InterNational Committee for Information Technology Standards (INCITS)

Secretariat: Information Technology Industry Council (ITI)

700 K Street NW, Suite 600, Washington, DC 20001

www.INCITS.org



Doc. No.: T10/23-080

Date: November 17, 2023

Reply to: Curtis Stevens

To: T10 Membership
From: Curtis Stevens and Bill Martin
Subject: Minutes: T10 Plenary Meeting #178, November 9, 2023
Plano, TX / Hybrid

Agenda

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 - 15.2 Long-term T10 meeting week schedule
16. Adjournment

Results of Meeting

1. Opening Remarks

Bill Martin (Samsung) called the meeting to order at 9:00am (CST), November 9, 2023.

Bill Martin (Samsung) thanked Ralph Weber and Western Digital for hosting our meeting in Plano, TX. Bill Martin also thanked Samsung for providing Zoom for virtual meeting services.

Bill Martin (Samsung) reported that INCITS Technical Committee (TC) membership forms are available on the INCITS website at:

<https://standards.incits.org/kcpm/signup>

Attendance was shown in the zoom meeting attendance tab.

As is customary, the people attending in person introduced themselves. Attendance (see enclosure 1) was taken electronically via the meeting website.

2. Approval of Agenda

Bill Martin (Samsung) moved and Curtis Stevens (STX) seconded that the agenda be approved as shown. The motion passed unanimously.

Bill Martin indicated that the two project proposals on the agenda, 12.3 and 12.4, did not meet the 2-week rule and would not be voted on at this meeting.

3. Attendance, Membership, Attendance Jeopardy, and Letter Ballot Jeopardy

People may attend T10 meetings as guests. Guests who continue to attend T10 meetings are expected to join T10 and to pay the INCITS Service Fees.

The membership requirements were reviewed. INCITS rules permit one vote per organization. A new organization may earn voting rights by:

- paying the INCITS Service Fees; and
- attending two of three consecutive T10 plenary meetings.

At their second T10 plenary meeting, new organizations may begin voting. For the complete INCITS rules, please see the *INCITS Organization, Policies and Procedures* document at:

<http://www.incits.org/standards-information/policies>

To maintain membership, organizations must pay the annual INCITS Service Fee.

Advisory members need not attend any T10 meetings, but are always welcome. Advisory members are not permitted to vote.

Voting members have minimum attendance requirements to maintain their vote. If a voting organization fails to attend two of the last three T10 meetings, they are in attendance jeopardy and are warned that failing to attend the next T10 meeting will result in their membership being changed to Advisory.

Bill Martin (Samsung) reported that no organization is in attendance jeopardy for this meeting.

Following this meeting Netapp will be in attendance jeopardy and if they do not attend the next T10 plenary meeting their membership will change from voting to advisory.

Bill Martin (Samsung) asked if any organization was interested in becoming a voting member.

Micron indicated that they would like to become a perspective voting member.

If a voting organization fails to return two out of the last three letter ballots, they are in letter ballot jeopardy and are warned that failing to return the next letter ballot will result in their membership being changed to Advisory. Accelerated letter ballots are not included in letter ballot jeopardy calculations.

The current letter ballot jeopardy status was as shown:

No companies are in letter ballot jeopardy.

T10 Letter Ballot Jeopardy Report -- November 9, 2023

Organization

	Date: 18-Jul-2022 Acronym: SAS-4.1	24-Nov-2022 Advisory Ballot	14-Feb-2023 ADC-4	29-Feb-2023 SAT-5
Marvell	X	X	X	DNV
Seagate	X	X	X	DNV

Key:

- DNV Organization failed to return letter ballot
- X Organization Voted
- Organization was not a voting member for the letter ballot

The T10 voting membership during this meeting was 20 organizations. Enclosure (1) is the list of the people present at the meeting and enclosure (3) is the current T10 membership list. There were 18 voting organizations present at the meeting. Five of the attendees were in person, the remainder were on the teleconference.

Bill Martin (Samsung) reviewed the information provided by the electronic attendance system and reported that 16 voting organizations had already registered representation by this time in the meeting. Based on this report, Bill Martin (Samsung) declared that the INCITS quorum requirements for the meeting had been fulfilled.

Bill Martin (Samsung) reported that a summary of the attendance for all Ad Hoc meetings since the previous plenary are available in enclosure (2).

4. Approval of Minutes - September 14, 2023 [\(23-064r0\)](#)

Bill Martin (Samsung) moved and Curtis Stevens (STX) seconded that the T10 minutes in [23-064r0](#) be approved. There was meeting discussion. The motion passed unanimously.

5. Review of Old Action Items

- 1107 Chair to discuss with INCITS the process for moving the SNT project forward
- 1108 Ralph Weber to prepare an ISO report for the November plenary
- 1109 Chair to forward 23-060r0 to INCITS as the National Maintenance recommendations
- 1110 Chair to request an RFC Ballot for 23-026r1

Action items 1109 and 1110 are being carried over to the next meeting.

6. INCITS Code of Conduct

The INCITS Code of Conduct was displayed. No interpretation or explanation of the INCITS Code of Conduct was provided.

If there are any concerns regarding an INCITS meeting that are unable to be resolved in the meeting, please send an E-Mail to Concerns@Standards.INCITS.org to engage INCITS for resolution of the concerns.

For the complete INCITS Code of Conduct information, please see the INCITS Code of Conduct document at:

<https://www.incits.org/standards-information/policies>

7. INCITS Antitrust Guidelines

All T10 members should be aware of the INCITS antitrust guidelines available at <https://incits.org/standards-information/legal-info>.

Bill Martin (Samsung) reminded committee members that all persons present at a T10 meeting are responsible for identifying potential violations of the antitrust guidelines and reporting them to the person chairing the meeting. Discussions of the following topics are considered sensitive:

- 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.

8. Call for Patents

Bill Martin (Samsung) explained that this is a regular agenda item to identify any potential patent issues with developing standards and technical reports.

The INCITS patent slides were displayed. No interpretation or explanation of the patent policy was provided. The Chair noted that these slides and a patent declaration form are available in the Patent Policy section of the INCITS website accessed by:

<https://incits.org/standards-information/legal-info>

Questions about this policy are to be referred to the participant's legal counsel or the ANSI General Counsel.

The meeting chair issued a call for patents. There were no responses to the call for patents.

9. Document Distribution

Bill Martin (Samsung) noted that T10 documents are distributed through the <https://www.t10.org/> website.

As an archival mechanism, electronic 'mailings' are prepared about one week following the T10 plenary meetings. These 'mailings' take the form of a ZIP file that is placed in the members-only area of the T10 ftp site. T10 members can access this area by using the following URL:

`ftp://t10member:password@ftp.t10.org/`

The password changes after each T10 meeting. Members can also obtain the current password by using the form at:

<https://www.t10.org/members/pswdhelp.htm>

People can obtain T10 document numbers for new and revised T10 documents by filling out a web form at <https://www.t10.org/members/>. The assigned T10 document number will be sent to the requestor by e-mail and will also appear at: <https://www.t10.org/fupload.htm>. The requestor may either use forms at this URL or reply to the e-mail to post his/her document.

T10 members can complete this entire process using their personal T10 password, which can be retrieved at:

<https://www.t10.org/members/pswdhelp.htm>

Bill Martin (Samsung) noted that non-members can also use the above document number process, but their requests will require approval by an administrator.

To be added to the T10 Reflector, please go to the following URL:

<https://www.t10.org/t10r.htm>

The INCITS Secretariat maintains a World Wide Web page at:

<https://www.incits.org/>

Currently, Western Digital Technologies maintains a website on behalf of T10 on virtual servers donated by their company at:

<https://www.t10.org/>

The T10 document register is available at:

<ftp://ftp.t10.org/t10/dr.txt>

If you are a T10 member, you can set up a T10 personal mirror site for yourself and/or, within your organization's firewall, for your whole company. Directions can be found at:

<https://www.t10.org/mirror.htm>

Ralph Weber reported the status of the website and reflector. The WD IT department has decided to update the operating system software on the T10 website to pass a site-security test suite. This work will require two to four downtime intervals between November and January. The updates work will begin *after* the November T10 Mailing is closed, and will be announced at least 24 hours in advance on the T10 Reflector.

10. Project Status Reports

10.1 Project Status Summary and INCITS Liaison [Martin]

Bill Martin (Samsung) reported that the current [T10 project status summary](#) was available on the meeting website and will be included in the virtual mailing.

For members with an INCITS login the [T10 project status summary](#) can also be found on the INCITS SCSI landing page.

10.2 Automation/Drive Interface - Commands - 4 (ADC-4) BSR INCITS 541 [Ballard]

Curtis Ballard (HPE) reported that ADC-4 is now available for purchase from the ANSI store.

This item should be removed from future agendas.

10.3 SCSI to ATA Translation - 5 (SAT-5) BSR INCITS 557 [Stevens]

Curtis Stevens reported that he has finished checking the ANSI editor version of SAT-5 and found no issues.

10.4 Serial Attached SCSI -5 (SAS-5) SAS-5 BSR INCITS 561 [Cox]

Bill Martin (Samsung) reported that there was no SAS Phy activity. The current revision is [SAS-5r01a](#).

SAS-5 is currently on hold. There is consideration for adding some non-speed related material (e.g., a new connector).

T10 is waiting for guidance from STA on next steps. T10 has discussed that withdrawing this project would make it impossible to have a SAS-5 project in the future and has chosen to not withdraw it at this time. The TC will look for a volunteer to step up as editor of SAS-5 once activities resume on this effort.

10.5 SCSI Primary Commands - 6 (SPC-6) BSR INCITS 566 [Weber]

Ralph Weber (WDC) reported on SPC-6 activities, more information is in [23-081](#). The current revision is [SPC-6r10](#). There were two proposals recommended to the plenary, one proposal in development, and no proposals waiting integration. A new revision is planned prior to the next meeting.

There was an editorial review of SPC-6 during the CAP Ad Hoc.

10.6 SCSI Block Commands - 5 (SBC-5) BSR 571 [Martin]

Bill Martin (Samsung) reported on SBC-5 activities, more information is in [23-081](#). The current revision is [SBC-5r05](#). There were four proposals recommended to the plenary, no proposals in process and no proposals waiting integration. A new revision is planned prior to the next meeting.

10.7 SCSI to ATA Translation - 6 (SAT-6) BSR INCITS 578 [Stevens]

Curtis Stevens (STX) reported on SAT-6 activities, more information is in [23-081](#). There were no proposals recommended to the plenary, two proposals in process and eleven proposals waiting integration. No revision is planned until SAT-5 is published.

10.8 Zoned Block Commands - 3 (ZBC-3) BSR INCITS 579 [Weber]

Ralph Weber (WDC) reported on ZBC-3 activities, more information is in [23-081](#). The current revision is [ZBC-3r02](#). There was one proposal recommended to the plenary, no proposals in process and no proposals waiting integration. A new revision is planned prior to the next meeting.

10.9 SCSI Stream Commands - 5 Amendment (SSC-5-AM1) BSR INCITS 503 AM1 [Butt]

Kevin Butt (IBM) reported on SSC-5-AM1 activities, more information is in [23-081](#). There were no proposals recommended to the plenary, no proposals in process and no proposals waiting integration. No new revision is planned prior to the next meeting.

10.10 SCSI to NVMe Translation (SNT) [Stevens]

Curtis Stevens (STX) reported on SNT activities, more information is in [23-081](#). The project proposal has been approved by the INCITS EB. Work has been done to use the Style Guide 5th edition as the starting point for rev 0. A proposal is in process to setup the skeleton for the new standard. Once the skeleton is approved by the plenary a revision 0 draft is planned.

The NVM Express Corporation reviewed the MOU and the results of their review, contained in [23-066r4](#), were reviewed by the CAP Ad Hoc.

Bill Martin (Samsung) moved and Curtis Ballard (HPE) that [23-066r5](#) be forwarded to the INCITS secretariat and to the NVM Express board. Motion passed unanimously.

11. Old Business

There was no old business.

12. New Business

12.1 Actions on SAS Phy Ad Hoc Recommendations

There were no SAS Phy recommendations.

12.2 Actions on CAP Ad Hoc Recommendations

Bill Martin (Samsung) moved and Ralph Weber (WDC) seconded that the motion at the previous plenary meeting, to approve [23-044r5](#) to be included into SBC-5, be reconsidered. Motion passed unanimously. There was discussion on the reconsidered motion to include [23-044r5](#) in SBC-5. Motion failed 0:17:0.

The following recommendations were made to the T10 plenary:

For inclusion into SPC-6:

[23-072r0](#) (SPC-6 TEST UNIT READY for Depop et al.) [Weber].

For inclusion into SBC-5 and SPC-6:

[23-071r0](#) (SBC-5, SPC-6: Interrupted Depopulation and Interrupted Restoration) [Weber].

For inclusion into SBC-5:

[23-073r0](#) as modified ([23-073r1](#)) (SBC5: CAPPID Modifications) [Martin];

[23-076r0](#) as modified ([23-076r1](#)) (SBC-5 Nitpicking the Grouping Functions model) [Weber]; and

[23-078r0](#) as modified ([23-078r1](#)) (SBC-5 Nitpicking in the Stream Control model) [Weber].

For inclusion into ZBC-3:

[\(23-052r2\)](#) as modified as modified as modified ([23-052r5](#)) (ZBC-3: Conventional Zone State Transition Diagram) [Boutiette].

Ralph Weber (WDC) moved and Curtis Stevens (STX) seconded that:

[23-072r0](#) be approved for inclusion into SPC-6;

[23-071r0](#) be approved for inclusion into SPC-6 and SBC-5;

[23-073r0](#) as modified ([23-073r1](#)), [23-076r0](#) as modified ([23-076r1](#)), [23-078r0](#) as modified ([23-078r1](#)) be approved for inclusion into SBC-5; and

[\(23-052r2\)](#) as modified as modified as modified ([23-052r5](#)) be approved for inclusion into ZBC-3.

There was discussion on the motion. Motion passed unanimously.

12.3 Project Proposal: SCSI Primary Commands - 7 (SPC-7) ([23-079r0](#)) [Weber]

This project proposal did not meet the two-week rule. Ralph Weber (WDC) asked that this be discussed at the next meeting.

12.4 Project Proposal SAS-4.1 AM1 ([23-082r1](#)) [Besmer]

This project proposal did not meet the two-week rule. Brad Besmer (Broadcom) reported that this project proposal was reviewed during the CAP Ad Hoc and asked that members review this project proposal and that this be discussed at the next meeting.

13. Liaison Reports

13.1 T11 Liaison Report [Johnson/Carlson]

Paul Coddington (Amphenol) presented the T11 liaison report, which is made available electronically in [23-010r5](#). The next T11 meeting week is December 4-8 and is a hybrid meeting in Deerfield Beach, FL. For additional details regarding T11 activities see www.t11.org.

13.2 T13 Liaison Report [Weber]

Ralph Weber (WDC) presented the T13 liaison report, which was made available electronically in [23-033r5](#). The next T13 meeting is December 12-13, 2023 and is a hybrid meeting in Lake Forest, CA. For additional details regarding T13 activities see www.t13.org.

13.3 JTC1 SC25 WG4 TAG [Weber]

Fred Knight (Kioxia) presented the JTC1 SC25 WG4 TAG liaison report, which was made available electronically in [23-070](#). There has been discussion regarding WG4 completing its work. This agenda items should be changed to ISO/IEC status

Fred Knight (Kioxia) has returned as the T10 International Representative.

13.4 SCSI Trade Association (STA) [Brett]

In the absence of Cameron Brett, Paul Coddington (Amphenol) presented the STA report, which was made available electronically in [23-083r0](#). For additional details regarding STA activities, see www.scsita.org.

13.5 SNIA [Martin]

Bill Martin (Samsung) presented the SNIA liaison report, which was made available electronically in [23-059r2](#). For additional details regarding SNIA activities, see www.snia.org.

14. Review of Action Items

All action items have been completed and no new action items resulted from this meeting.

- 1109 Chair to forward 23-060r0 to INCITS as the National Maintenance recommendations
- 1110 Chair to request an RFC Ballot for 23-026r1
- 1111 Chair to forward 23-066r5 (SNT MOU) to INCITS for further processing
- 1112 Curtis Ballard to take 23-066r5 (SNT MOU) to the NVMe Board

15. Meeting Schedule

15.1 Authorization of Ad Hoc Meetings and Conference Calls

The next plenary meeting of T10 will be a hybrid meeting starting Thursday 01/11 at 9:00am (PST). The meeting announcement is available on the T10 website at:

<https://www.t10.org/meeting.htm>

The meeting plan for the next meeting week is:

**January 2024 Meeting Map (Hybrid meeting with the physical meeting location to be in Lake Forest, CA
(The meeting map is shown in PST timezone)**

Monday	01/08	9	10	11	12	1	2	3	4	5	
No meetings planned for Monday											
Tuesday	01/09	9	10	11	12	1	2	3	4	5	6
+=====+											
CAP Ad Hoc											(15)
+=====+											
STA Ad Hoc*					lunch	STA Marcom*			STA BOD*	(10)	
+-----+											
Wednesday	01/10	9	10	11	12	1	2	3	4	5	6
+=====+											
CAP Ad Hoc											(15)
+=====+											
						SFF*V					(10)
+-----+											
Thursday	01/11	9	10	11	12	1	2	3	4	5	6
+=====+											
T10 Plenary										(15)	
+=====+											
Friday	01/12	9	10	11	12	1	2	3	4	5	6
No meetings are planned for Friday											

Bill Martin (Samsung) noted that the plenary be moved to 9am (local) on Thursday

/ means the next meeting starts when the previous meeting concludes.

Meetings marked with == are T10-authorized meetings.

Meetings marked with -- are meetings of other groups and may change without notice.

Meetings marked with (*) are closed meetings of other groups.

Meetings marked with (*V) are closed meetings of other groups meeting virtually with content that is pertinent to T10.

Other T10-authorized meetings outside of the T10 meeting week are:

Meeting	Date(s)	Location / Host
Command Duration Limits Policy Additions	30-Nov-2023, 9am-10am MST	Telecon / Seagate

Bill Martin (Samsung) noted that the Ad Hoc meetings are required to operate under the same policies and procedures as does the T10 plenary and the results of an Ad Hoc meeting are not binding on the parent committee. Ad Hoc meetings should strive to achieve consensus prior to bringing issues to the T10 plenary.

15.2 Long-term T10 meeting week schedule

The long-term T10 meeting week schedule is:

Dates	Location	Host / Comments
Jan 8-12, 2024	Orange County, CA	Seagate
Mar 4-8, 2024	<i>Ft. Collins, CO</i>	<i>HPE</i>
May 6-10, 2024	Rochester, MN	WD
Jul 15-19, 2024	Shakopee, MN	Seagate
Sep 9-13, 2024		SFF
Nov 4-8, 2024	<i>Dallas, TX</i>	WD

NOTE: Dates, locations, and hosts shown above in *red italic font* are not approved by T10 yet and are subject to change.

Bill Martin (Samsung) moved and Curtis Stevens (STX) seconded that T10 authorize:

- a. the T10 related Ad Hocs and meetings listed above;
- b. the T10 meeting week schedule for the meeting week starting 01/08/2024; and
- c. all members of T10 present as well as visitors present (per the public access procedures) be allowed to participate in the meetings.

There was discussion on the motion. Motion passed unanimously.

16. Adjournment

The meeting was adjourned at 10:40am CST on Thursday November 9, 2023.

Enclosure(1) -- Meeting Attendees

Thursday November 9, 2023

Name	Status	Organization	In Person
Mr. Paul Coddington	P	Amphenol Corporation	No
Mr. Brad Besmer	P	Broadcom Inc.	Yes
Mr. James Giannoules	P	Dell Inc.	No
Mr. Kevin Marks	A	Dell Inc.	No
Mr. Glenn Moore	A	Foxconn Electronics	No
Mr. Curtis Ballard	P	Hewlett Packard Enterprise	No
Mr. Kevin Butt	P	IBM Corporation	No
Mr. Michael Hoard	P	Intel Corporation	No
Mr. Vincent Yew	P	Keysight Technologies Inc	No
Mr. Frederick Knight	A	Kioxia	No
Mr. Phil Colline	P	Marvell Semiconductor Inc	No
Mr. Tim Symons	P	Microchip	No
Mr. Christian Gyllenskog	P AV	Micron Technology Inc	No
Mr. Egide Murisa	A	Molex Inc	No
Mr. Darryl Torske	P	Quantum Corporation	No
Mr. William Martin	P	Samsung Semiconductor Inc (SSI)	No
Mr. Jeff Boutiette	A	Seagate Technology	Yes
Mr. Curtis Stevens	P	Seagate Technology	Yes
Mr. Dan Gorenc	P	TE Connectivity	No
Mr. Patrick Hery	P	Toshiba America Electronic Component	Yes
Mr. Ralph Weber	P	Western Digital Corporation	Yes

21 People Present (5 in person)

18 Voting Organizations Present

1 Advisory Organization(s) Present

Status Key: P - Principal

A - Alternate

AV - Advisory Member

E - Emeritus

L - Liaison

V - Visitor

XO - Ex Officio (non-voting; several INCITS officers are Ex Officio members of T10)

Enclosure(2) -- CAP Ad Hoc Hybrid Meeting Attendance Report

Tuesday November 7, 2024 - Wednesday November 8, 2023.

Name	Status	Organization	In Person
Mr. Brad Besmer	P	Broadcom Inc.	Yes
Mr. James Giannoules	P	Dell Inc.	No
Mr. Kevin Marks	A	Dell Inc.	No
Mr. Jon Jacoby	P	Foxconn Electronics	No
Mr. Curtis Ballard	P	Hewlett Packard Enterprise	No
Mr. Kevin Butt	P	IBM Corporation	No
Mr. Michael Hoard	P	Intel Corporation	No
Mr. John Geldman	P	Kioxia	No
Mr. Frederick Knight	A	Kioxia	No
Mr. Paul Suhler	A	Kioxia	Yes
Mr. Phil Colline	P	Marvell Semiconductor Inc	No
Mr. Christian Gyllenskog	P AV	Micron Technology Inc	No
Mr. William Martin	P	Samsung Semiconductor Inc (SSI)	No
Mr. Chris Fulkerson	V	Seagate Technology	No
Mr. Jeff Boutiette	A	Seagate Technology	Yes
Mr. Joel Schipper	A	Seagate Technology	No
Mr. Curtis Stevens	P	Seagate Technology	Yes
Mr. Patrick Hery	P	Toshiba America Electronic Component	Yes
Mr. Ralph Weber	P	Western Digital Corporation	Yes

19 People Present (6 in person)

12 Voting Organizations Present

1 Advisory Organization(s) Present

Status Key: P - Principal

A - Alternate

AV - Advisory Member

E - Emeritus

L - Liaison

V - Visitor

XO - Ex Officio (non-voting; several INCITS officers are Ex Officio members of T10)

SAS Physical Ad Hoc Attendance Report — Wednesday November 4

The SAS Physical Ad Hoc did not meet.

Enclosure(3) -- T10 Membership Database

Generated on 2023/09/15 at 00:17:43

Organization	Name	Status
Advantest	Ms. Danielle Romano	(P AV)
Amphenol Corporation	Mr. Paul Coddington	(P)
Amphenol Corporation	Mr. Brad Brubaker	(A)
Amphenol Corporation	Mr. Zhineng Fan	(A)
Amphenol Corporation	Mr. Adrian Green	(A)
Amphenol Corporation	Mr. Donald Harper	(A)
Amphenol Corporation	Mr. Jesse Jaramillo	(A)
Amphenol Corporation	Mr. Sam Kocsis	(A)
Amphenol Corporation	Mr. Martin Li	(A)
Amphenol Corporation	Mr. Chris Lyon	(A)
Amphenol Corporation	Mr. Alex Persaud	(A)
Amphenol Corporation	Mr. Michael Scholeno	(A)
Amphenol Corporation	Mr. Hu Silver	(A)
Amphenol Corporation	Mr. Matt Wright	(A)
Anritsu Corporation	Mr. Ken Mochizuki	(P AV)
Anritsu Corporation	Mr. Yuji Sekine	(A AV)
BDT Media Automation GmbH	Mr. Franz Bucher	(P AV)
BDT Media Automation GmbH	Mr. Stefan Hauser	(A AV)
BizLink Technology Inc	Mr. Tristan Hsiao	(P AV)
Broadcom Inc.	Mr. Brad Besmer	(P)
Broadcom Inc.	Mr. Srikan Dravida	(A)
Broadcom Inc.	Mr. John Gardner	(A)
Broadcom Inc.	Mr. Jeffrey Gauvin	(A)
Broadcom Inc.	Mr. Rick Kutcipal	(A)
Broadcom Inc.	Mr. Bernhard Laschinsky	(A)
Broadcom Inc.	Mr. David Peterson	(A)
Broadcom Inc.	Mr. James Smart	(A)
Broadcom Inc.	Mr. Jason Stuhlsatz	(A)

Status Key: P - Principal
A - Alternate
AV - Advisory (non-voting)
E - Emeritus
L - Liaison (non-voting; usually a member of another standards group)
V - Visitor
XO - Ex Officio (non-voting; several INCITS officers are Ex Officio members of T10)

Organization	Name	Status
Cisco Systems Inc	Mr. Mark Allen	(P AV)
Dell Inc.	Mr. James Giannoules	(P)
Dell Inc.	Mr. David Black	(A)
Dell Inc.	Mr. George Ericson	(A)
Dell Inc.	Mr. Bill Lynn	(A)
Dell Inc.	Mr. Kevin Marks	(A)
Dell Inc.	Mr. Marlon Ramroopsingh	(A)
Flextronics International (Taiwan) Ltd	Mr. CC Chou	(A AV)
Flextronics International (Taiwan) Ltd	Mr. Roger Wan	(P AV)
Foxconn Electronics	Mr. Jon Jacoby	(P)
Foxconn Electronics	Mr. Gary Hsieh	(A)
Foxconn Electronics	Mr. Glenn Moore	(A)
Foxconn Electronics	Mr. Miller Zhao	(A)
Futurewei Technologies Inc	Mr. Victor Cao	(P AV)
Futurewei Technologies Inc	Mr. Timothy Jeffries	(A AV)
Futurewei Technologies Inc	Mr. Nelson Liao	(A AV)
Google	Mr. Thieu Le	(A AV)
Google	Ms. Radha Ramachandran	(P AV)
Google	Mr. Bart Van Assche	(A AV)
Ham	Dr. William Ham	(E)
Hewlett Packard Enterprise	Mr. Curtis Ballard	(P)
Hewlett Packard Enterprise	Mr. Chris Cheng	(A)
Hewlett Packard Enterprise	Mr. Rob Elliott	(A)
Hewlett Packard Enterprise	Mr. Jeff Welford	(A)
IBM Corporation	Mr. Kevin Butt	(P)
IBM Corporation	Mr. Mike Osborne	(A)

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Organization	Name	Status
INCITS Secretariat	Ms. Lynn Barra	(XO)
INCITS Secretariat	Ms. Barbara Bennett	(XO)
INCITS Secretariat	Ms. Rachel Porter	(XO)
INCITS Secretariat	Ms. Deborah Spittle	(XO)
Intel Corporation	Mr. Michael Hoard	(P)
Intel Corporation	Mr. Phil Cayton	(A)
Intel Corporation	Mr. Minesh Patel	(A)
Intel Corporation	Mr. Eric Pickering	(A)
Intel Corporation	Mr. Sea Pong	(A)
Intel Corporation	Mr. Juntao Yuan	(A)
Keysight Technologies Inc	Mr. Vincent Yew	(P)
Kioxia	Mr. John Geldman	(P)
Kioxia	Mr. Cameron Brett	(A)
Kioxia	Mr. Don Harwood	(A)
Kioxia	Mr. Frederick Knight	(A)
Kioxia	Mr. Koichi Nagai	(A)
Kioxia	Mr. Paul Suhler	(A)
Kioxia	Mr. Tatsuya Tanaka	(A)
Kioxia	Mr. Bruno Trematore	(A)
Lohmeyer Consulting	Mr. John Lohmeyer	(E)
Marvell Semiconductor Inc	Mr. Phil Colline	(P)
Marvell Semiconductor Inc	Mr. Ke Du	(A)
Marvell Semiconductor Inc	Mr. James Walch	(A)
Marvell Semiconductor Inc	Mr. Wei Zhou	(A)
Meta Platforms, Inc.	Mr. Ross Stenfort	(P AV)
Microchip	Mr. Tim Symons	(P)
Microchip	Mr. Ariel Sibley	(A)
Microchip	Mr. Jeremiah Tussey	(A)

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Organization	Name	Status
Micron Technology Inc	Mr. Christian Gyllenskog	(P AV)
Molex Inc	Mr. Scott Sommers	(P)
Molex Inc	Mr. Egide Murisa	(A)
Molex Inc	Mr. Darian Schulz	(A)
NetApp Inc	Mr. Sriram Popuri	(P)
NetApp Inc	Mr. Chris Fore	(A)
Oracle	Mr. Jon Allen	(A AV)
Oracle	Mr. Hyon Kim	(A AV)
Oracle	Mr. Martin Petersen	(P AV)
Oracle	Mr. ioannis Psyllas	(A AV)
Oracle	Mr. Lee Wan-Hui	(A AV)
QNAP Systems Inc	Mr. Ming-chih Chang	(P AV)
QNAP Systems Inc	Mr. CH Yang	(A AV)
Quantum Corporation	Mr. Darryl Torske	(P)
Quantum Corporation	Mr. Carsten Prigge	(A)
Samsung Semiconductor Inc (SSI)	Mr. William Martin	(P)
Samsung Semiconductor Inc (SSI)	Mr. Michael Allison	(A)
Samsung Semiconductor Inc (SSI)	Ms. Judy Brock	(A)
Samsung Semiconductor Inc (SSI)	Mr. HeeChang Cho	(A)
Samsung Semiconductor Inc (SSI)	Ms. Mikyeong Kang	(A)
Samsung Semiconductor Inc (SSI)	Mr. Sung Lee	(A)
Samsung Semiconductor Inc (SSI)	Mr. Bhavith M.P.	(A)
Seagate Technology	Mr. Curtis Stevens	(P)
Seagate Technology	Mr. Jeff Boutiette	(A)
Seagate Technology	Mr. Ian Davies	(A)
Seagate Technology	Mr. John Fleming	(A)
Seagate Technology	Mr. Anil Keste	(A)
Seagate Technology	Mr. Joel Schipper	(A)
Seagate Technology	Mr. Victor Taberski	(A)

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Silicon Motion Inc	Mr. Edward Hsieh	(A AV)
Silicon Motion Inc	Mr. Randy Hsu	(A AV)
Silicon Motion Inc	Mr. Sky Hsu	(A AV)
Silicon Motion Inc	Ms. Amanda Huang	(P AV)
SK Hynix Memory Solutions	Mr. Taeho Lee	(P AV)
SK Hynix Memory Solutions	Mr. Myron Loewen	(A AV)
SK Hynix Memory Solutions	Mr. Jungki Noh	(A AV)
SK Hynix Memory Solutions	Mr. Junho Son	(A AV)
Socionext	Mr. Toru Iwata	(A AV)
Socionext	Mr. Hideyuki Kabuo	(A AV)
Socionext	Mr. Masanori Okinoi	(A AV)
Socionext	Mr. Hiroo Yamamoto	(P AV)
TE Connectivity	Mr. Dan Gorenc	(P)
TE Connectivity	Mr. Tom Grzysiewicz	(A)
TE Connectivity	Mr. Kyle Klinger	(A)
TE Connectivity	Mr. Jeffery Mason	(A)
TE Connectivity	Mr. Joel Meyers	(A)
TE Connectivity	Mr. Yasuo Sasaki	(A)
TE Connectivity	Mr. Nathan Tracy	(A)
Teledyne LeCroy Corporation	Mr. Amit Bakshi	(P AV)
Teledyne LeCroy Corporation	Mr. Douglas Lee	(A AV)
Teledyne LeCroy Corporation	Mr. Mike Micheletti	(A AV)
Teledyne LeCroy Corporation	Mr. Rakesh Kathiresan Natarajanm	(A AV)
Toshiba America Electronic Components	Mr. Patrick Hery	(P)
Toshiba America Electronic Components	Dr. Don Harwood	(A)
Toshiba America Electronic Components	Ms. Johanna Hernandez	(A)
UNISYS Corporation	Mr. Jeffrey Dremann	(P AV)
UNISYS Corporation	Mr. Phil Shelton	(A AV)

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Viavi Solutions Inc	Mr. Jason Rusch	(P)
Viavi Solutions Inc	Mr. George Bullis	(A)
Viavi Solutions Inc	Mr. Dominic Coupal	(A)
Viavi Solutions Inc	Mr. Paul Gentieu	(A)
Viavi Solutions Inc	Mr. Jason Mann	(A)
Viavi Solutions Inc	Mrs. Yamini Shastry	(A)
VMware Inc	Mr. Eric Betta	(A AV)
VMware Inc	Mr. Wenchao Cui	(A AV)
VMware Inc	Mr. Wenhau Liu	(A AV)
VMware Inc	Mr. Neil MacLean	(P AV)
VMware Inc	Mr. Mike Panas	(A AV)
VMware Inc	Mr. Murali Rajagopal	(A AV)
VMware Inc	Mr. Ahmad Tawil	(A AV)
Western Digital Corporation	Mr. Ralph Weber	(P)
Western Digital Corporation	Mr. William Boyle	(A)
Western Digital Corporation	Dr. Jorge Campello	(A)
Western Digital Corporation	Mr. Kirill Dimitrov	(A)
Western Digital Corporation	Mr. Dave Landsman	(A)
Western Digital Corporation	Dr. Damien Le Moal	(A)
Western Digital Corporation	Mr. Nadesan Narenthiran	(A)
Western Digital Corporation	Mr. Yoni Shternhell	(A)

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