

# INCITS T10 Annual Report

Annual Report for: T10 Technical Committee  
Covering the Period: September 2003 to April 2004  
Title of INCITS Subgroup: SCSI Storage Interfaces  
Informal Description of Work: T10 develops standards and technical reports on storage I/O interfaces, particularly the Small Computer System Interface (SCSI).

## Links:

- T10 web site <http://www.t10.org/>
- [Executive summary](#)
- T10 area on the Secretariat's Projects Database [http://www.incits.org/tc\\_home/t10sd4.htm](http://www.incits.org/tc_home/t10sd4.htm)
- T10 Projects Status <http://www.t10.org/projects.htm>
- [Significant accomplishments](#)
- [Significant challenges](#)
- [Expected challenges](#)
- [Previous year's meetings](#)
- [Next year's meetings](#)
- [Liaison activities](#)
- [Officers](#) and [Membership](#)
- [Future Trends](#)
- [Other administrative information](#)

## 1. Executive Summary

T10 continues to run smoothly with 53 approved projects, of which 38 are in maintenance mode. Most of the active projects are related to the SCSI-3 family of standards. T10 membership is at 38 organizations, down from 41 last year. This decline is due largely to the weak economy.

Over the last few years, there has been increasing interest in attaching more storage devices over longer distances using interfaces such as Fibre Channel, the Internet (e.g., iSCSI), and Serial Attached SCSI (SAS). These larger topologies have required some enhancements in the SCSI architecture and the command sets (e.g., access controls, extended copy commands, persistent reservations, etc.). This has also led to organizations joining T10 that have not previously participated (e.g., Microsoft, Intel, and Cisco Systems).

## 2. Significant accomplishments

- Serial Attached SCSI (SAS): INCITS.376:2003 was approved and published
- SCSI Media Changer Commands - 2 (SMC-2): forwarded to 2PR, which concluded without comments
- Serial Bus Protocol 3 (SBP-3): forwarded to 2PR, which concluded without comments
- MultiMedia Command Set - 5 (MMC-5): Project Proposal was approved (1675-D)
- Small Computer System Interface - 2 (SCSI-2): INCITS.131:1994[R1999] recommended for reaffirmation
- Automation/Drive Interface - Commands (ADC): Resolving letter ballot comments on forwarding to 1PR
- Automation/Drive Interface - Transport Protocol (ADT): 1PR letter ballot closes 2004/04/26
- MultiMedia Command Set - 4 (MMC-4): 1PR letter ballot closes 2004/04/23
- Object-Based Storage Device Commands (OSD): Resolving letter ballot comments on forwarding to 1PR
- SCSI Architecture Model - 3 (SAM-3): 1PR letter ballot closes 2004/04/21

## 3. Significant challenges

The computer industry is still suffering from a weak economy. This has adversely affected participation on standards committees and may inhibit or delay adoption of newer technologies. However, the signs that a recovery is beginning continue.

## 4. Expected challenges

None expected.

**5. Previous year's meetings**

Number	Date	Location
#56	May 7, 2003	Nashua, NH
#57	July 10, 2003	Colorado Springs, CO
#58	September 11, 2002	Seattle, WA
#59	November 6, 2003	Austin, TX
#60	January 15, 2004	Chandler, AZ
#61	March 11, 2004	Dana Point, CA

**6. Next year's meetings**

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

**7. Liaison activities**

INCITS T11 <http://www.t11.org/>

INCITS T13 <http://www.t13.org/>

SFF Committee <http://www.sffcommittee.org/>

IEEE P1394

SCSI Trade Association (STA) <http://www.scsita.org/>

IETF SCSI over IP <http://www.ietf.org/html.charters/ips-charter.html>

Storage Networking Industry Association (SNIA) <http://www.snia.org/>

ISO/IEC JTC1/SC25/WG4

Serial ATA Working Group <http://www.serialata.org/>

**8. Officers and membership**

a. Officers

Position	Name	Organization	Training date
Chair	John Lohmeyer	LSI Logic	December 2002
Vice Chair	George Penokie	IBM/Tivoli	December 2002
Secretary	Ralph Weber	ENDL Texas	December 2002
International Representative	Gary Robinson	EMC	May 2002
Vocabulary Representative	open		

b. Membership

<http://www.t10.org/ftp/t10/members.txt>

**9. Future trends**

SPI-5 (a.k.a., Ultra640 SCSI), published during 2003, was the last generation of the parallel SCSI physical interface. Most manufacturers skipped this generation of parallel SCSI opting instead to go directly to a serial version of SCSI: SAS, iSCSI, or Fibre Channel.

SAS appears to be the most popular interface for direct-attach storage because it uses the same physical layer as Serial ATA. Systems integrators can build products that use either SATA or SAS disk drives, depending on cost, performance, and reliability objectives.

The SCSI command sets are evolving to encompass the latest developments in storage (e.g., much larger address spaces, DVDs, CD-Recordable devices, and array controllers) as well as refinements to deal with current interconnect issues (e.g., network storage, security, and power management).

10. **Other administrative information**

**Video Projectors**

As noted last year, availability of video projectors at committee meetings is critical to having effective meetings. The situation has improved somewhat over the last year as more T10 members (including myself) are bringing video projectors to our meetings. Also, some hosts are able to supply one or two projectors for T10 usage.

I am still requesting that INCITS consider ways to address this problem. One possible solution would be for INCITS to purchase a few video projectors that could be loaned to subgroups for specific meetings.

**Financial Statement**

The INCITS Secretariat maintains an escrow account on T10's behalf to pay for technical editing services. See the T10 Procedure for Funding Technical Editors <http://www.t10.org/ftp/t10/document.95/95-148r0.pdf> for details of how this account is administered. The current account balance as of September 17, 2003 is \$31,830.75. *I assume this amount is unchanged since September 2003 as T10 has not requested any expenditure nor have additional funds been collected.*

**T10 Internal Procedures**

The T10 internal procedures are as follows:

Procedure	URL
T10 Standards Development Policies and Procedures	<a href="http://www.t10.org/ftp/t10/document.00/00-283r1.pdf">http://www.t10.org/ftp/t10/document.00/00-283r1.pdf</a>
T10 Electronic Procedures	<a href="http://www.t10.org/ftp/t10/document.95/95-146r2.pdf">http://www.t10.org/ftp/t10/document.95/95-146r2.pdf</a>
T10 Procedure for Funding Technical Editors	<a href="http://www.t10.org/ftp/t10/document.95/95-148r0.pdf">http://www.t10.org/ftp/t10/document.95/95-148r0.pdf</a>
T10 Document Retention Policy	<a href="http://www.t10.org/ftp/t10/document.98/98-107r1.pdf">http://www.t10.org/ftp/t10/document.98/98-107r1.pdf</a>
T10 Plenary Meetings & Accompanying Meeting Weeks	<a href="http://www.t10.org/ftp/t10/document.00/00-221r2.pdf">http://www.t10.org/ftp/t10/document.00/00-221r2.pdf</a>