

# INCITS T10 Annual Report

Annual Report for: T10 Technical Committee  
 Covering the Period: June 2007 to May 2008  
 Title of INCITS Subgroup: SCSI Storage Interfaces

## Links:

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## 1. Informal Description of Work:

T10 is responsible for SCSI Storage Interfaces. Its principal work is the Small Computer System Interface (SCSI), including:

- Serial Attached SCSI (SAS) physical interface.
- SCSI architecture standards (e.g., SAM-5), which are used by SCSI, SAS, Fibre Channel, SSA, and IEEE 1394. and
- many SCSI command set standards (e.g., SPC-4, SBC-3, SSC-3, MMC-6, RBC, SMC-3, SCC-2, SES-2, OSD-2, ADC-2, etc.). These standards are used by almost all modern storage I/O interfaces, including SAS, parallel SCSI, Fibre Channel, SSA, IEEE 1394, USB, and ATAPI (ATA).

## 1. Executive Summary

T10 continues to run smoothly with 61 approved projects, of which 43 are in maintenance mode. Over the last year, T10 voted to withdraw 1 standard, reaffirm 13 standards and/or technical reports, create 3 new projects, and forward 3 dpANS to public review. Most of the active projects are related to the SCSI family of standards. T10 voting membership is at 37 organizations, down from 40 last year.

Over the last few years, I/O storage interconnects have moved to serial technology for new applications. Parallel SCSI and parallel ATA shipments have peaked and are declining in favor of SAS and SATA.

Serial technology inherently enables larger topologies, both in distance and in numbers of devices. 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.).

Significant work is now going into Solid-state Storage Device (SSD) enhancements and into power management control functions.

## 2. Significant accomplishments

- MultiMedia Command Set - 5 (MMC-5): INCITS 430-2007 was published
- SCSI / ATA Translation (SAT): INCITS 431-2007 was published
- Automation/Drive Interface - Commands - 2 (ADC-2): INCITS 441-2008 is at ANSI for publication
- SCSI Architecture Model - 4 (SAM-4): INCITS 447-200x is at first public review
- SCSI Enclosure Services - 2 (SES-2): INCITS 448-200x is at first public review

## 3. Significant challenges

None.

## 4. Expected challenges

T10 has significant issues with the new Section 3.2 in the RD-1 as it impairs the methods we use to develop standards in a timely fashion. Our unanimous request for a waiver was denied by the EB. A request for a revision to Section 3.2 of the RD-1 is now pending.

## 5. Committee Activities

### a. Previous year's meetings

Number	Date	Location
#80	July 12, 2007	Colorado Springs, CO
#81	September 20, 2007	Vancouver, BC Canada
#82	November 8, 2007	Las Vegas, NV
#83	January 17, 2008	Santa Ana, CA
#84	March 13, 2008	Raleigh, NC
#85	May 8, 2008	San Jose, CA

**b. Next year's planned meetings**

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

**6. Liaison activities**

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

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

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

IEEE P1619, Security in Storage WG <http://siswg.org/>

**7. Officers and membership**

**a. Officers**

Position	Name	Organization	Training date
Chair	John Lohmeyer	LSI	July 2006
Vice Chair	Mark Evans	Western Digital	Appointed November 2007
Secretary	Ralph Weber	ENDL Texas	December 2002
International Representative	Gary Robinson	EMC	May 2002
Vocabulary Representative	open		

**b. Membership**

T10 Attendance Database: <http://www.t10.org/ftp/t10/members.txt>

**8. Future trends**

T10's efforts are now totally focused on using serial interfaces for storage devices: SAS, SATA, Fibre Channel, and iSCSI.

There is special interest in SAS and SATA, because these two interfaces share the same physical layer. 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., solid-state storage devices (SSSD), larger address spaces, high-definition optical devices, and storage controllers) as well as refinements to deal with current interconnect issues (e.g., networked storage, security, and power management).

**9. Other administrative information**

**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 is \$31,830.75. On May 8, 2008, T10 authorized payment of up to \$5,000 to Ralph Weber, ENDL Texas, for contract editing work on ISO/IEC SAS-1.1. Once he completes this work, the balance should be \$26,830.75.

**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.99/99-271r1.pdf">http://www.t10.org/ftp/t10/document.99/99-271r1.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.07/07-086r1.pdf">http://www.t10.org/ftp/t10/document.07/07-086r1.pdf</a>