

INCITS T10 Annual Report

Annual Report for: T10 Technical Committee
 Covering the Period: May 2005 to June 2006
 Title of INCITS Subgroup: SCSI Storage Interfaces

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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-4), 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, BCC, 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 66 approved projects, of which 47 are in maintenance mode. Most of the active projects are related to the SCSI family of standards. T10 membership is at 48 organizations, up from 45 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 will gradually decline 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.).

2. Significant accomplishments

- MultiMedia Command Set - 4 (MMC-4): INCITS 401-2005 was published
- SCSI Block Commands - 2 (SBC-2): INCITS 405-2005 was published
- Automation/Drive Interface - Transport Protocol (ADT): INCITS 406-2005 was published
- SCSI Primary Commands - 3 (SPC-3): INCITS 408-2005 was published
- Fibre Channel Protocol - 3 (FCP-3): INCITS 416-2006 was approved and is at ANSI for publication
- Serial Attached SCSI - 1.1 (SAS-1.1): INCITS 417-2006 was approved and is at ANSI for publication

3. Significant challenges

None expected.

4. Expected challenges

None expected.

5. Committee Activities

a. Previous year's meetings

Number	Date	Location
#67	May 5, 2005	Oklahoma City, OK
#68	July 14, 2005	Colorado Springs, CO
#69	September 21, 2005	Vancouver, BC Canada
#70	November 10, 2005	Austin, TX
#71	January 12, 2006	Phoenix, AZ
#72	March 9, 2006	Hilton Head, SC

#73	May 11, 2006	San Jose, CA
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b. **Next year's planned meetings**

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

6. **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

Trusted Computing Group <https://www.trustedcomputinggroup.org/home>

7. **Officers and membership**

a. **Officers**

Position	Name	Organization	Training date
Chair	John Lohmeyer	LSI Logic	July 2006
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**

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

8. **Future trends**

Shipments of parallel interface storage devices (parallel ATA and parallel SCSI) have peaked. New applications are being designed for serial interfaces: 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., 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).

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 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	http://www.t10.org/ftp/t10/document.00/00-283r1.pdf
T10 Electronic Procedures	http://www.t10.org/ftp/t10/document.95/95-146r2.pdf
T10 Procedure for Funding Technical Editors	http://www.t10.org/ftp/t10/document.95/95-148r0.pdf
T10 Document Retention Policy	http://www.t10.org/ftp/t10/document.98/98-107r1.pdf
T10 Plenary Meetings & Accompanying Meeting Weeks	http://www.t10.org/ftp/t10/document.00/00-221r2.pdf