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INFORMATION TECHNOLOGY - SMALL COMPUTER SYSTEM INTERFACE (SCSI) - Part 261: SAS protocol layer (SPL)

FOREWORD

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International Standard ISO/IEC 14776-261 was prepared by subcommittee 25: Interconnection of information technology equipment, of ISO/IEC joint technical committee 1: Information technology.

The list of all currently available parts of the ISO/IEC 14776 series, under the general title *Information technology – Small computer system interface (SCSI)*, can be found on the IEC web site.

This International Standard has been approved by vote of the member bodies and the voting results may be obtained from the address given on the second title page.

IMPORTANT – The "colour inside" logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this publication using a colour printer.

INTRODUCTION

General

The SCSI family of standards provides for many different transport protocols that define the rules for exchanging information between different SCSI devices. This standard defines the rules for exchanging information between SCSI devices using a serial interconnect. Other SCSI transport protocol standards define the rules for exchanging information between SCSI devices using other interconnects.

This standard makes obsolete the following concepts from SAS-2:

a) NOTIFY (RESERVED 2) primitive; and
b) ATTACHED DEVICE TYPE field code (see 9.4.3.10) value 011b.

Figure 1 shows the organization of the layers of this standard.

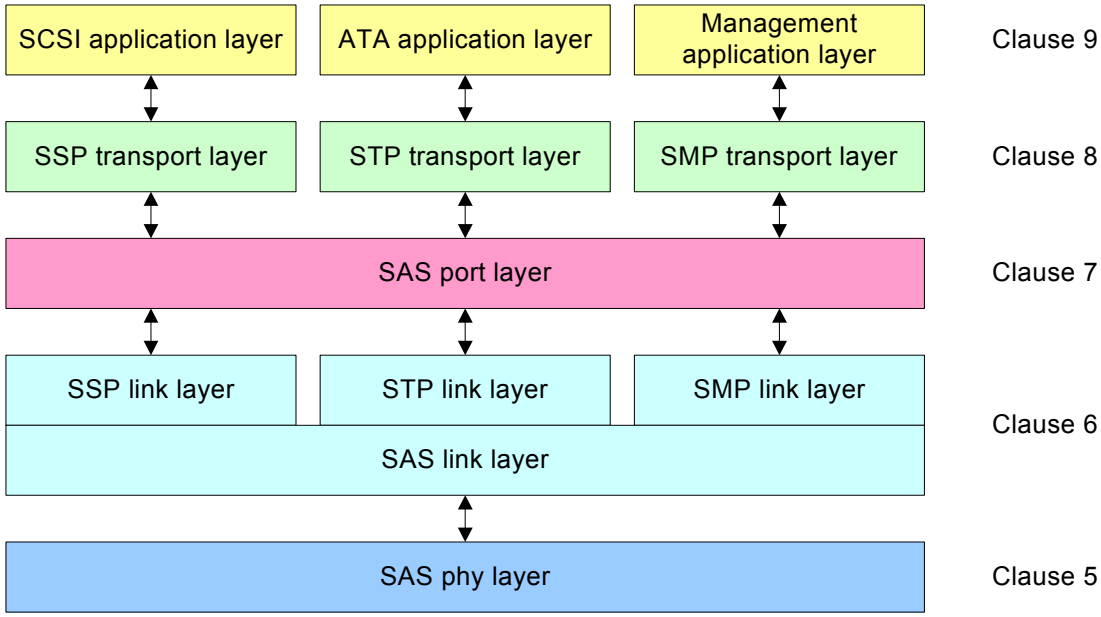

Figure 1 — Organization of this standard

SCSI standards family

Figure 2 shows the relationship of this standard to the other standards and related projects in the SCSI family of standards.

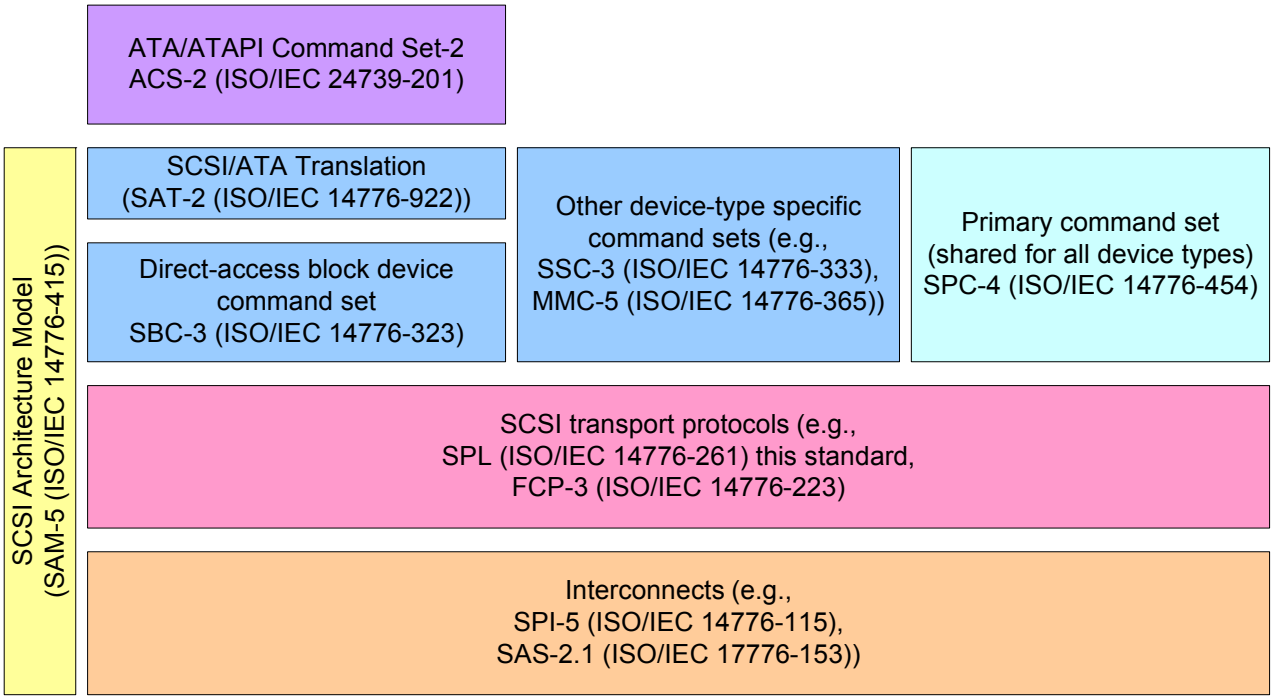

Figure 2 — SCSI document relationships

This standard also defines the rules for exchanging information between ATA hosts and ATA devices using the same serial interconnect. Other ATA transport protocol standards define the rules for exchanging information between ATA hosts and ATA devices using other interconnects.

Figure 3 shows the relationship of this standard to other standards and related projects in the ATA family of standards.

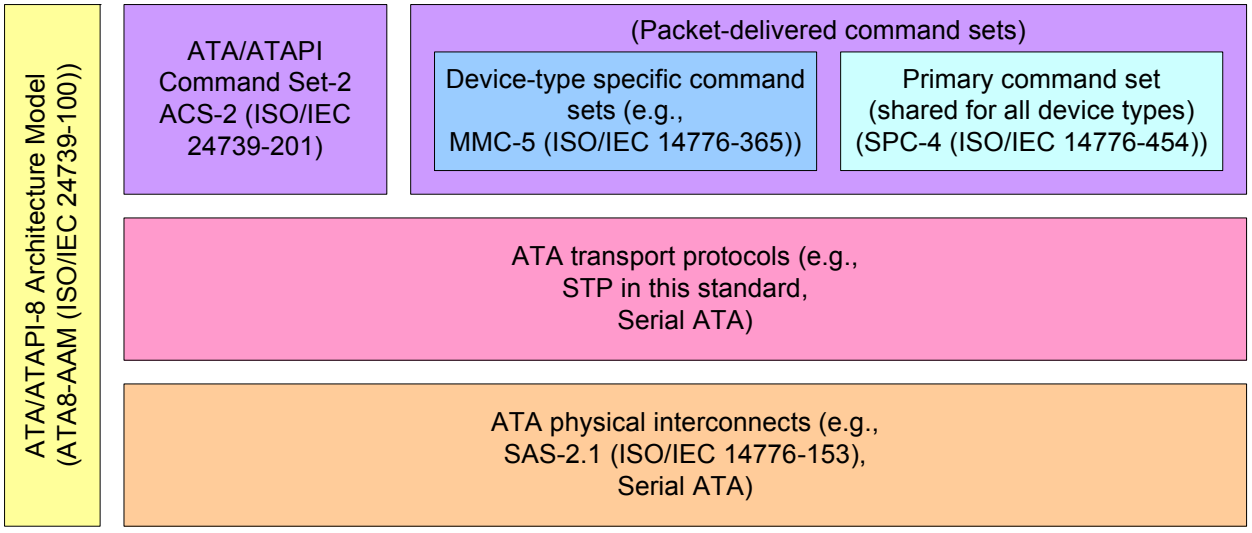

Figure 3 — ATA document relationships

Figure 2 and figure 3 show the general relationship of the documents to one another, and do not imply a relationship such as a hierarchy, protocol stack or system architecture.

These standards specify the interfaces, functions and operations necessary to ensure interoperability between conforming implementations. This standard is a functional description. Conforming implementations may employ any design technique that does not violate interoperability.

INFORMATION TECHNOLOGY - SMALL COMPUTER SYSTEM INTERFACE (SCSI) - Part 261: SAS protocol layer (SPL)

1 Scope

This part of ISO/IEC 14776-261 defines the protocol layer of the Serial Attached SCSI (SAS) interconnect and three transport protocols that use the SAS interconnect:

a) Serial SCSI Protocol (SSP): a mapping of SCSI supporting multiple initiators and targets;
b) Serial ATA Tunneled Protocol (STP): a mapping of Serial ATA expanded to support multiple initiators and targets; and
c) Serial Management Protocol (SMP): a management protocol.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

The provisions of the referenced specifications other than ISO, IEC, ISO and ITU standards, as identified in this clause, are valid within the context of this International Standard. The reference to such a specification within this International Standard does not give it any further status within ISO or IEC. In particular, it does not give the referenced specification the status of an International Standard.

Additional availability contact information is provided below as needed.

Table 1 shows standards bodies and their web sites.

Table 1 — Standards bodies

Abbreviation	Standards body	Web site
ANSI®	American National Standards Institute	http://www.ansi.org
DIN	German Institute for Standardization	http://www.din.de
IEC®	International Electrotechnical Commission	http://www.iec.ch
IEEE®	Institute of Electrical and Electronics Engineers	http://www.ieee.org
INCITS	International Committee for Information Technology Standards	http://www.incits.org
ISO®	International Organization for Standardization	http://www.iso.ch
ITIC	Information Technology Industry Council	http://www.itic.org
JIS	Japanese Industrial Standards Committee	http://www.jisc.co.jp
T10	INCITS T10 SCSI storage interfaces	http://www.t10.org
T11	INCITS T11 Fibre Channel interfaces	http://www.t11.org
T13	INCITS T13 ATA storage interface	http://www.t13.org

NOTE 1 ANSI is a registered trademark of the American National Standards Institute.

NOTE 2 ISO is a registered trademark of the International Organization for Standardization.

NOTE 3 IEC is a registered trademark of the International Electrotechnical Commission.

NOTE 4 IEEE is a registered trademark of the Institute of Electrical Electronics Engineers, Inc.

ISO/IEC 14776-151, *Information technology – Small Computer System Interface (SCSI) – Part 151: Serial Attached SCSI - 1.1 (SAS-1.1)*

ISO/IEC 14776-153, *Information technology – Small Computer System Interface (SCSI) – Part 153: Serial Attached SCSI-2.1 (SAS-2.1)* (T10/2125-D) (under consideration)

INCITS 465-2010, *Information technology – Small Computer System Interface (SCSI) – Part 922: SCSI/ATA Translation-2 (SAT-2)* (planned as ISO/IEC 14776-922)

T10/1731-D*, Information technology – Small Computer System Interface (SCSI) – SCSI Primary Commands-4 (SPC-4)* (planned as ISO/IEC 14776-454)

T10/1799-D, *Information technology – Small Computer System Interface (SCSI) – SCSI Block Commands-3 (SBC-3)* (planned as ISO/IEC 14776-323)

T10/2149-D, *Information technology - Small Computer System Interface (SCSI) – SCSI Enclosure Services-3 (SES-3)*(planned as ISO/IEC 14776-373)

T10/2104-D, *Information technology – Small Computer System Interface (SCSI) – SCSI Architecture Model-5 (SAM-5)* (planned as ISO/IEC 14776-415)

T13/2015-D, *Information technology – AT Atttachment – Part 201: ATA/ATAPI Command Set-2 (ACS-2)* (planned as ISO/IEC 24739-201)

T13/1700-D, *Information technology – AT Attachement – Part 100: ATA Attachment-8 ATA/ATAPI Architecture Model (ATA8-AAM)* (planned as ISO/IEC 24739-100)

NOTE 5 For more information on the current status of these documents, contact the INCITS Secretariat at 202-737-8888 (phone), 202-638-4922 (fax) or via Email at incits@itic.org. To obtain copies of these documents, contact Global Engineering at 15 Inverness Way, East Englewood, CO 80112-5704 at 303-792-2181 (phone), 800-854-7179 (phone), or 303-792-2192 (fax) or see http://www.incits.org.

For information on the current status of the listed documents, or regarding availability, contact the indicated organization.

Serial AT Attachment Revision 3.0 (SATA). 27-May-2009

NOTE 6 For information on the current status of Serial ATA documents, contact the Serial ATA International Organization (see http://www.sata-io.org).