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Information technology — Small Computer System Interface (SCSI) —

Part 253: USB attached SCSI - 3 (UAS-3)

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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This document was prepared by INCITS (as INCITS 572-2021) and drafted in accordance with its editorial rules. It was assigned to Joint Technical Committee ISO/IEC JTC 1, *Information technology*, and adopted under the “fast-track procedure”.

A list of all parts in the ISO/IEC 14776 series can be found on the ISO and IEC websites.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html and www.iec.ch/national-committees.

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Foreword (This foreword is not part of American National Standard INCITS 572-2021.)

The purpose of this standard is to define requirements for the transmission of SCSI commands, in a manner compliant with SAM-6, across a USB physical interface.

Requests for interpretation, suggestions for improvement and addenda, or defect reports are welcome. They should be sent to the INCITS Secretariat, National Committee for Information Technology Standards, Information Technology Institute, 700 K Street, NW, Suite 600, Washington, DC 20001.

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Introduction

The USB Attached SCSI standard (UAS) is divided into the following clauses:

Clause 1 describes the scope.

Clause 2 provides normative references for the entire standard.

Clause 3 provides definitions, abbreviations, and conventions used within the entire standard.

Clause 4 describes the model.

Clause 5 describes USB requirements.

Clause 6 describes transport requirements (e.g., IUs).

Clause 7 describes the SCSI Application Layer Transport Protocol Services.

Bibliography lists a bibliography for this standard.

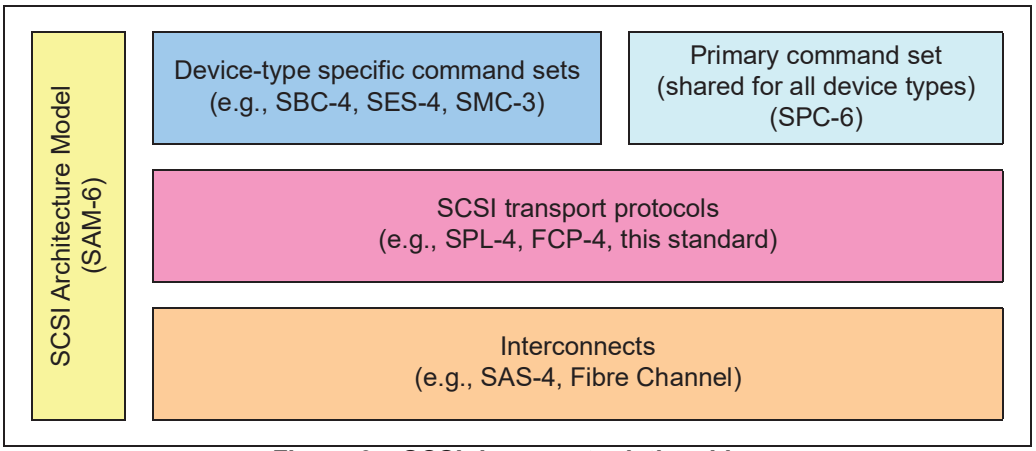

Figure 0 – SCSI document relationships

SCSI standards family

Figure 0 shows the relationship of this standard to the other standards and related projects in the SCSI family of standards as of the publication of this standard.

The SCSI document structure in figure 0 is intended to show the general applicability of the documents to one another. Figure 0 is not intended to imply any hierarchy, protocol stack, or system architecture relationship.

The functional areas identified in figure 0 characterize the scope of standards within a group as follows:

SCSI Architecture Model: Defines the SCSI systems model, the functional partitioning of the SCSI standard set and requirements applicable to all SCSI implementations and implementation standards.

Device-Type Specific Command Sets: Implementation standards that define specific device types including a device model for each device type. These standards specify the required commands and behaviors that are specific to a given device type and prescribe the requirements to be followed by a SCSI initiator device when sending commands to a SCSI target device having the specific device type. The commands and behaviors for a specific device type may include by reference commands and behaviors that are defined by other command sets.

Primary Command Set: An implementation standard that defines a model for all SCSI device types. This standard specifies the required commands and behavior that is common to all SCSI devices, regardless of device type, and prescribes the requirements to be followed by a SCSI initiator device when sending commands to any SCSI target device.

SCSI Transport Protocols: Implementation standards that define the requirements for exchanging information so that different SCSI devices are capable of communicating.

Interconnects: Implementation standards that define the communications mechanism employed by the SCSI transport protocols. These standards may describe the electrical and signaling requirements essential for SCSI devices to interoperate over a given interconnect. Interconnect standards may allow the interconnection of devices other than SCSI devices in ways that are outside the scope of this standard.

The term SCSI is used to refer to the family of standards described in this subclause.

USB Attached SCSI - 3 (UAS-3)

1 Scope

This standard describes a SCSI transport protocol (see SAM-6) for USB-2 and USB-3 with the following properties:

a) a mechanism to send commands associated with any T10 command standard to a USB device;
b) compliance with SCSI Architecture Model - 6 (e.g., autosense and command queuing); and
c) other capabilities.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this American National Standard. All standards are subject to revision, and parties to agreements based on this American National Standard are encouraged to investigate the possibility of applying the most recent editions of the following standards:

INCITS 546, *Information technology - SCSI Architecture Model - 6 (SAM-6)* (under development)

INCITS 566, *Information technology - SCSI Primary Commands - 6 (SPC-6)* (under development)

Universal Serial Bus Specification Revision 2.0 (USB-2) [1]

Universal Serial Bus 3.2 Specification Revision 1.0 (USB-3) [1]

Universal Serial Bus Mass Storage Class Specification Overview Rev 1.4 (MSC) [1]

1. For information on the current status of USB documents, see the USB Implementors Forum at http://www.usb.org.