

To: T10 Technical Committee
 From: Rob Elliott, HP (elliott@hp.com)
 Date: 15 March 2007
 Subject: 07-059r1 SAS-2 Update references to SATA 2.6

Revision history

Revision 0 (25 January 2007) First revision
 Revision 1 (15 March 2007) Incorporated comments from March 2007 SAS protocol WG

Related documents

sas2r08 - Serial Attached SCSI - 2 (SAS-2) revision 0

Overview

SAS-2 currently references the following standards/specifications for Serial ATA:

ISO/IEC 27439 Volume 3, AT Attachment with Packet Interface-7 Volume 3 (ATA/ATAPI-7 V3)(Serial ATA) (ANSI INCITS 397-2005)
 Serial ATA II: Electrical Specification (SATAII-PHY). Revision 1.0. 26 May 2004
 Serial ATA II: Extensions to Serial ATA 1.0a (SATAII-EXT). Revision 1.2. 27 August 2004
 Serial ATA II: Port Selector (SATAII-PS). Revision 1.0. 28 July 2003

It should reference Serial ATA 2.6 from the Serial ATA International Organization, which reasserted control of the Serial ATA protocol definition from T13 and merged content from SATAII-PHY, SATAII-EXT, and SATAII-PS.

Suggested changes

2.3 References under development

At the time of publication, the following referenced standards were still under development. For information on the current status of the document, or regarding availability, contact the relevant standards body or other organization as indicated.

~~ISO/IEC 27439 Volume 3, AT Attachment with Packet Interface-7 Volume 3 (ATA/ATAPI-7 V3)(Serial ATA) (ANSI INCITS 397-2005)~~

ISO/IEC 27439-xxx, ATA Attachment-8 ATA/ATAPI Architecture Model (ATA8-AAM) (T13/1700-D)

ISO/IEC 27439-xxx, ATA Attachment-8 ATA/ATAPI Command Set (ATA8-ACS) (T13/1699-D)

ISO/IEC 14776-414, SCSI Architecture Model-4 (SAM-4) (T10/1683-D)

ISO/IEC 14776-454, SCSI Primary Commands-4 (SPC-4) (T10/1731-D)

ISO/IEC 14776-323, SCSI Block Commands-3 (SBC-3) (T10/1799-D)

ISO/IEC 14776-372, SCSI Enclosure Services-2 (SES-2) (T10/1559-D)

NOTE 1 - 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>.

2.4 Other references

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

~~Serial ATA II: Electrical Specification (SATAII-PHY). Revision 1.0. 26 May 2004~~

~~Serial ATA II: Extensions to Serial ATA 1.0a (SATAII-EXT). Revision 1.2. 27 August 2004~~

~~Serial ATA II: Port Selector (SATAII-PS). Revision 1.0. 28 July 2003~~

[Serial ATA Revision 2.6 \(SATA-2\). 15 February 2007.](#)

NOTE 2 - For information on the current status of Serial ATA, see the Serial ATA International Organization at <http://www.sata-io.org>.

[Change all references from ATA/ATAPI-7 V3, SATAII-PHY, SATAII-EXT, and SATAII-PS to SATA-2. An incomplete list the references is shown below:](#)

3.1.84 frame information structure (FIS): The SATA frame format. See [ATA/ATAPI-7 V3](#).

3.1.200 SATA port selector: A device that attaches to two SATA host ports (i.e., two ATA domains) and one SATA device port, and provides the means for one SATA host to access the device at any given time (see [SATAII-PS](#)).

3.1.213 Serial ATA (SATA): The protocol defined by [ATA/ATAPI-7 V3](#) (see 2.3).

SATA phys are also referenced in this standard but are defined by SATA (see [ATA/ATAPI-7 V3](#)).

Figure 58 shows a schematic representation of the connectors and cables defined by SATA (see [ATA/ATAPI-7 V3](#)).

SAS Drive plug connector pin assignments, except for the addition of the secondary physical link when present, are in the same locations as they are in a SATA device plug connector (see [ATA/ATAPI-7 V3](#)).

b) a SATA signal cable receptacle connector (see [ATA/ATAPI-7 V3](#)) on the SAS initiator device or expander device end.

A SAS initiator device shall use a SATA host plug connector (see [ATA/ATAPI-7 V3](#)) for connection to a SAS Drive cable assembly. The signal assignment for the SAS initiator device or expander device with this connector shall be the same as that defined for a SATA host (see [ATA/ATAPI-7 V3](#)).

The SATA OOB sequence is defined by SATA (see [ATA/ATAPI-7 V3](#) and SATAII-PHY for detailed requirements).

... see [ATA/ATAPI-7 V3](#) and [SATAII-PHY](#) for detailed requirements.

... MHz, if the system supports SATA devices using Gen2i levels (see [SATAII-PHY](#))

Except for SATA_ERROR, all values are defined by SATA (see [ATA/ATAPI-7 V3](#)).

Not all the protocol elements for STP initiator ports to manage a SATA port selector (see [SATAII-PS](#)) in a SAS domain are defined in this standard.

may spin-up automatically after power on if staggered spin-up is not implemented (see [SATAII-EXT](#)).

An STP initiator port implementing command queuing (see [SATAII-EXT](#)) shall maintain