

To: T10 Technical Committee
From: Robert Sheffield (Robert.L.Sheffield@intel.com), Intel Corporation
Date: November 5, 2002
Subject: T10/02-437r2, SAS Support of SATA-II: Extensions to SATA 1.0

Revision History

Revision 0 (October 23, 2002) first revision

Revision 1 (October 25, 2002) first revision

Revision 2 (November 5, 2002) first revision

Related Documents

SAS-r02b – Serial Attached SCSI revision 02b.

Overview

This is a proposal to extend SAS to ~~support~~ specify compatibility with “Serial ATA II: Extensions to Serial ATA 1.0 Revision 1.0 16-October-2002 as it applies to SATA devices” SATA 1.0e, “SATA-II extensions to SATA 1.0” because the specification is now available in the public domain. ~~Most, but not all of the extensions make sense for SAS. This proposal recommends SAS be extended to support SATA 1.0e features as follows:~~ Selected features are deemed not applicable to the SAS domain and are to be listed in the informative annex E.

Feature	Supported in SAS?
Native Command Queuing	Yes
?Extended Differential Voltages to support backplanes	Yes, per SAS Phy
Non 512-byte sector sizes	Yes
First Party DMA	Yes
Enclosure Services	(TBD)
Staggered Device Spin-Up	Yes
Drive Activity Indication	Yes
Drive Hot-Plug improvements	Yes
Power Management improvements – intended for laptops.	No

Suggested Changes

Add to normative references, “Serial ATA II: Extensions to Serial ATA 1.0 Revision 1.0 16-October-2002 as it applies to SATA devices”. Include above table defining features of SATA 1.0e supported in SAS as Annex E.2.

Add text to the description of the SATA VERSION field in Table 100 to read:

SATA 1.0e (SATA-II extensions to SATA 1.0) is reported as 01h.

Add Annex E.2: Features of “Serial ATA II: Extensions to Serial ATA 1.0” specifically excluded from SAS or handled differently in a SAS domain:

- Extended Differential Voltages
- Enclosure Services
- Drive Activity Indication
- Drive Hot-Plug Improvements (OK)
- Power Management Improvements

In next revision look at saying more on Drive Activity, and scrub Drive Hot Plug and Extended Voltage to make sure there's nothing we need to comprehend in SAS. Also do a general review of SATA Extensions.