To: T10 Technical Committee
From: Bob Sheffield(robert.l.sheffield@intel.com)
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Subject: 06-001r0: SAT - I_T Nexus Loss

Revision history
Revision 0 (21 November 2005) First revision

Related documents
sat-r07 - SCSI / ATA Translation revision 07
05-306r2 - SAS-2 STP connection time limits and STP/SMP I_T nexus loss
(http://www.t10.org/ftp/t10/document.05/05-306r2.pdf)

Overview

This proposal is based on discussion of a SAS-2 proposal, 05-306r2, which provides handling for I_T nexus loss for devices using STP protocol. In SAS-2, an STP/SATA bridge may detect an I_T nexus loss. The SATL may detect this condition during discovery prompted by a BROADCAST (CHANGE) by detecting the STP I_T NEXUS LOSS OCCURRED bit in the REPORT PHY SATA response. The SATL needs to process the I_T nexus loss in accordance with SAM-3 by issuing an ATA hard reset to the device, terminating all outstanding commands to that device, and establishing a UNIT ATTENTION condition. A SATL using other transports may also detect an I_T nexus loss, and should perform the same processing.

Suggested changes

(new text)

6.5 I_T nexus loss

The SATL may detect an I_T nexus loss (see SAM-3). If the SATL detects an I_T nexus loss (e.g., in a SAS domain the expander device with an STP/SATA bridge transmits a BROADCAST (CHANGE) and the subsequent REPORT PHY SATA response from the affected phy contains an STP I_T NEXUS LOSS OCCURRED bit set to one), the SATL shall issue an ATA hard reset (see 3.1.9) to the affected ATA device, shall terminate processing of any commands to the affected ATA device, and should establish a UNIT ATTENTION with the additional sense code set to I_T NEXUS LOSS OCCURRED.