

AHCI 1.0 Errata 002



AHCI 1_0 Errata_002.doc

*Please send comments to Amber Huffman
amber.huffman@intel.com*

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1 BSY/ERR bits shall not be set when setting AE to '1'

1.1 Description of Technical Issue

Enabling of AHCI mode (GHC.AE == '1') by host software when the BSY bit is set in the legacy task file status register, can result in the BSY bit remaining set when/if host software disables AHCI mode (GHC.AE->1->0). While this does not affect AHCI operations, it could have impact on non-AHCI host software that does not expect to find the legacy interface in the BSY state. Host software must ensure that the BSY bit is not set in the legacy task file status register prior to setting the GHC.AE bit to '1'.

This applies to AHCI implementations that support legacy, task file base access mechanism (SFF-8038i) in addition to native AHCI access mechanism (via ABAR). Implementations that support both access mechanisms are identified by the programming of the CAP.SAM bit, where a value of '0' indicates support for both. This issue does not apply to AHCI implementations whose CAP.SAM bit is '1'.

1.2 Description of Correction to Specification

Within section 10.2, make the following changes to the 2nd paragraph:

To switch from legacy mode to AHCI mode, the legacy interface **shall** be in an idle state (e.g. BSY == '0') and there **shall** be no outstanding commands to any devices connected to the controller. **Additionally, any transaction errors reported through the legacy task file status register (i.e. ERR == '1') shall be rectified prior to switching to AHCI mode. This can be accomplished via a software reset.** At this point, software can begin the sequence for initializing the AHCI controller outlined in section 10.1."