

AHCI 1.1

Errata 003 Draft



AHCI 1_1 Errata_003.doc

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1 BSY/DRQ Need to be Zero before New Commands are Issued

1.1 Description of Technical Issue

In order for the AHCI controller to fetch new commands based off of PxCI then BSY and DRQ bits of the PxTFD.STS register must be zero. These bits convey to the AHCI controller that the device currently is busy or in the middle of a PIO transfer.

1.2 Description of Correction to Specification

Modify section 5.3.2.3 P:NotRunning

P:NotRunning		HBA sets all pIssueTag array variables to 32. HBA sets pSlotLoc = CAP.NCS	
1.	GHC.AE is cleared to '0'	→	P:NotRunning
2.	PxCMD.POD written to '1' from a '0'	→	P:PowerOn
3.	PxCMD.POD written to '0' from a '1'	→	P:PowerOff
4.	PxSCTL.DET written to '4h' from any other value	→	P:Offline
5.	PxSCTL.DET written to 1h from any other value and PxCMD.SUD = '1'	→	P:StartComm
6.	PxCMD.SUD written to '1' from '0' and PxSCTL.DET = '0h'	→	P:StartComm
7.	PxCMD.SUD written to '0' from '1' and PxSCTL.DET = '0h'	→	P:PhyListening
8.	PxCMD.FRE written to '1' from a '0' and previously processed Register FIS is in receive FIFO and PxSERR.DIAG.X = '0'	→	P:RegFisPostToMem
9.	PxCMD.ST = '1', PxTFD.STS.BSY = '0', and PxTFD.STS.DRQ = '0'	→	P:Idle
10.	D2H Register FIS received	→	NDR:Entry
11.	Else	→	P:NotRunning
NOTE:			
1. This state is entered asynchronously when GHC.AE is transitions from '1' to '0'. Disabling AHCI mode while commands are outstanding has indeterminate results.			