

To: T10 Technical Committee  
From: Bob Sheffield (Robert.L.Sheffield@intel.com)  
Date: 6 March 2006  
Subject: 06-083r0 SAS2: Handle STP CLOSE and SATA\_X\_RDY crossing on the wire

**Revision history**

Revision 0 (17 January 2006) First revision  
Revision 1(6 March 2006) Incorporated feedback from March 6 SAS WG (simplified new text).

**Related documents**

SAS-2-r02 - Serial Attached SCSI - 2 (SAS-2) revision 02

**Overview**

It is not clear in the discussion of closing STP connections that an STP port originating CLOSE and receiving STP\_X\_RDY should not transmit STP\_R\_RDY and receive a FIS before the connection is closed by the other port after transmitting the FIS. This proposal clarifies the behavior of the STP port that receives a CLOSE after transmitting an STP\_X\_RDY, but before receiving an STP\_R\_RDY to make it clear no data is transferred before the connection is closed and reopened by the STP port that transmitted SATA\_X\_RDY.

**Suggested changes**

**7.17.7 Closing an STP connection**

Either STP port (i.e., either the STP initiator port or the STP target port) may originate closing an STP connection. An STP port shall not originate closing an STP connection after sending a SATA\_X\_RDY or SATA\_R\_RDY until after both sending and receiving SATA\_SYNC. An STP port shall transmit CLOSE after receiving a CLOSE if it has not already transmitted CLOSE.

[If an STP port receives a CLOSE after transmitting an STP\\_X\\_RDY, but before receiving an STP\\_R\\_RDY, the STP port shall complete closing the connection \(i.e. transmit CLOSE\) and retransmit the STP\\_X\\_RDY in a new connection.](#)

When an STP initiator port closes an STP connection, it shall transmit a CLOSE (NORMAL) or CLOSE (CLEAR AFFILIATION). When an STP target port closes an STP connection, it shall transmit a CLOSE (NORMAL).

An STP initiator port may issue CLOSE (CLEAR AFFILIATION) in place of a CLOSE (NORMAL) to cause the STP target port to clear the affiliation (see 7.17.5) along with closing the connection. If an STP target port receives CLOSE (CLEAR AFFILIATION), the STP target port shall clear the affiliation for the STP initiator port that sent the CLOSE (CLEAR AFFILIATION).

See 7.12.6 for additional details on closing connections.

An STP/SATA bridge shall break an STP connection if its SATA host phy loses dword synchronization (see 7.12.7).