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To: T10 Technical Committee
From: Bill Galloway
Subj: ATN Setup Correction

The previous correction to ATN setup timing did not take into account the proposal to only use the asserting edges of the REQ/ACK signal for paced transfers.

If we leave the ATN setup timing relative to the negating edge of the ACK signal, then whenever the target was required to wait for the offset to go to zero, it will also have to wait for the negation of the ACK signal. This would be required so that the target could determine if an ATN condition was signaled on the previous IU before starting the next IU. This is possible to do but not very clean.

A better alternative is to time ATN setup relative to the asserting edge of ACK (for paced transfers), then neither the initiator nor the target have to worry about any timing relative to the negating edge of the ACK signal (except for phase transitions).

The following paragraphs change the ATN setup time to be relative to the asserting edge of the ACK signal for paced transfers.

9.2.2 ATN transmit setup time

When information unit transfers and paced transfers are disabled, the ATN transmit setup time is the minimum time provided by the transmitter between the assertion of the ATN signal and the last negation of the ACK signal in any phase.

When information unit transfers are enabled and paced transfers are disabled, the ATN transmit setup time is the minimum time provided by the transmitter between the assertion of the ATN signal and the negation of the ACK signal corresponding to the last iuCRC transfer of an information unit.

When paced transfers are enabled, the ATN transmit setup time is the minimum time provided by the transmitter between the assertion of the ATN signal and the assertion of the ACK signal corresponding to the last iuCRC transfer of an information unit.

Specified to provide the increased ATN receive setup time, subject to intersymbol interference, cable skew, and other distortions.

9.2.3 ATN receive setup time

When information unit transfers and paced transfers are disabled, the ATN receive setup time is the minimum time required at the receiver between the assertion of the ATN signal and the last negation of the ACK signal in any phase to recognize the assertion of an attention condition.

When information unit transfers are enabled and paced transfers are disabled, the ATN receive setup time is the minimum time required at the receiver between the assertion of the ATN signal and the negation of the ACK signal corresponding to the last iuCRC transfer of an information unit to recognize the assertion of an attention condition.

When paced transfers are enabled, the ATN receive setup time is the minimum time required at the receiver between the assertion of the ATN signal and the assertion of the ACK signal corresponding to the last iuCRC transfer of an information unit to recognize the assertion of an attention condition.

Specified to ease receiver timing requirements.

12.2 Attention condition

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To create an attention condition during an information transfer phase, the initiator shall assert the ATN signal at least an ATN transmit setup time before ~~negating~~ [the specified transition of](#) the ACK signal.