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To: T10 Technical Committee
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Subj: Proposed addition to SPI-3 integrity check fall back procedure

Many recent simple expanders detect speed and width parameters by snooping on the PPR and WDTR/SDTR messages. Expanders designed for operation with SPI-2 devices pass PPR messages through, but do not parse these messages (since these messages were created after these expanders were designed).

Should two SPI-3 devices be connected through an expander designed for SPI-2, Fast-80 operation will fail during integrity checking (because SPI-2 expanders do not support DT clocking). If the fall back procedure uses PPR messages to negotiate Fast-40 operation, this speed will also fail since the expander will not snoop the PPR messages. Therefore, the best way to perform fall back is to revert to WDTR/SDTR messages.

I propose that the following note be added at the end of L.3 in SPI-3:

Note: If two devices conforming to this standard are connected through a simple expander that was design to operate with devices conforming to a prior SCSI standard, then the simple expander may not operate correctly if the fall back negotiation relies on PPR messages. It is recommended that the fall back procedure first negotiate asynchronous mode using PPR messages, then negotiate the fall back mode using WDTR/SDTR messages.

I also propose that in 16.1.2.3, the following sentence be deleted in paragraph just after Table 47:

"The SYNCHRONOUS DATA TRANSFER REQUEST and WIDE DATA TRANSFER REQUEST messages should only be used when negotiating with devices that do not support the PARALLEL PROTOCOL REQUEST message."