To: T10 Technical Committee
From: Rob Elliott, Compaq Computer Corporation (Robert.Elliott@compaq.com)
Date: 13 September 2000
Subject: PPR/MESSAGE REJECT implied agreement

Revision 0: suggests initiator retain settings
Revision 1: requires initiator negotiate with WDTR and SDTR

There is a problem in the PPR description in SPI-3 and SPI-4.

- SPI-3 revision 14, Table 56, page 157 (PDF page 179).
- SPI-4 revision 0, Table 58, page 198.

Current text (in the list of responses to the PPR OUT from the initiator to the target):

Table 56 or 58: PPR messages implied agreements

Target's PPR response	Implied agreement
MESSAGE REJECT message	The initiator shall set eight-bit/asynchronous transfer with protocol options field set to 0h

If an Ultra 3 initiator has an WDTR/SDTR negotiation in effect with an Ultra 2 target, the target will issue a MESSAGE REJECT to an incoming PPR OUT because it doesn't understand that message. The target will maintain its current negotiated settings. The initiator should do the same, rather than drop down to eight-bit asynchronous mode. Otherwise, the data phase won't work; the target may start streaming REQs while the initiator expects only one at a time.

If an Ultra 3 initiator has a PPR negotiation in effect with an Ultra 3 target and a MESSAGE REJECT occurs, then dropping back to eight-bit asynchronous mode is appropriate because the target has probably changed (hot-swap). However, a new WDTR/SDTR negotiation needs to be done to notify expanders that snoop messages of the change. If target-based negotiation is enabled, the target may request this negotiation, but that is not guaranteed.

Suggested correction:

Table 56 or 58: PPR messages implied agreements

Target's PPR response	Implied agreement
MESSAGE REJECT message	The initiator shall consider its agreement invalid and shall create an attention condition and perform a WDTR negotiation (see section 16.3.16). If the WDTR message is rejected, the initiator shall create an attention condition and perform an SDTR negotiation (see section 16.3.14). If both the WDTR and SDTR messages are rejected, the initiator shall set its transfer agreement to eight-bit asynchronous with the protocol options field set to 00h.