

To: T10 Technical Committee
From: Rob Elliott, Compaq Computer Corporation (Robert.Elliott@compaq.com)
Date: 27 June 2001
Subject: SPI-4 Add DISCONNECT OUT during IU mode to bus free list

Revision History

Revision 0 (27 June 2001) first revision

Related Documents

spi4r05 - SCSI Parallel Interface - 4 revision 5

Overview

Section 10.3 "Expected and Unexpected bus frees" lists reasons that targets create BUS FREEs. One reason is the target sending a DISCONNECT message to an initiator.

Section 16.3.2 lists a case which is not included in section 10.3. If an initiator sends a DISCONNECT message when information units are enabled, the target goes BUS FREE directly without sending its own DISCONNECT message.

16.3.2 DISCONNECT

The DISCONNECT message is sent from a target to inform an initiator that the target plans to do a physical disconnect by releasing the BSY signal, and that a later physical reconnect is going to be required in order to complete the current task. This message shall not cause the initiator to save the data pointers.

The target shall consider the message transmission to be successful when there is no attention condition on the DISCONNECT message.

After successfully sending this message the target shall go to the BUS FREE phase by releasing the BSY signal.

If information unit transfers are disabled any target that breaks data transfers into one or more physical reconnections shall end each successful data transfer (except possibly the last) with a SAVE DATA POINTERS - DISCONNECT message sequence.

If information unit transfers are enabled targets shall not transmit a DISCONNECT message.

This message may also be sent from an initiator to a target to instruct the target to do a physical disconnect. If this option is enabled and a DISCONNECT message is received the target shall either:

- a) If information unit transfers are disabled switch to MESSAGE IN phase, send the DISCONNECT message to the initiator (possibly preceded by SAVE DATA POINTERS message), and then do a physical disconnect by releasing BSY; or
- b) if information unit transfers are enabled, regardless of the QAS mode, do a physical disconnect by releasing BSY.

After releasing the BSY signal, the target shall not participate in another ARBITRATION phase for at least a disconnection delay or the time limit specified in the PHYSICAL DISCONNECT TIME LIMIT mode parameter (see 18.1.2) whichever is greater. If this option is disabled or the target is not able to do a physical disconnect at the time when it receives the DISCONNECT message from the initiator, the target shall respond by sending a MESSAGE REJECT message to the initiator.

Suggested Changes

Add the case to the list:

10.3 Expected and unexpected bus free phases

Targets ~~shall~~ create a BUS FREE phase after any of the following:

- a) after any bus reset event (see 12.5);
- b) after an ABORT TASK task management function is successfully received by a target (see 16.5.2);
- c) after an ABORT TASK SET task management function is successfully received by a target (see 16.5.3);
- d) after a CLEAR TASK SET task management function is successfully received by a target (see 16.5.5);
- e) after a LOGICAL UNIT RESET task management function is successfully received by a target (see 16.5.6);
- f) after a TARGET RESET task management function is successfully received by a target (see 16.5.7);
- g) after a CLEAR ACA task management function is successfully received by a target (see 16.5.4);
- h) after a DISCONNECT message is successfully transmitted from a target (see 16.3.2);
- i) after a TASK COMPLETE message is successfully transmitted from a target (see 16.3.17);
- j) after the release of the SEL signal after a SELECTION or RESELECTION phase time-out;
- k) after a DISCONNECT message is successfully received by a target when information unit transfers are enabled (see 16.3.2);
- l) after a PPR negotiation in response to a selection using attention condition when information unit transfers are enabled (see 16.3.12); or
- m) after any successful message negotiation that causes information unit transfers to be enabled (see 16.3.12) or disabled (see 16.3.12).