

To: T10 Technical Committee
From: Rob Elliott, HP (elliott@hp.com)
Date: 13 January 2003
Subject: T10/03-033r0 SPI-5 revision 5 editorial comments

Revision History

Revision 0 (13 January 2003) first revision

Related Documents

spi5r05 – SCSI Parallel Interface – 5 revision 5

Overview

Here are a few issues that have proven somewhat confusing during debug of IU mode products.

1. Table 50 (L_Q type field) row 02h (Multiple command) has a duplicate sentence:
The IUCRC INTERVAL field shall be set to zero and ignored by the SCSI target device.
The IUCRC INTERVAL field shall be set to zero and ignored by the SCSI tar-get device.

Suggestion: The extra sentence should be removed.

2. Table 50 (L_Q type field) row 08h (Status) has an extra sentence:
The IUCRC INTERVAL field shall be set to zero and ignored by the SCSI initiator device. The IUCRC
INTERVAL field shall be set to zero and ignored by the SCSI target device.

Suggestion: Targets don't receive Status IUs, so the second sentence should be removed.

3. The message table in 16.3.1 (Link control messages) uses "NS" to mark messages not supported in IU mode. The message tables in 16.4.1 (Task attribute messages) and 16.5.1 (Task management messages) use "n/a".

Suggestion: They should all use the same; and text tying it to messages would be helpful. Make the footnote "NS=Not supported as a message".

4. The message table in 16.5.1 (Task management messages) should point back to 14.3.1 (for table 48 – L_Q task management functions field) highlighting that there are IU mode equivalents for them. Readers are being confused and think that functions like ABORT TASK SET are not available in IU mode because of this table.

Suggestion: Add:

"Note: When IU Transfers are enabled, the equivalent task management functions are implemented in the SPI command information unit (see 14.3.1)."

5. The message table in 16.4.1 (Task attribute messages) should point back to 14.3.1 (for table 47 – L_Q task attribute field). Readers might think that ORDERED, etc. are not supported in IU mode because of this table.

Suggestion: Add:

"Note: When IU Transfers are enabled, the equivalent task attributes are implemented in the SPI command information unit (see 14.3.1)."

6. The message table in 16.3.1 (Link control messages) should point back to 14.3 (for various L_Q fields) for a few of the fields.

IDENTIFY --> L_Q IU LUN and TAG fields

IGNORE WIDE RESIDUE ---> L_Q IU DATA LENGTH fields

LINKED COMMAND COMPLETE ---> unnecessary; status IU

MODIFY DATA POINTER ---> not supported
MODIFY BIDIRECTIONAL DATA POINTER ---> not supported
RESTORE POINTERS --> not supported (only implied restores work)
SAVE DATA POINTERS ---> not supported (only implied saves work)
TASK COMPLETE --> unnecessary; status IU

Suggestion: Add a footnote to IDENTIFY and IGNORE WIDE RESIDUE that "When IU Transfers are enabled, the equivalent functions are implemented in the SPI L_Q information unit (see 14.3.2)."

Add a footnote to LINKED COMMAND COMPLETE and TASK COMPLETE that "When IU Transfers are enabled, the equivalent functions are implemented in the SPI L_Q information unit (see 14.3.2)."

7. Section 15 (SCSI pointers) paragraph 3 says:

"In response to the SAVE DATA POINTERS message or successful receipt or transmission of a SPI data information unit, the SCSI initiator port stores the value of the current data-out and data-in pointers into the saved data-out and data-in pointers for that task. The SCSI target port may restore the active pointers to the saved pointer values for the current task by sending a RESTORE POINTERS message to the SCSI initiator port. The SCSI initiator port then copies the set of saved pointers into the set of active pointers.
Whenever ..."

The first sentence refers to IU mode. The second and third sentence, however, are not true if IU mode is enabled. That message is marked "NS" in 16.5.1. The remaining sentences starting with "Whenever" apply to both modes and are fine.

Suggestion: The second and third sentences should be prefixed by "If information unit transfers are disabled, ..."

7. Sections 19.5.3, 19.5.4, 19.5.5, 19.5.6, 19.5.7, 19.5.9 (task management services) only point to the message implementations of the task management functions in 16.5.x.

Suggestion: They should also point to the command IU implementations of them in 14.3.1 (table 48).

Change:

19.5.3 ABORT TASK

The SCSI parallel interface services request the SCSI initiator port issue an ABORT TASK message (see 16.5.2) to the selected I_T_L_Q nexus.

19.5.4 ABORT TASK SET

The SCSI parallel interface services request the SCSI initiator port issue an ABORT TASK SET message (see 16.5.3) to the selected I_T_L nexus.

19.5.5 CLEAR ACA

The SCSI parallel interface services request the SCSI initiator port issue a CLEAR ACA message (see 16.5.4) to the selected I_T_L nexus.

19.5.6 CLEAR TASK SET

The SCSI parallel interface services request the SCSI initiator port issue a CLEAR TASK SET message (see 16.5.5) to the selected I_T_L nexus.

19.5.7 LOGICAL UNIT RESET

The SCSI parallel interface services request the SCSI initiator port issue a LOGICAL UNIT RESET message (see 16.5.6) to the selected I_T_L nexus.

19.5.9 TARGET RESET

The SCSI parallel interface services request the SCSI initiator port issue a TARGET RESET message (see 16.5.7) to the selected I_T nexus.

to:

19.5.3 ABORT TASK

The SCSI parallel interface services request the SCSI initiator port issue an ABORT TASK task management function (see 16.5.2 and 14.3.1) to the selected I_T_L_Q nexus.

19.5.4 ABORT TASK SET

The SCSI parallel interface services request the SCSI initiator port issue an ABORT TASK SET task management function (see 16.5.3 and 14.3.1) to the selected I_T_L nexus.

19.5.5 CLEAR ACA

The SCSI parallel interface services request the SCSI initiator port issue a CLEAR ACA task management function (see 16.5.4 and 14.3.1) to the selected I_T_L nexus.

19.5.6 CLEAR TASK SET

The SCSI parallel interface services request the SCSI initiator port issue a CLEAR TASK SET task management function (see 16.5.5 and 14.3.1) to the selected I_T_L nexus.

19.5.7 LOGICAL UNIT RESET

The SCSI parallel interface services request the SCSI initiator port issue a LOGICAL UNIT RESET task management function (see 16.5.6 and 14.3.1) to the selected I_T_L nexus.

19.5.9 TARGET RESET

The SCSI parallel interface services request the SCSI initiator port issue a TARGET RESET task management function (see 16.5.7 and 14.3.1) to the selected I_T nexus.

8. Section 10.3 (Bus frees) should point to the IU versions of the task management functions, not just the message versions. The IU description points to the message description, but it may not be clear enough that the IUs do also cause these BUS FREES.

Suggestion: In 10.3 add 14.3.1 to each reference, or just point to 19.5.x which then points to both message (16.5.7) and IU (14.3.1) approaches assuming the previous comment is accepted.

Change:

- b) after an ABORT TASK task management function is successfully received by a SCSI target port (see 16.5.2);
- c) after an ABORT TASK SET task management function is successfully received by a SCSI target port (see 16.5.3);
- d) after a CLEAR TASK SET task management function is successfully received by a SCSI target port (see 16.5.5);
- e) after a LOGICAL UNIT RESET task management function is successfully received by a SCSI target port (see 16.5.6);
- f) after a TARGET RESET task management function is successfully received by a SCSI target port (see 16.5.7);
- g) after a CLEAR ACA task management function is successfully received by a SCSI target port (see 16.5.4);

to:

- b) after an ABORT TASK task management function is successfully received by a SCSI target port (see 16.5.2 and 14.3.1);
- c) after an ABORT TASK SET task management function is successfully received by a SCSI target port (see 16.5.3 and 14.3.1);
- d) after a CLEAR TASK SET task management function is successfully received by a SCSI target port (see 16.5.5 and 14.3.1);
- e) after a LOGICAL UNIT RESET task management function is successfully received by a SCSI target port (see 16.5.6 and 14.3.1);
- f) after a TARGET RESET task management function is successfully received by a SCSI target port (see 16.5.7 and 14.3.1);
- g) after a CLEAR ACA task management function is successfully received by a SCSI target port (see 16.5.4 and 14.3.1);

9. Section 14.3.1 table 47 (L_Q task attribute field) points to SAM-2 for the task attributes. Table 48 points to the message equivalents for task management functions in 16.5.x.

Suggestion: Perhaps table 47 should point to the message equivalents of the task attributes in 16.4.x instead of or in addition to SAM-2?

Counter-argument: the task management functions have other effects like BUS FREEs, while the task attributes are clean. The extra level of redirection is not strictly needed and could be ignored.