

T10/08-374 Revision 1

Date: October 9, 2008

To: T10 Committee

From Brad Besmer, LSI

Subject: SAT-2 Additional Task Management Translations (Letter Ballot Resolution)

Overview

Background

This proposal is to resolve 3 letter ballot comments against SAT-2 by Rob Elliott (HP):

1) Add:

I_T NEXUS RESET

It should be similar to ABORT TASK SET

2) Add:

QUERY TASK SET

It should be similar to QUERY TASK, but reporting if any task is in the task set, not just a specific I_T_L_Q nexus.

3) Add:

QUERY ASYNCHRONOUS EVENT

to report any unit attention conditions that the SATL has established

SAT-2 Changes

New section following section 6.4.7 CLEAR TASK SET:

0.0.1 I_T NEXUS RESET

The service request for the I_T NEXUS RESET task management function (see SAM-4) is:

Service Response = I_T NEXUS RESET (IN (I_T nexus)).

If the ATA device is not processing ATA commands for SCSI commands associated with the specified I_T nexus, then the SATL shall abort all commands for the specified I_T nexus from the SATL internal context and respond to the I_T NEXUS RESET task management function with a service response of FUNCTION COMPLETE.

If the ATA device is processing any ATA commands related to the specified I_T nexus, then the SATL shall either:

- a) allow the ATA command(s) to complete as follows:

- 1) wait until the ATA device returns command complete for the ATA command(s);
- 2) if the completed ATA command completes processing a SCSI command in the task set, return completion status for the SCSI command; and
- 3) after all ATA commands return completion status, return a service response of FUNCTION COMPLETE for the I_T NEXUS RESET task management function;

or

- b) abort outstanding ATA command(s) (see 6.4.2) for the specified I_T nexus, and respond to the I_T NEXUS RESET task management function with a service response of FUNCTION COMPLETE.

The SATL shall establish a unit attention condition on behalf of the logical unit corresponding to the ATA device with an additional sense code set to I_T NEXUS LOSS OCCURRED.

If aborting ATA commands for the specified I_T nexus results in ATA commands being aborted by ATA collateral abort (see 3.1.8) that are related to processing SCSI commands in an I_T nexus other than the specified I_T nexus, then:

- a) if the SATL supports ATA abort retry (see 3.1.7), then the SATL shall re-send **all ATA commands aborted by ATA collateral abort** and continue processing of the affected I_T_L_Q nexuses; or
- b) if the SATL does not support ATA abort retry, then for each I_T nexus other than the specified I_T nexus that had one or more SCSI commands affected due to ATA commands aborted by ATA collateral abort, the SATL shall abort all commands for each affected I_T nexus and establish a UNIT ATTENTION condition with the additional sense code set to COMMANDS CLEARED BY ANOTHER INITIATOR.

NOTE 1 - A SATL that does not support ATA abort retry (see 3.1.7) is not able to comply with the SAM-4 requirement that I_T NEXUS RESET not abort commands other than those in the specified I_T nexus.

If the SATL does not support the I_T NEXUS RESET task management function the SATL shall return a service response of FUNCTION REJECTED.

New sections following section 6.4.10 QUERY TASK:

0.0.2 QUERY TASK SET

The service request for the QUERY TASK SET task management function (see SAM-4) is:

Service Response = QUERY TASK SET (IN (I_T_L nexus)).

~~If the SATL supports the QUERY TASK SET task management function, the SATL shall return a service response of FUNCTION SUCCEEDED if there is any command present in the task set from the specified I_T_L nexus, or the SATL shall return a service response of FUNCTION COMPLETE if there is no command present in the specified I_T_L nexus.~~

If the SATL supports the QUERY TASK SET task management function, then:

- a) the SATL shall return a service response of FUNCTION SUCCEEDED if there is any command present in the task set from the specified I_T_L nexus; or
- b) the SATL shall return a service response of FUNCTION COMPLETE if there is no command present in the specified I_T_L nexus.

If the SATL does not support the QUERY TASK SET task management function the SATL shall return a service response of FUNCTION REJECTED.

0.0.3 QUERY ASYNCHRONOUS EVENT

The service request for the QUERY ASYNCHRONOUS EVENT task management function (see SAM-4) is:

Service Response = QUERY ASYNCHRONOUS EVENT (IN (I_T_L nexus), OUT([Additional Response Information])).

~~If the SATL supports the QUERY ASYNCHRONOUS EVENT task management function, the SATL shall return a service response of FUNCTION SUCCEEDED if there is a unit attention condition or deferred error pending for the specified I_T nexus, or the SATL shall return a service response of FUNCTION COMPLETE if there is no unit attention condition and no deferred error pending for the specified I_T nexus. The Additional Response Information argument shall be returned as specified in SAM-4.~~

If the SATL supports the QUERY ASYNCHRONOUS EVENT task management function, then the SATL shall:

- a) if there is a unit attention condition or deferred error pending for the specified I_T nexus return a service response of FUNCTION SUCCEEDED; or
- b) if there is a unit attention condition or deferred error pending for the specified I_T nexus return a service response of FUNCTION COMPLETE.

If the SATL supports the QUERY ASYNCHRONOUS EVENT task management function, then the SATL shall return the Additional Response Information as specified in SAM-4

If the SATL does not support the QUERY ASYNCHRONOUS EVENT task management function the SATL shall return a service response of FUNCTION REJECTED.