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To: T10 Technical Committee
From: Bill Galloway
Subj: SAM-3 Query Task

For the recovery of lost command frames, lost ACKs to command frames, or lost NAKs to command frames, Serial Attached SCSI requires a way to query the target to see if a given tag is in use.

Changes:

Create a new task management function called QUERY TASK with an I_T_L_Q argument.

Add FUNCTION SUCCEEDED task manager response.

Add QUERY TASK to table 30.

SAM-2 Section 6.1 Introduction

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One of the following SCSI protocol specific responses shall be returned:

FUNCTION COMPLETE: A task manager response indicating that the requested function is complete. Unless another response is required, the task manager shall ~~The~~ **unconditionally** return this response upon completion of a task management request supported by the logical unit or SCSI target device to which the request was directed. Upon receiving a request to process an unsupported function, the task manager may return this response or the function rejected response described below.

FUNCTION SUCCEEDED: An optional task manager response indicating that the operation is supported and completed successfully. This task manager response shall only be used by operations that require notification of success.

FUNCTION REJECTED: An optional task manager response indicating that the operation is not supported by the object to which the function was directed (e.g., the logical unit).

SERVICE DELIVERY

OR TARGET FAILURE: The request was terminated due to a service delivery failure (see 3.1.111) or target malfunction. The task manager may or may not have successfully performed the specified function.

Each SCSI protocol standard shall define the actual events comprising each of the above service responses.

The task management functions are summarized in table 30.

SAM-2 Table 30 — Task Management Functions

Task management function	Nexus	Reference
ABORT TASK	I_T_L_Q	6.2
ABORT TASK SET	I_T_L	6.3
CLEAR ACA	I_T_L	6.4
CLEAR TASK SET	I_T_L	6.5
LOGICAL UNIT RESET	I_T_L	6.6
TARGET RESET	I_T_L	6.7
WAKEUP	I_T	6.8
QUERY TASK	I_T_L_Q	6.x

The task manager response to task management requests is subject to the presence of access restrictions, as managed by ACCESS CONTROL OUT and ACCESS CONTROL IN commands (see SPC-3), as follows:

- a) A task management request of ABORT TASK, ABORT TASK SET ~~or~~ CLEAR ACA, or QUERY TASK shall not be affected by the presence of access restrictions;
- b) A task management request of CLEAR TASK SET or LOGICAL UNIT RESET received from an initiator that is denied access to the logical unit (either because it has no access rights or because it is in the pending-enrolled state) shall cause no change to the logical unit;
- c) A TARGET RESET task management request shall initiate a logical unit reset as described in 5.8.7 for all logical units to which the initiator has access, and shall cause no change to any logical units to which the initiator is denied access; and
- d) The task management function Service Response shall not be affected by the presence of access restrictions.

Add this section:

Section 6.x QUERY TASK [new section]

Function call:

Service Response = QUERY TASK (IN (I_T_L_Q Nexus))

Description:

Protocols may or may not support QUERY TASK and may or may not require logical units accessible through target ports using such protocols to support QUERY TASK.

The task manager shall return a response of FUNCTION SUCCEEDED if the specified task exists, or FUNCTION COMPLETE if the specified task does not exist.