To: T10 Technical Committee
From: Rob Elliott, HP (elliott@hp.com)
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Subject: 05-081r0 SAM-4 task management function lifetime

Revision history
Revision 0 (22 February 2005) First revision

Related documents
sam4r01 - SCSI Architecture Model - 4 revision 1

Overview
In 6.3.4, an I_T nexus is listed as causing the device server to abort all commands using the I_T nexus.

It also needs to abort all task management functions using the I_T nexus. It is clearly not supposed to try to deliver responses for them later on (e.g., if a task management function is pending and a logout occurs, its response is not expected upon the next login). Section 5.6 mentions that the application client will assume a task management function has been aborted if it receives a unit attention to a command with an additional sense code containing an ASC set to 29h, but it doesn't tell the device server it was supposed to abort them when the condition causing that unit attention occurred.

Also, section 5.6 should be in clause 7 - Task management functions not clause 5 - SCSI command model, since it doesn't deal with tasks/commands.

Suggested changes

~~5.6~~ 7.9xx Task management function lifetime

The task manager shall create a task management function upon receiving a Task Management Request Received indication (see 7.9). The task management function shall exist until:

   a)   The task manager sends a SCSI transport protocol service response for the task management function;
   b)   An I_T nexus loss (see 6.3.4);
   c)   A logical unit reset (see 6.3.3);
   d)   A hard reset (see 6.3.2); or
   e)   A power on condition (see 6.3.1).

The application client maintains an application client task to interact with the task management function~~The application client assumes that the task management function is in process~~ from the time the Send Task Management Request SCSI transport protocol service request is invoked until it receives one of the following SCSI target device responses:

   a)   A service response of FUNCTION COMPLETE, FUNCTION SUCCEEDED, FUNCTION REJECTED, or SERVICE DELIVERY OR TARGET FAILURE is received for that task management function; or
   b)   Notification of a unit attention condition with any additional sense code whose ADDITIONAL SENSE CODE field contains 29h (e.g., POWER ON, RESET, OR BUS DEVICE RESET OCCURRED; POWER ON OCCURRED; SCSI BUS RESET OCCURRED; BUS DEVICE RESET FUNCTION OCCURRED; or DEVICE INTERNAL RESET).

   NOTE 1 The names of the unit attention conditions listed in the subclause (e.g., SCSI BUS RESET OCCURRED) are based on usage in previous versions of this standard. The use of these unit attention condition names is not to be interpreted as a description of how the unit attention conditions are represented by any given SCSI transport protocol.

6.4 Event notification SCSI transport protocol services

The SCSI transport protocol services described in this subclause are used by a SCSI initiator port or a SCSI target port to deliver an indication to the SCSI application layer that a SCSI event has been detected.

All SCSI transport protocol standards should define the SCSI transport protocol specific requirements for implementing the Nexus Loss indication and the Transport Reset indication described in this subclause and when these indications are to be delivered to the SCSI applications layer.

The Nexus Loss and the Transport Reset indications are defined for both SCSI target devices and SCSI initiator devices.

Indication delivered to device servers, task managers, and application clients:

Nexus Loss (IN (I_T Nexus))

Argument descriptions:

I_T Nexus: The specific I_T nexus that has been detected as lost.

Indication delivered to device servers, task managers, and application clients:

Transport Reset (IN (SCSI Port))

Argument description:

SCSI Port: The specific SCSI port in the SCSI device for which a transport reset was detected.