Maxtor Corporation
500 McCarthy Boulevard
Milpitas, CA 95035 USA

To: **T10 CAP Working Group**
Contact: **Mark Evans**
Phone: 408-894-5310
Email: mark_evans@maxtor.com
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Subject: **SAM-3, new Terminate Data Transfer transport protocol service and related clarification**

Introduction

This proposal creates a new protocol service: Terminate Data Transfer. This protocol service provides a mechanism for a logical unit to terminate requests that have been sent to SCSI target ports. Among other issues, it is possible that, without the Terminate Data Transfer service, requests for a logical unit could remain in a SCSI target port after an I_T nexus loss.

Revision 1 of this proposal included input from the CAP working group meeting, July 8-9, 2003, where it was identified that there were several areas in SAM-3 where the standard could use additional clarification about what SCSI devices do when tasks are aborted. This proposal also attempts to clarify some of these behaviors.

One minor change was recommended at the CAP working group meeting, September 9-10, 2003. This change is at the end of this proposal.

This proposal is based on SAM-3r08.

Item 1) Add the following into clause 4.15 The SCSI model for distributed communications:

When a device server invokes a Terminate Data Transfer SCSI transport protocol service, the interactions required to complete the service do not involve the SCSI Transport Protocol Service Interface or the application client. Only the STPL in the SCSI device that also contains the device server is involved. Figure 3 shows the relationships between the SCSI transport protocol service types involved in a Terminate Data Transfer request.

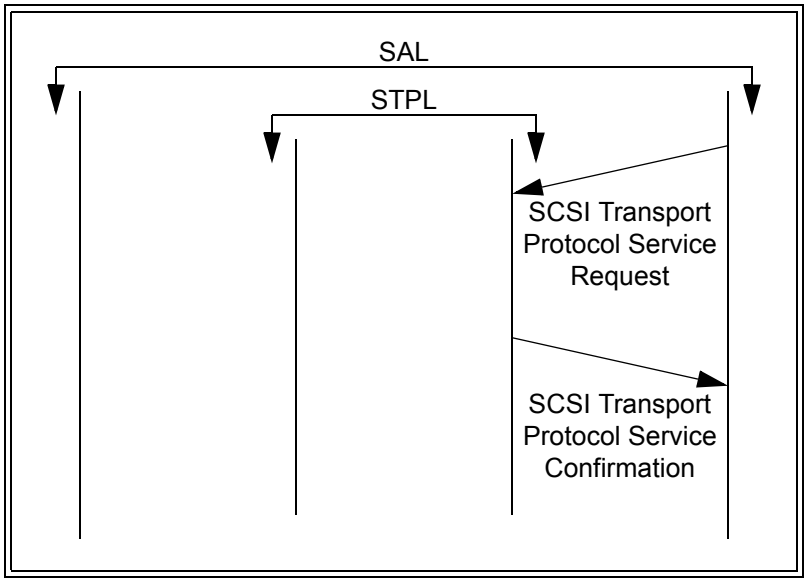

Figure 1 — SCSI transport protocol service model for Terminate Data Transfer

Figure 4 shows how SCSI transport protocol services may be used to process a device server Terminate Data Transfer transaction.

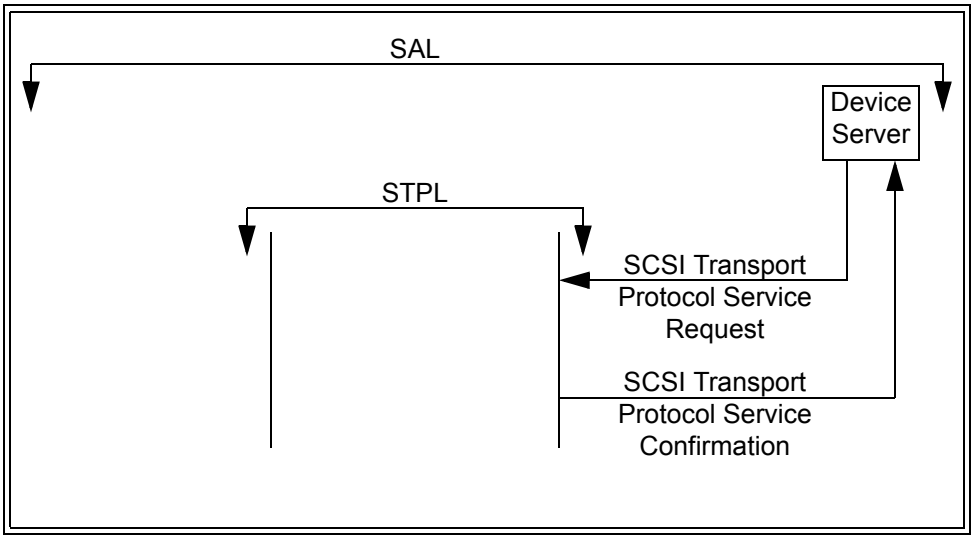

Figure 2 — Device server Terminate Data Transfer transaction and related STPL services

Item 2) Add the following clause at the end of 5.4.3 Data transfer SCSI transport protocol services:

0.0.0.1 Terminate Data Transfer delivery service

This service allows a device server to specify that one or more data-in or data-out data transfer service requests be terminated by a SCSI target port.

Request:

Terminate Data Transfer (IN (Nexus))

Argument description:

Nexus: an I_T nexus, an I_T_L nexus, or an I_T_L_Q nexus (see 4.12).

The SCSI target port terminates all transfer service requests for the specified nexus (e.g., if an I_T_L nexus is specified, then the SCSI target port terminates all transfer service requests from the logical unit for the specified SCSI initiator port).

Confirmation:

Data Transfer Terminated (IN (Nexus))

Argument description:

Nexus: an I_T nexus, an I_T_L nexus, or an I_T_L_Q nexus (see 4.12).

This confirmation is returned in response to a Terminate Data Transfer request whether or not the specified nexus existed in the SCSI target port when the request was received. After a Data Transfer Terminated transport protocol service confirmation has been sent in response to a Terminate Data transfer protocol service request, Data-In Delivered or Data-Out Received transport protocol service confirmations shall not be sent for the tasks specified by the nexus.

Item 3) Add the following sentence at the end of clause 5.7.1 Mechanisms that cause tasks to be aborted~~7.1 [Task management functions] Introduction~~ to make clear what happens to tasks in initiator ports when task management requests are received:

~~If a Send Task Management transport protocol service request causes one or more tasks to be cleared or aborted, then the affected tasks are cleared from the initiator ports.~~

If one or more tasks are cleared or aborted, then the affected tasks are also cleared from the initiator ports.