

To: INCITS T10 Committee
From: Paul Entzel, Quantum
Date: 4 November 2003
Document: T10/03-391r0
Subject: Task management IU for ADT.

1 Revision History

Revision 0:
Posted to the T10 web site 4 November 2003.

2 General

This proposal splits the task management functions from the SCSI Request IU and creates a new IU type for them. The ADI working group determined that the information required to perform task management functions and command delivery were different enough that a new IU should be created to handle the task management requests. The working group also decided that a Task Attributes field should be included in the SCSI Request IU so that the implied SIMPLE attribute was not required. This proposal includes the addition of this field modeled after SAS.

3 Proposal

Make the following changes to ADT:

In the first paragraph of subclause 7.1.1:

SCSI information units contain information required to implement the SCSI protocol. Each SCSI IU shall include a payload header at the start of the payload to carry other information that is required to perform the selected function. ~~All SCSI commands use the simple queue model described in SAM-2.~~ The X_ORIGIN bit in the ADT Frame Header implies the SCSI initiator port and SCSI target port identities. The EXCHANGE ID value from the ADT Frame Header takes on the role of the Queue Tag from SAM-2. The LUN is included in the SCSI Request IU payload header.

In Table 17, add a row:

Frame Type: 4h, Description: SCSI Task Management IU

Change all references to SCSI Request IU to SCSI Command IU.

In Table 18, change the field name of byte 2 from TASK MANAGEMENT FUNCTION to TASK ATTRIBUTE in bits 0 through 3 and Reserved in bits 4 through 7.

In subclause 7.1.1, replace the paragraph that describes the TASK MANAGEMENT function field with:

The TASK ATTRIBUTE field is defined in table 19.

Replace Table 19 with the following table:

Table 19 - TASK ATTRIBUTE field

Code	Task Attribute	Description
0h	SIMPLE	Requests that the task be managed according to the rules for a simple task attribute (see SAM-2).
1h	HEAD OF QUEUE	Requests that the task be managed according to the rules for a head of queue task attribute (see SAM-2).
2h	ORDERED	Requests that the task be managed according to the rules for an ordered task attribute (see SAM-2).
3h	Reserved	
4h	ACA	Requests that the task be managed according to the rules for an automatic contingent allegiance task attribute (see SAM-2).
5h - Fh	Reserved	

Add a new subclause following subclause 7.1.2, renumbering the subclauses below it:

7.1.2 SCSI Task Management IU

Table X defines the SCSI Task Management IU. The SCSI Task Management IU is sent by an initiator port to request that a task management function be processed by a task manager in a logical unit.

Table X – SCSI Task Management IU

Byte/Bit	7	6	5	4	3	2	1	0
0	(MSB) LOGICAL UNIT NUMBER							(LSB)
1								
2	TASK MANAGEMENT FUNCTION							
3	Reserved					TAG OF TASK TO BE MANAGED		

The LOGICAL UNIT NUMBER field contains the address of the logical unit. The structure of the logical unit number field shall be as defined in SAM-2. If the addressed logical unit does not exist, the task manager shall return a RESPONSE frame with its RESPONSE CODE field set to INVALID LOGICAL UNIT NUMBER IN SCSI TASK MANAGEMENT IU.

Table Y defines the values for the TASK MANAGEMENT FUNCTION field:

(add table 19 from ADTr08 here)

If TASK MANAGEMENT FUNCTION is set to ABORT TASK or QUERY TASK, the TAG OF TASK TO BE MANAGED field specifies the tag value (see 7.1.1) from the SCSI Request IU that contained the task to be aborted or checked. For all other task management functions, the TAG OF TASK TO BE MANAGED field shall be ignored.

In Table 21, add a new RESPONSE CODE value:

Code: 07h, Description: INVALID LOGICAL UNIT NUMBER IN SCSI TASK MANAGEMENT IU