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To: T10 Technical Committee (SCSI)

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Subject: Report Supported Task Management Functions

Revision History

Revision 0 (September 2002), first revision
Revision 1(September 2002), second revision, (remove request for the command to be mandatory).

Related Documents

SPC-3r08 – SCSI Primary Commands – 3, revision 8
SAM-2 – SCSI Architecture Model – 2, revision 23
SAM-3 – SCSI Architecture Model – 3 revision 1
SCC-2 – SCSI Controller Commands – 2 revision 4

Overview

There currently is no easy way in SCSI to determine what task management functions a logical unit support. The only way to find out is to try a function and see if it succeeds or fails. This method is not acceptable as it is inefficient in larger configurations and also may cause errors and device malfunctions.

One specific issue is the need for a definitive way to tell if a target supports the LOGICAL UNIT RESET function. This will be needed by the end of this year when the SAM-2 specification replaces the SAM specification.

In SAM-2, the currently mandatory TARGET RESET function becomes optional and the LOGICAL UNIT RESET function becomes mandatory. Initiators must be able to use the correct reset function for a given target, especially in configurations that consist of both newer and legacy targets. This change in SAM-2 will impact all systems and storage vendors.

To address these problems, this proposal defines a new command called REPORT SUPPORTED TASK MANGEMENT FUNCTIONS.

The task management functions supported by the logical unit are returned in the REPORT TASK MANAGEMENT FUNCTIONS parameter list (see Table2). The REPORT SUPPORTED TASK MANAGEMENT FUNCTIONS command is a service action of the MAINTENANCE IN command.

The task managements functions as defined in the SAM-3 document Table 30 establish the bit sequence in Table 2 REPORT TASK MANAGEMENT FUNCTIONS parameter list.

Task management (SAM-3) function	Nexus	Reference in SAM-3
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
QUERY TASK	I_T_L_Q	6.7
TARGET RESET	I_T_L	6.8
WAKEUP	I_T	6.9

Suggested Changes

7.X.X REPORT SUPPORTED TASK MANAGEMENT FUNCTIONS Command

The REPORT SUPPORTED TASK MANAGEMENT FUNCTIONS command (see table 1) requests information on Task Management Functions the addressed logical unit supports.

The REPORT SUPPORTED TASK MANAGEMENT FUNCTIONS command is a service action of the MAINTENANCE IN command. Additional MAINTENANCE IN service actions are defined in SCC-2 and in this standard. The MAINTENANCE IN service actions defined in SCC-2 apply only to SCSI devices that return a device type of 0Ch or the SCCS bit equal to one in their standard INQUIRY data (see 7.4.2).

Table 1 - REPORT SUPPORTED TASK MANAGEMENT FUNCTIONS command

Byte \ Bt	7	6	5	4	3	2	1	0
0	OPERATION CODE (A3h)							
1	RESERVED				SERVICE ACTION (0Dh)			
2	RESERVED							
3	RESERVED							
4	RESERVED							
5	RESERVED							
6	(MSB)							
7	ALLOCATION LENGTH							
8								
9								(LSB)
10	RESERVED							
11	CONTROL							

Table 2 - REPORT TASK MANAGEMENT FUNCTIONS parameter list

Byte \ Bt	7	6	5	4	3	2	1	0
0	SAT	SATS	SCA	SCTS	SLUR	SQT	STAR	SWAK
1	RESERVED							
2	RESERVED							
3	RESERVED							

A Support ABORT TASK (SAT) bit of one indicates the ABORT TASK Task Management function is supported by the logical unit. A SAT bit of zero indicates this function is not supported.

A Support ABORT TASK SET (SATS) bit of one indicates the ABORT TASK SET Task Management function is supported by the logical unit. An SATS bit of zero indicates this function is not supported. (Note: SPC-3 rev. 08 indicates this is mandatory for all logical units.)

A Support CLEAR ACA (SCA) bit of one indicates that the CLEAR ACA Task Management function is supported by the logical unit. An SCA bit of zero indicates this function is not supported.

A Support CLEAR TASK SET (SCTS) bit of one indicates that the CLEAR TASK SET Task Management function is supported by the logical unit. An SCTS bit of zero indicates this function is not supported.

A Support LOGICAL UNIT RESET (SLUR) bit of one indicates that the LOGICAL UNIT RESET Task Management function is supported by the logical unit. A SLUR bit of zero indicates this function is not supported. (Note: SPC-3 rev. 08 indicates this is mandatory for all logical units, but this was not mandatory in previous versions of this standard.)

A Support QUERY TASK (SQT) bit of one indicates that the QUERY TASK Task Management function is supported by the logical unit. An SQT bit of zero indicates this function is not supported.

A Support TARGET RESET (STAR) bit of one indicates that the TARGET RESET Task Management function is supported by the logical unit. A STAR bit of zero indicates this function is not supported. (Note: TARGET RESET was mandatory for all targets in SPC and SPC-2.

A Support WAKEUP (SWAK) bit of one indicates that the WAKEUP Task Management function is supported by the logical unit. A SWAK bit of zero indicates this function is not supported.