To: T10 Technical Committee
From: Robert Sheffield, Intel (robert.l.sheffield@intel.com)
Date: 7 March 2005
Subject: 04-333r1 SAS-1.1: PHY VACANT SMP Function Response

Revision history
Revision 0 (05 October 2004) First revision
Revision 1 (7 March 2005) used phy result of 16h to reflect basis on SAS 1.1-r08.

Related documents
sas1.1-r08 - Serial Attached SCSI 1.1 revision 8

Overview

It is not always convenient for operational phys to be listed in numeric order starting with zero, and continuing to the total number of phys. For example, where phys in the same physical controller could be configured to attach to either of two ports, and one port does not have access to phys on the other port, it may make more sense to number the phys with respect to the pins of the controller chip rather than their relation to the port with which the phy is associated. The proposed change is to allow an SMP target more flexibility in phy numbering by allowing some phys to be reported as VACANT with respect to the reporting SMP port. A phy reported as VACANT through one port might be reported as functional through another port.

Suggested changes

Modify table 160 to add the PHY VACANT SMP function result as follows:

Table 160 — Function results

Code	Name	SMP function(s)	Description
00h	SMP FUNCTION ACCEPTED	All	The SMP target port supports the SMP function; the ADDITIONAL RESPONSE BYTES FIELD contains the requested information.
01h	UNKNOWN SMP FUNCTION	Unknown	The SMP target port does not support the requested SMP function; the ADDITIONAL RESPONSE BYTES field may be present but shall be ignored.
02h	SMP FUNCTION FAILED	All	The SMP target port supports the SMP function, but the requested SMP function failed. The ADDITIONAL RESPONSE BYTES may be present but shall be ignored.
03h	INVALID REQUEST FRAME LENGTH	All	The SMP target port supports the SMP function, but the SMP request frame length was invalid (i.e., did not match the frame size defined for the function). The ADDITIONAL RESPONSE BYTES may be present but shall be ignored.
10h	PHY DOES NOT EXIST	DISCOVER, REPORT PHY ERROR LOG, REPORT PHY SATA, REPORT ROUTE INFORMATION, CONFIGURE ROUTE INFORMATION, PHY CONTROL, PHY TEST FUNCTION	The phy specified by the PHY IDENTIFIER field in the SMP request frame does not exist (i.e., the value is not within the range of zero to the value of the NUMBER OF PHYS field reported in the REPORT GENERAL function). The ADDITIONAL RESPONSE BYTES field may be present but shall be ignored.

Table 160 — Function results

Code	Name	SMP function(s)	Description
11h	INDEX DOES NOT EXIST	REPORT ROUTE INFORMATION, CONFIGURE ROUTE INFORMATION	The phy specified by the PHY IDENTIFIER FIELD in the SMP request frame does not have the table routing attribute (see 4.6.7.1), or the expander route index specified by the EXPANDER ROUTE INDEX field does not exist (i.e., the value is not in the range of 0000h to the value of the EXPANDER ROUTE INDEXES field in the REPORT GENERAL function). The ADDITIONAL RESPONSE BYTES field may be present but shall be ignored.
12h	PHY DOES NOT SUPPORT SATA	REPORT PHY SATA and PHY CONTROL (TRANSMIT SATA PORT SELECTION SIGNAL)	The phy specified by the PHY IDENTIFIER field in the SMP request frame is not part of an STP target port. The ADDITIONAL RESPONSE BYTES field may be present but shall be ignored.
13h	UNKNOWN PHY OPERATION	PHY CONTROL	The operation specified by the PHY OPERATION field in the SMP request frame is unknown. The SMP function had no affect. The ADDITIONAL RESPONSE BYTES field may be present but shall be ignored.
14h	UNKNOWN PHY TEST FUNCTION	PHY TEST FUNCTION	The operation specified by the PHY TEST FUNCTION field in the SMP request frame is unknown. The ADDITIONAL RESPONSE BYTES field may be present but shall be ignored.
15h	PHY TEST FUNCTION IN PROGRES	PHY TEST FUNCTION	The specified phy is already performing a phy test function. The ADDITIONAL RESPONSE BYTES field may be present but shall be ignored.
16h	PHY VACANT	DISCOVER, REPORT PHY ERROR LOG, REPORT PHY SATA, REPORT ROUTE INFORMATION, CONFIGURE ROUTE INFORMATION, PHY CONTROL	The specified phy is not in use with respect to the SMP target port that received this SMP request. The phy may or may not appear operational in response to an SMP request received by another SMP target port within this same SMP target device.
All others	Reserved		