Date: 15 February 2006
To: T10 Technical Committee
From: Tim Symons
Subject: 06-098r1 Self configuring devices

Revision Information

- Revision 0 : Initial proposal
- Revision 1 : Add text to clarify that self configuring devices configure attached non-self-configuring expander devices
    - Added text to allows that a discovery process may be initiated when a BROADCAST (CHANGE) is received on the subtractive port.

Referenced Document

SAS-2 revision 2 (http://www.t10.org/ftp/t10/drafts/sas2/sas2r02.pdf)

Overview

During discussions about SAS zoning there have been many questions regarding the definition of self-configuring devices and how a management application client in either an HBA or another self-configuring device should operate during discovery. This proposal is for additional definition of self configuring devices and their expected behavior. Additions are recommended to the SAS-2 specification.

[Suggested new definition]

3.1 Definitions

3.1.a self-configuring expander devices: An expander device containing a management application client and SMP initiator port to perform the discover process to configure its own route table and the routing tables of attached non self-configuring expander devices.

[Start: Suggested addition to existing text (included in black), new additional text (included in blue) and changes between revisions shown in red]

4.1.5 Expander devices (edge expander devices and fanout expander devices)

…. An expander device with expander phys with the table routing attribute that does not have a configurable route table shall be self-configuring, and shall contain a management application client and SMP initiator port to perform the discover process to configure its own expander route table and the routing tables of attached non self-configuring expander devices.

[End: Suggested addition to existing text shown in blue]

[Start of suggested additions]

4.7.5 Self-configuring expander devices

The management application client of a self-configuring expander device shall configure routing tables in the expander devices as needed (see 4.7.1). A self configuring expander device discover process shall not traverse devices attached to phys with the subtractive routing attribute (see 4.1.8.2).

When a self-configuring expander device receives a phy initialization event or a BROADCAST (CHANGE) on a phy that is does not have the subtractive attribute then the CONFIGURING bit shall be set to one, and the self-configuring expander device shall start the discovery process for the phy that received the event. The BROADCAST (CHANGE) notification shall be forwarded on all ports when the self-configuring device has completed the discovery process.

If a self-configuring expander device receives a phy initialization event or a BROADCAST (CHANGE) on a phy with the subtractive attribute then the self-configuring device is not required to start a discovery process. A BROADCAST (CHANGE) notification shall be forwarded on all other ports.