

To: T10 Technical Committee
 From: Rob Elliott, HP (elliott@hp.com)
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 Subject: 06-166r0 SAS-2 Restrict access to SMP ZONED BROADCAST function

Revision history

Revision 0 (22 March 2006) First revision

Related documents

sas2r03 - Serial Attached SCSI - 2 (SAS-2) revision 3
 06-082r2 SAS-2 zoning-related SMP functions (Ralph Weber, ENDL and Steve Johnson, LSI Logic)

Overview

The SMP ZONED BROADCAST function causes the recipient expander device to transmit BROADCAST primitives to phys belonging to certain zones, or transmit SMP ZONED BROADCAST functions to neighboring expander devices.

In sas2r03, the function can be sent by any SMP initiator port that has access to the expander device itself.

Access should be restricted to SMP initiator ports that also have access to zone group 2 (used to prohibit access to zoning configuration related SMP functions). BROADCAST primitives from outside the ZPSDS are only distributed to the zones to which the source zone group has access; this SMP function should not provide a backdoor mechanism for an SMP initiator port in one zone group to slip a BROADCAST into another zone group to which it has no access rights.

Other options to consider (not currently proposed):

- a) Only allow ZONED BROADCAST if it arrives on an expander port with the ZONE PARTICIPATING bit set to one. This would prevent all SMP initiator ports outside the ZPSDS from sending the function, but allow all SMP initiator ports inside the ZPSDS to send the function. A new function result would need to be defined.
- b) Define another special zone group 3. Access to zone group 2 would be continue to be used to identify the zoning manager(s) that are allowed to perform zoning configuration functions (like filling in the zone permission table), while access to zone group 3 would be granted to each expander device in the ZPSDS and mean they are allowed to perform ZONED BROADCAST (and possibly other functions yet to be defined). This would allow select SMP initiator ports outside the ZPSDS to send the function.

Suggested changes

10.4.3.2 SMP function response frame format

...

The FUNCTION RESULT field is defined in table 1.

Table 1 — FUNCTION RESULT field

Code	Name	SMP function(s)	Description
...
04h	SMP ZONE VIOLATION	TBD ZONED BROADCAST	The SMP target port supports the function, but the application zone permission bit is set to zero (e.g., the ZP[s, 2] bit is set to zero).
...
All others	Reserved		