To: T10 Technical Committee
From: Rob Elliott, HP (elliott@hp.com)
Date: 22 March 2006
Subject: 06-167r0 SAS-2 Filtering OPEN content based on ZONE PARTICIPATING bit

Revision history
Revision 0 (22 March 2006) First revision

Related documents
sas2r03 - Serial Attached SCSI - 2 (SAS-2) revision 3
06-122r2 SAS-2 zoning - phy features (Ralph Weber, ENDL)
06-168 SAS-2 OPEN address frame SOURCE ZONE GROUP field definition (Rob Elliott, HP)

Overview
The zoning model in sas2r03 includes a statement that “If the ZONE PARTICIPATING bit is set to zero, then zoning information shall not be sent on the phy and any zoning information received on the phy shall be ignored” but does not define what “zoning information” means.

It should only mean the zoning related fields in the OPEN address frame - so far just the SOURCE ZONE GROUP field - need to be transmitted as zero (for compatibility with devices that don’t know anything about zoning) and ignored if received as non-zero (to avoid devices outside the ZPSDS from claiming to be in any zone group they please).

It does not mean that SMP functions directly related to zoning (e.g. ZONED BROADCAST or the forthcoming zoning configuration functions) need to be blocked - zone group 2 is used for that purpose. It does not mean that SMP functions indirectly related to zoning (e.g. REPORT GENERAL, if it contains a bit indicating that zoning is supported) need to be blocked.

Suggested changes

4.8.3 Zone operation

4.8.3.1 Zone phy information

Each phy of a zoning expander device shall support the following zone phy information fields:

a) ZONE PARTICIPATING bit;
b) ZONE ADDRESS RESOLVED bit;
c) ZONE GROUP PERSISTENT bit; and
d) ZONE GROUP field.

The ZONE PARTICIPATING bit indicates a boundary of the ZPSDS. The ZONE PARTICIPATING bit shall be set to zero when the phy is attached to an end device or an expander device that does not support zoning. The ZONE PARTICIPATING bit shall be set to one when the phy is attached to a zoning expander device. If the ZONE PARTICIPATING bit is set to zero, then ~~zoning information shall not be sent on the phy and any zoning information received on the phy shall be ignored~~ shall set the SOURCE ZONE GROUP field to zero in each OPEN address frame (see 7.8.3) that it transmits and shall ignore the SOURCE ZONE GROUP field in each OPEN address frame that it receives.

Editor’s Note 1: Does that statement even belong in 4.8.3.1, or does it belong in 7.8.3? See proposal 06-168 which rewrites the definition in 7.8.3 to include this concept. If 06-168 is accepted, perhaps this proposal should just delete the sentence.

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4.8.3.5 Zone routing

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When an OPEN address frame is transmitted by a zoning expander device and the phy has the zone participating bit set to zero, the source zone group field shall be set to zero.

7.8.3 OPEN address frame

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The SOURCE ZONE GROUP field identifies the zone group that contains the phy making the connection request. If the OPEN address frame is received on a zoning expander device phy with the ZONE PARTICIPATING bit set to zero (i.e., the source phy is outside the ZPSDS), then the SOURCE ZONE GROUP field of the OPEN address frame shall be set to the zone group that is associated with the zoning expander device phy on which the OPEN address frame was received. Zone source group values between 128 and 255, inclusive, are reserved.