To: T10 Technical Committee
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Subject: 06-289r1 SAS-2 SMP ZONE LOCK RELEASE

Revision Information

- Revision 0: First draft.
- Revision 1: Renamed function. Added request codes and moved lock definitions into proposal 06-286.

Referenced Document

Sas2r04 Serial Attached SCSI – 2 (SAS-2) r4
06-286r0 SAS-2 Zone Management lock functions.
06-288r0 SAS-2 SMP ACTIVATE ZONE UPDATE functions

Overview

This proposal is for an SMP zone lock release function associated with the zone management client procedure; lock, load, activate and release. When zoning expander devices in a ZPSDS are locked by a zone management client, and either:

a) all zone configuration tasks are complete and acknowledged; or
b) an error result from an expander device;
c) a [tbd] zone lock timer expires;

then the zone management client shall unlock the zoning expander devices. When a zoning expander device receives an SMP ZONE LOCK RELEASE function then it shall set the ZONE LOCKED bit to zero. When the ZONE LOCKED bit is set to zero then the zoning expander device is available for another zone management client lock event.

10.4.3.1 SMP function request frame format

Table 196 – SMP functions (FUNCTION **field)**

Code	SMP function	Description	Reference
		…	
84h	ZONE LOCK	A zone management client sends the ZONE LOCK request to all zoning expanders in the ZPSDS. The zoning expander device shall register the ZONE LOCK ADDRESS and set the zone lock bit to one.	10.4.3.xx
85h	ACTIVATE ZONE LOCKED UPDATE	The zoning expander device shall make the shadow register data operational.	10.4.3.xx
86h	ZONE LOCK RELEASE	The zoning expander device shall set the zone lock bit to zero.	10.4.3.xx
		…	

10.4.3.xx ZONE LOCK RELEASE function

This function shall be supported by all zone management client devices. The ZONE LOCK RELEASE function is used by a zone management client to unlock each zoning expander device from a zone lock state used for zone configuration.

If a ZONE LOCK RELEASE request is originated by a device that is not the zone management client device, then the function result shall be ZONE LOCK VIOLATION.

A ZONE LOCK RELEASE request shall only be originated by a zone management client that has access permission for zone group 2.

Table 1 defines the ZONE LOCK RELEASE request format.

Table 1 – ZONE LOCK RELEASE request

Byte\Bit	7	6	5	4	3	2	1	0
0	SMP FRAME TYPE (40h)							
1	FUNCTION (86h)							
2	Reserved							
3	REQUEST LENGTH (00h)							
4	(MSB)			CRC				
7								(LSB)

The SMP FRAME TYPE field shall be set to 40h.

The FUNCTION field shall be set to 86h.

The REQUEST LENGTH field shall be set to (00h).

The CRC field is defined in 10.4.3.2.

The ZONE LOCK RELEASE response format is defined in Table 2.

Table 2 – ZONE LOCK RELEASE response

Byte\Bit	7	6	5	4	3	2	1	0
0	SMP FRAME TYPE (41h)							
1	FUNCTION (86h)							
2	FUNCTION RESULT							
3	RESPONSE LENGTH (00h)							
4	(MSB)			CRC				
7								(LSB)

The SMP FRAME TYPE field shall be set to 41h.

The FUNCTION field shall be set to 86h.

If the zoning expander receives a ZONE LOCK RELEASE request, and the ZONE LOCKED bit is already set to zero then the FUNCTION RESULT field shall contain ZONE LOCK VIOLATION (see 10.4.3.2).

The RESPONSE LENGTH field shall be set to 00h.

The CRC field is defined in 10.4.3.2.