

T10/06-288r0 SAS-2 SMP ACTIVATE ZONE PERMISSION UPDATE function.

To: T10 Technical Committee
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Subject: 06-288r0 SAS-2 SMP ACTIVATE ZONE PERMISSION UPDATE functions

Revision Information

- Revision 0: First draft.

Referenced Document

Sas2r04 Serial Attached SCSI – 2 (SAS-2) r4
06-286r0 SAS-2 Registered Zone Management client.

Overview

When an SMP CONFIGURE ZONE PERMISSION request has been accepted by all of the zoning expanders requiring changes in a ZPSDS, then a zone management client shall originate an SMP ACTIVATE ZONE PERMISSION UPDATE request. When a zoning expander device receives an SMP ACTIVATE ZONE PERMISSION UPDATE request from the zone management client device then it shall copy the shadow zone permission table to the live zone permission table.

10.4.3.1 SMP function request frame format

Table 195 – SMP functions (FUNCTION field)

Code	SMP function	Description	Reference
xxh	ACTIVATE ZONE PERMISSION UPDATE	Copy or activate the shadow zone permission table	10.4.3.16

10.4.3.xx ACTIVATE ZONE PERMISSION UPDATE function

Within a [tbd] time-out period of receiving a SMP FUNCTION ACCEPTED response to the CONFIGURE ZONE PERMISSION TABLE request, the zone management client shall originate an ACTIVATE ZONE PERMISSION UPDATE function to request a zoning expander device to copy the shadow zone permission table to the live zone permission table. The method of copy shall be vendor unique. If the zoning expander device does not receive an ACTIVATE ZONE PERMISSION UPDATE request before the time-out, then the shadow zone permission table shall be obsolete.

The ACTIVATE ZONE PERMISSION UPDATE request shall only be originated by a zone management client that has received an SMP FUNCTION ACCEPTED response to an SMP CONFIGURE ZONE PERMISSION from all zoning expander devices in the ZPSDS.

If a zoning expander device receives an ACTIVATE ZONE PERMISSION UPDATE request from a device with a different SAS address from the ZONE MANAGEMENT CLIENT SAS ADDRESS, then it shall respond with a function result of ZONE MANAGEMENT CLIENT VIOLATION. (See 10.4.3.2)

[Editors note – referenced error code form 06-286r0]

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When a ACTIVATE ZONE PERMISSION UPDATE request causes a change to a zone group then the zoning expander device shall:

- a) originate a BROADCAST (Change) on each expander port that has access permission to the zone group before the change, and after the change based on the zone permission table; or
- b) originate a BROADCAST (Change) to zone group 1 on all ports.

Table 1 defines the ACTIVATE ZONE PERMISSION UPDATE request format.

Table 1 – ACTIVATE ZONE PERMISSION UPDATE request

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

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

The FUNCTION field shall be set to xxh.

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

The CRC field is defined in 10.4.3.2.

The ACTIVATE ZONE PERMISSION UPDATE response format is defined in Table 2.

Table 2 – ACTIVATE ZONE PERMISSION UPDATE response

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

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

The FUNCTION field shall be set to xxh.

If the SAS address of the originating device matches the ZONE MANAGEMENT CLIENT SAS ADDRESS and the device has access permission to zone group 2 and the zoning expander device has activated the shadow zone permission table the function result shall be SMP FUNCTION ACCEPTED.

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If the originating device SAS address does not match the ZONE MANAGEMENT CLIENT SAS ADDRESS then the function result shall be ZONE MANAGMENT CLIENT VIOLATION. If the originating device SAS address matches the ZONE MANAGEMENT CLIENT SAS ADDRESS but the device does not have access to zone group 2, then the function result shall be ZONE VIOLATION.

The RESPONSE LENGTH field shall be set to 00h.

The CRC field is defined in 10.4.3.2.