

Date: 18 April 2006
 To: T10 Technical Committee
 From: Tim Symons
 Subject: 06-204r0 SAS-2 SMP REPORT ZONE ROUTE TABLE function

Revision Information

- Revision 0 : Proposal extracted from 06-019r5 SAS-2 Zoning proposal.

Referenced Document

SAS-2 revision 3

Overview

SMP REPORT ZONE ROUTE TABLE is a function that allows any management device to read the zone route table of a zoning expander device.

10.4.3.16 REPORT ZONE ROUTE TABLE function

The REPORT ZONE ROUTE TABLE request requires a zoning expander device to respond with zone information about each phy listed in the route table. This function shall be supported by all zoning devices and may be requested by any SMP initiator.

Table 1 defines the REPORT ZONE ROUTE TABLE request format.

Table 1 –REPORT ZONE ROUTE TABLE request

Byte\Bit	7	6	5	4	3	2	1	0
0	SMP FRAME TYPE (40h)							
1	FUNCTION (14h)							
2	Reserved							
3	REQUEST LENGTH (02h)							
4	NUMBER OF ZONE ROUTE TABLE ENTRIES							
5	PHY IDENTIFIER							
6	(MSB)	STARTING PHY ROUTE INDEX						(LSB)
7								
8	Reserved							
11								
12	(MSB)	CRC						(LSB)
15								

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

The FUNCTION field shall be set to 14h.

The REQUEST LENGTH field shall be set to 02h.

The NUMBER OF ZONE ROUTE TABLE ENTRIES field specifies the number of zone route table entries requested starting from the value specified by the STARTING PHY ROUTE INDEX field for the phy specified by the PHY IDENTIFIER field.

The PHY IDENTIFIER field specifies the phy for which the expander zone route entries are being requested.

The STARTING PHY ROUTE INDEX field specifies the first phy route entry of the zone route table descriptor entry being requested.

The CRC field is defined in 7.8.1.

The REPORT ZONE ROUTE TABLE response provides zone information about each phy. This function shall be supported by all zoning devices.

Table 2 defines the REPORT ZONE ROUTE TABLE response format.

Table 2 –REPORT ZONE ROUTE TABLE response

Byte\Bit	7	6	5	4	3	2	1	0
0	SMP FRAME TYPE (41h)							
1	FUNCTION (14h)							
2	FUNCTION RESULT							
3	RESPONSE LENGTH $((n - 7) / 4)$							
4	ZONE ROUTE TABLE CONFIGURING	NUMBER OF ZONE ROUTE TABLE ENTRIES $((n - 15) / 12)$						
5	PHY IDENTIFIER							
6	(MSB)	STARTING PHY ROUTE INDEX						(LSB)
7								
8	Reserved							
11								
12	First ZONE ROUTE TABLE entry descriptor (see Table 3)							
23							Last ZONE ROUTE TABLE entry descriptor (see Table 3)	
...	...							
n - 15	Last ZONE ROUTE TABLE entry descriptor (see Table 3)							
n - 4								
n - 3	(MSB)	CRC						(LSB)
n								

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

The FUNCTION field shall be set to 14h.

The FUNCTION RESULT field is defined in 10.4.3.2

The RESPONSE LENGTH field shall be set to $((n - 7) / 4)$.

The ZONE ROUTE TABLE CONFIGURING bit set to one indicates that the zoning expander device is in the process of zone route table update. The ZONE ROUTE TABLE CONFIGURING bit set to zero indicates that configuring is complete.

The NUMBER OF ZONE ROUTE TABLE ENTRIES field indicates the number of zone route table entry descriptors being returned $((n - 15) / 12)$.

The PHY IDENTIFIER field indicates the phy for which the expander zone route entry is being returned.

The STARTING PHY ROUTE INDEX field indicates the first phy route entry of the zone route table descriptor entry being returned.

Table 3 defines the ZONE ROUTE TABLE ENTRY DESCRIPTOR format. If the zone route table entry does not exist for the phy indexed by the PHY IDENTIFIER field then response shall return a function result of ZONE ROUTE INDEX DOES NOT EXIST in the response frame (see 10.4.3.2).

The CRC field is defined in section 7.8.1.

Table 3 - Zone route table entry descriptor

Byte/Bit	7	6	5	4	3	2	1	0
0	DISABLE EXPANDER ROUTE ENTRY	ATTACHED DEVICE TYPE			Reserved			
1	Reserved			ZONE PARTICIPATING	ZONE PROXY PRIORITY			
2	Reserved	ZONE GROUP						
3	Reserved							
4	ROUTED SAS ADDRESS							
11								

A DISABLE EXPANDER ROUTE ENTRY bit set to one indicates that ECM shall not use the expander zone route entry to route connection requests (see 4.6.7.3). A DISABLE EXPANDER ROUTE ENTRY bit set to zero indicates that the ECM shall use the expander zone route entry to route connection requests.

The ATTACHED DEVICE TYPE field is defined in section 10.4.3.5.

The ZONE PARTICIPATING bit is defined in 4.8.3.1.

The ZONE PROXY PRIORITY field is defined in section [10.4.3.5](#).

The ZONE GROUP field is defined in section 4.8.3.1.

The ROUTED SAS ADDRESS field contains the routed SAS address for the expander zone route entry being returned (see 4.6.7.3).