To: **T10 Technical Committee**

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Subject: **SRP MultiChannel Proposal**

Revision History

Revision 0: First Revision

Revision 1: Restricted CG0 to a single channel, eliminating sequencing issues.

Removed SRP_LOGIN_REJ, now 10-171r1

Revision 2: Reserving space to support multiple channels in SRP-2

Related Documents

T10/SRP-r05 – SCSI over RDMA protocol revision 6

T10/01-028r4 - SRP InfiniBand™ annex

3   Definitions, symbols, abbreviations, and conventions

3.1   Definitions

3.1.1   channel group: A set of channels having identical memory access rights.

3.1.2   channel group identifier: A numeric value that identifies a channel group within a session. With respect to a target port, a channel group identifier is unique per initiator identifier. A target port may assign the same channel group identifier to different initiator ports.

3.1.3   control channel group: The single channel group of a session that carries control messages (i.e., requests and responses) and may carry RDMA data traffic. The control channel group always has the channel group ID of zero.

3.1.4   data channel group: A channel group that carries only RDMA data traffic.

3.1.5   session: One control channel group and zero or more data channel groups with a common session identifier.

3.1.6   session identifier: A numeric value that identifies a session within a target.

Changes

5.2   SRP_LOGIN_REQ

Table 1 - SRP_LOGIN_REQ additions

Bit Byte	7	6	5	4	3	2	1	0
N				RESERVED(Session ID)				
N+1								
N+2				RESERVED(Channel Group ID)				
N+3								

5.3   SRP_LOGIN_RSP

Table 2 - SRP_LOGIN_RSP additions

Bit Byte	7	6	5	4	3	2	1	0
N				RESERVED(Session ID)				
N+1								
N+2				RESERVED(Channel Group ID)				
N+3								

5.4   SRP_CMD IU

Add four reserved bytes for future Control Sequence Number

Table 3 - SRP_CMD addition

Bit Byte	7	6	5	4	3	2	1	0
N								
N+1				RESERVED				
N+2								
N+3								

Add Channel Group Identifier to each data direction

(after CDB, before Buffer descriptors)

Table 4 - SRP_CMD information unit

Bit Byte	7	6	5	4	3	2	1	0
N				RESERVED(DATA OUT CHANNEL GROUP ID)				
N+1								
N+2				RESERVED(DATA IN CHANNEL GROUP ID)				
N+3								

> NOTE 6 - I'd prefer we combine all the data transfer info for each direction (Indirect bit, Descriptor count, Channel Group ID) into a contiguous block.

5.5   SRP_RSP

Modify RESPONSE DATA to allow returning data (e.g. missed CSN), similar to Sense Key/ Sense Code.

Table 5 - SRP_RSP RESPONSE_DATA change

Bit Byte	7	6	5	4	3	2	1	0
N	RSP_CODE							
N+1	RESERVED							RESPONSE DATA VALID
N+2	RESERVED								
N+3								
N+4	RESPONSEDATA								
N+5								
N+6								
N+7								