Third-Party Commands in SCSI-3 SPC

A Working Proposal
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Premises

► Existing third-party commands are basically good

   ◆ Block to stream
   ◆ Stream to block
   ◆ Block to block

► Device addressing is the problem to solve

► THIRD-PARTY SETUP command nixed at March Working Group

► Using INQUIRY data as cross-check nixed at March Working Group

   ◆ INQUIRY data is not unique
   ◆ Too much extra work for target

Working Group Proposal

▶ Embed device addressing information in parameter list

▶ I see two ways to do this:

◆ Source & Destination information in every segment descriptor

- Adds 32 bytes to every segment descriptor
- Could dramatically increase parameter list lengths

+ Maintains all current capabilities

◆ Source & Destination information in parameter list header

- Eliminates device scatter/gather in a single parameter list
- Changes parameter header size and format

+ Increases overall parameter list length by only 32 bytes

Source/Destination in Every Segment Descriptor

▶ Sample based on current 00h / 01h segment descriptor

▼ Byte	Bit ▶	7	6	5	4	3	2	1	0
0		Reserved			Reserved	Cat	Reserved		
1		Reserved							
2 — 9		(MSB) —			Source SCSI identifier				— (LSB)
10 — 17		(MSB) —			Source SCSI LUN				— (LSB)
18 — 25		(MSB) —			Destination SCSI identifier				— (LSB)
26 — 33		(MSB) —			Destination SCSI LUN				— (LSB)

—continues—

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Source/Destination in Every Segment Descriptor
(continued)

34	(MSB)	—continued—	
35		Stream device block length	— —
			(LSB)
36	(MSB)		
— — —	—	Block device number of blocks	— —
39			(LSB)
40	(MSB)		
— — —	—	Block device logical block address	— —
43			(LSB)

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Source/Destination in Parameter List Header

▼ Byte	Bit ►	7	6	5	4	3	2	1	0
0		COPY function code					Priority		
1		Vendor specific							
2		Reserved							SCSI-3
3		Reserved							
4 ––– 11		(MSB) Source SCSI identifier (LSB)							
12 ––– 19		(MSB) Source SCSI LUN (LSB)							
20 ––– 27		(MSB) Destination SCSI identifier (LSB)							
28 ––– 35		(MSB) Destination SCSI LUN (LSB)							
		Segment descriptor(s)							
0		Segment descriptor 0 ...							

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Source/Destination in Parameter List Header

▶ Sample segment descriptor based on current 00h / 01h segment descriptor

▼ Byte	Bit ▶	7	6	5	4	3	2	1	0
0		Reserved			Reserved	Cat	Reserved		
1		Reserved							
2		(MSB)			Stream device block length				—
3									(LSB)
4		(MSB) —			Block device number of blocks				— —
7									(LSB)
8		(MSB) —			Block device logical block address				— —
11									(LSB)