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To: X3T9.2

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Subj: RESERVE UNIT Command deficiency

The current structure of the RESERVE UNIT command has a deficiency when operating in a multiple initiator environment using the COPY command with targets that support multiple logical units.

The Third Party reservation option has been used as a means to establish reservations for use with the COPY command but this feature is only adequate to prevent reservation violations from different SCSI devices. If a Copy Manager has multiple logical units, no mechanism exists to prevent reservation violations from different logical units attached to the Copy Manager (the concept of logical units attached to an "initiator" is not identifiable). Since Copy targets cannot recognize different logical units from an initiator, the burden of maintaining this reservation integrity must be placed on the Copy Manager.

This proposal suggests the incorporation of a new option for the RESERVE UNIT command to invoke a Copy Manager reservation. How a Copy Manager implements this type of reservation is not specified. Some targets may choose to make a device reservation rather than a logical unit reservation but other more sophisticated schemes are not precluded.

This proposal is only addressed to the sequential access device command set but, if accepted, may also apply to other device types.

9.1.12. RESERVE UNIT and RELEASE UNIT Commands

Peripheral Device Type: Sequential Access
Operation Code Type: Mandatory

Table 9-16: RESERVE UNIT and RELEASE UNIT Commands

BIT BYTE	7	6	5	4	3	2	1	0
0	Operation Code (16h & 17h)							
1	Logical Unit Number			3rdPty	Third Party Device ID			CpyMgr
2	Reserved							
3	Reserved							
4	Reserved							
5	Vendor Unique			Reserved			Flag	Link

Add the following paragraph to the RESERVE UNIT command description:

If the Copy Manager (CpyMgr) bit is one, and the Copy Manager reservation option is supported, then the RESERVE UNIT command shall reserve the specified logical unit as a Copy Manager for a subsequent COPY command. This feature is necessary for Copy Managers that support multiple logical units to ensure Third Party reservation integrity. If the Copy Manager reservation is selected, the Copy Manager shall prevent reservation violations from other logical units on the same SCSI device.

Add the following paragraph to the RELEASE UNIT command description:

If the Copy Manager (CpyMgr) bit is zero, then the Copy Manager release option is not requested. If the CpyMgr bit is one, and the target implements the Copy Manager release option, then the target shall release the specified logical unit, but only if the Copy Manager reservation was made by the initiator that is requesting the release.