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Date: 16 September 1999
To: T10 Technical Committee
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Subj: Extended Copy Support for Persistent Reservations

Third-party reservations were invented to support the COPY command. So, what's being done to match the new reservations paradigm to EXTENDED COPY? This proposal attempts to address that question.

Unlike RESERVE/RELEASE, persistent reservations are designed to support concurrent sharing of a device by multiple initiators. Thus, persistent reservations need no additions to support EXTENDED COPY. However, an addition is required in the EXTENDED COPY command definition.

The following page proposes the definition of a new EXTENDED COPY Segment Descriptor that instructs the copy manager to register a specified reservation key with a specified copy target device. Note: the copy manager is not instructed to make or preempt a persistent reservation, only to register a key. By using a Registrants Only reservations and preempting previous registrations by the copy manager, the initiator can create an environment where registering a reservations key is the only action a copy manager need take.

To accommodate possible future extensions to the Register Key segment descriptor, the September working group agreed to add four reserved bytes to the end of the descriptor. This proposal reflects that change.

In addition to the new text contained in the following page, table 21 (SPC-2 rev 11) needs to be modified to remove code 14h from the reserved list and insert it with the description "Register key". The new text would be clause 7.4.5.16 (SPC-2 rev 11).

7.4.5.16 Register key operation

The segment descriptor format shown in table x1 instructs the copy manager to register a persistent reservations key (see 5.3.2.3) with the device identified by the DESTINATION TARGET DESCRIPTOR INDEX field.

Table x1 — Register key segment descriptor

Bit Byte	7	6	5	4	3	2	1	0
0	DESCRIPTOR TYPE CODE (14h)							
1	Reserved							
2	(MSB)			DESCRIPTOR LENGTH (0018h)				
3								(LSB)
4	Reserved							
5	Reserved							
6	(MSB)			DESTINATION TARGET DESCRIPTOR INDEX				
7								(LSB)
8	(MSB)			RESERVATION KEY				
15								(LSB)
16	(MSB)			SERVICE ACTION RESERVATION KEY				
23								(LSB)
24	Reserved							
27								

The DESCRIPTOR TYPE CODE field is described in 7.4.3 and 7.4.5. Descriptor type code 14h instructs the copy manager to register a persistent reservations key with the device identified by the DESTINATION TARGET DESCRIPTOR INDEX field using a PERSISTENT RESERVE OUT command with a REGISTER service action (see 7.13.1).

The DESCRIPTOR LENGTH field shall contain 24 (0018h). The DESTINATION TARGET DESCRIPTOR INDEX field is described in 7.4.5.

The RESERVATION KEY and SERVICE ACTION RESERVATION KEY field contents in the PERSISTENT RESERVE OUT command sent to the destination device shall be copied from the RESERVATION KEY and SERVICE ACTION RESERVATION KEY fields in the segment descriptor.

> NOTE 4 The initiator sending the EXTENDED COPY command may need to remove the reservation key held by the copy manager as described in 5.3.2.5 prior to sending the EXTENDED COPY command.