03-232r0 Modified Reservation Handling proposal

Date: July 2, 2003

To: T10 Committee (SCSI)

From: Roger Cummings (VERITAS)

Subject: Proposal for Modified Reservation Handling in SPC-3

This document contains a proposal for a new method of handling RESERVE and RELEASE commands in the presence of a Persistent Reservation for inclusion in SPC-3. This method is NOT backwards-compatible with the definitions contained in SPC-2. This proposal is made to address the need to be able to "mix usage of reserve/ release and persistent reservations when dealing with tapes" which was identified in 02-483r1 and was further addressed in 03-231r0.

This proposal consists of three parts:

1) A new subclause to be added to the Reservations model section in subclause 5.5.
2) The addition of a bit to the PERSISTENT RESERVE IN Parameter data for Report Capabilities in subclause 6.10.1
3) Text to be added to the definition of the RESERVE and RELEASE commands (N.B. where this text is to be located in SPC-3, and whether all of the definitions of all of the Reserve and Release commands currently in SPC-2 should be repeated in SPC-3 has not yet been addressed in this proposal.)

5.5.3 Mixing Persistent Reservations and Reservations

When a RESERVE command is received from an I_T nexus which holds a Persistent Reservation or is registered when a registrants only or all registrants type persistent reservation is present, the command shall be allowed (see 5.1.1 and Table 31), but no Reservation will established and the Persistent Reservation shall not be changed.

When a RELEASE command is received from an I_T nexus which holds a Persistent Reservation or is registered when a registrants only or all registrants type persistent reservation is present, the command shall be allowed (see 5.1.1 and Table 31), but the Persistent Reservation will not be released.

When a RESERVE or RELEASE command is received from I_T nexuses not holding the reservation or from I_T nexuses not registered when a registrants only or all registrants type persistent reservation is present, and a Persistent Reservation exists, then the command shall not be performed and the device server shall terminate the command with a RESERVATION CONFLICT status.

6.10.1 PERSISTENT RESERVE IN parameter data for REPORT CAPABILITIES

The format for the parameter data provided in response to a PERSISTENT RESERVE IN command with the REPORT CAPABILITIES service action is shown in table 103.

The LENGTH field indicates the length in bytes of the parameter data. If the ALLOCATION LENGTH field in the CDB is too small to transfer all of the parameter data, the length shall not be adjusted to reflect the truncation.

An MRH_C (Modified Reservation Handling Capable) bit of one indicates that the device server supports the Modified Reservation Handling scheme defined in 5.5.3. An MRH_C (Modified Reservation Handling Capable) bit of zero indicates that definition of how RESERVE and RELEASE commands are handled in the presence of Persistent Reservations is defined by a predecessor standard to SPC-3.

Table 103 — PERSISTENT RESERVE IN parameter data for REPORT CAPABILITIES

Bit / Byte	7	6	5	4	3	2	1	0
0	(MSB)							
1				LENGTH (0008h)				(LSB)
2		Reserved		MRH_C	SIP_C	ATP_C	ES_C	PTPL_C
3				Reserved				PTPL_A
4								
7				Reserved				

New Text for RELEASE Command

In the case where a RELEASE command is received from an Initiator which has a pre-existing Persistent Reservation with the Device Server, the RELEASE command shall be accepted but the Persistent Reservation will not be released.

New Text for RESERVE Command

In the case where a RESERVE command is received from an Initiator which has a pre-existing Persistent Reservation with the Device Server, the RESERVE command shall be accepted but no Reservation shall be made and the Persistent Reservation will not be altered.