

Date: July2, 2003

To: T10 Committee (SCSI)

From: Roger Cummings (VERITAS)

Subject: Proposal for a new Service Action for PR Out

This document contains a proposal for a new Service Action for the Persistent Reserve Out for inclusion in SPC-3. The proposal is made to address the need for an analog in the Persistent Reservation model to the Third-Party functions of RESERVE and RELEASE, which was identified in 02-483r1 and was further addressed in 03-231r0.

This proposal consists of three parts:

- 1) A new row for Table 32.
- 2) A new subclause for The Persistent Reservations management method section.
- 3) A new row for Table 108

Table32 — PERSISTENT RESERVE OUT service actions that are allowed in the presence of various reservations

Command Service Action	Addressed LU has a persistent reservation held by another I_T nexus	
	Command is from a registered I_T nexus	Command is from a not registered I_T nexus
CLEAR	Allowed	Conflict
MOVE	Allowed	Conflict
PREEMPT	Allowed	Conflict
PREEMPT & ABORT	Allowed	Conflict
REGISTER	Allowed	Allowed
REGISTER AND IGNORE EXISTING KEY	Allowed	Allowed
RELEASE	Allowed <Super-script>a	Conflict
RESERVE	Conflict	Conflict
Key: LU =Logical Unit		
a The reservation is not released (see 5.5.2.7.2).		

5.5.2.8 Moving

Only a persistent reservation holder (see 5.5.2.6) is allowed to move a persistent reservation.

An application client moves a persistent reservation by issuing a PERSISTENT RESERVE OUT command with MOVE service action through a registered I_T nexus with the following parameters:

- a) RESERVATION KEY field set to the value of the reservation key that is registered for the I_T_L nexus to which the reservation is being moved;
- b) SERVICE ACTION RESERVATION KEY set to the value of the reservation key of the persistent reservation to be moved; and
- c) TYPE and SCOPE fields set to match the persistent reservation.

In response to a persistent reservation move request from a registered I_T nexus the device server shall perform a move by doing the following as an uninterrupted series of actions:

- a) Release the persistent reservation for the holder identified by the SERVICE ACTION RESERVATION KEY;
- b) Establish a persistent reservation for the I_T nexus identified by the RESERVATION KEY using the contents of the SCOPE and TYPE fields;
- c) Not remove any registration(s); and
- d) Establish a unit attention condition for the initiator port associated with the registered I_T nexus identified by the key value in the SERVICE ACTION RESERVATION KEY field. The sense key shall be set to UNIT ATTENTION and the additional sense code shall be set to RESERVATIONS RELEASED.

The established persistent reservation shall not be altered and the device server shall return a CHECK CONDITION status for a PERSISTENT RESERVE OUT command that specifies the move of a persistent reservation when:

- a) THE SERVICE ACTION RESERVATION KEY does not match the value of the reservation that is registered for the I_T_L nexus; or
- b) The SCOPE and TYPE fields do not match the scope and type of the established persistent reservation; or
- c) The existing reservation is a registrants only or all registrants type.

The sense key shall be set to ILLEGAL REQUEST and additional sense code shall be set to INVALID MOVE (new code required).

TABLE 108 — PERSISTENT RESERVE OUT service actions and valid parameters (part 1 of 2)

Service action	Allowed SCOPE	Parameters (part 1 of 2)			
		TYPE	RESERVATION KEY	SERVICE ACTION RESERVATION KEY	SCOPE-SPECIFIC ADDRESS
REGISTER	ignored	ignored	valid	valid	ignored
REGISTER AND IGNORE EXISTING KEY	ignored	ignored	ignored	valid	ignored
RESERVE	LU_SCOPE ELEMENT_SCOPE	valid	valid	ignored	ignored valid (element)
RELEASE	LU_SCOPE ELEMENT_SCOPE	valid	valid	ignored	ignored valid (element)
CLEAR	ignored	ignored	valid	ignored	ignored
MOVE	LU_SCOPE ELEMENT_SCOPE	valid	valid	valid	ignored valid (element)
PREEMPT	LU_SCOPE ELEMENT_SCOPE	valid	valid	valid	ignored valid (element)
PREEMPT & ABORT	LU_SCOPE ELEMENT_SCOPE	valid	valid	valid	ignored valid (element)

TABLE 108 — PERSISTENT RESERVE OUT service actions and valid parameters (part 2 of 2)

Service action	Allowed SCOPE	Parameters (part 2 of 2)		
		APTPL	ALL_TG_PT	SPEC_I_PT
REGISTER	ignored	valid	valid	valid
REGISTER AND IGNORE EXISTING KEY	ignored	valid	valid	valid
RESERVE	all	ignored	ignored	ignored
RELEASE	all	ignored	ignored	ignored
CLEAR	ignored	ignored	ignored	ignored
MOVE	all	ignored	ignored	ignored
PREEMPT	all	ignored	ignored	ignored
PREEMPT & ABORT	all	ignored	ignored	ignored

