

To: T10 Technical Committee  
From: Rob Elliott, HP (elliott@hp.com)  
Date: 1 September 2004  
Subject: 04-283r0 SSC-3 Reservation model cleanup

### **Revision history**

Revision 0 (1 September 2004) First revision

### **Related documents**

ssc3r01b - SCSI Stream Commands - 3 revision 1b  
spc3r20a - SCSI Primary Commands - 3 revision 20a

### **Overview**

In the reservation section, delete the two paragraphs describing when commands which do or do not write the medium are checked for reservation conflicts. SPC-3 defines all the appropriate rules.

Delete the sentence stating that element reservations are not supported. Since they're no longer defined in SPC-3 the cross-reference is wrong and the statement is not needed.

Change "initiator" to "I\_T nexus" throughout the reservation section.

Update the reservation table definitions of "allowed" and "conflict" to match SPC-3.

### **Suggested changes**

#### **4.2.18 ~~Device reservations and command behavior~~ Reservations**

Reservation restrictions are placed on commands as a result of access qualifiers associated with the type of reservation.

Refer to SPC-3 for a description of device reservations. The details of which commands are allowed under what types of reservations are described in table 11.

~~Element reservations (see SPC-3) are not supported by the sequential access device model.~~

Commands from ~~initiators~~ I\_T nexuses holding a reservation should complete normally. The behavior of commands from registered ~~initiators~~ I\_T nexuses when a registrants only or all registrants persistent reservation is ~~active~~ present is specified in table 11.

~~A command that does not explicitly write the medium shall be checked for reservation conflicts before the command enters the current task state for the first time. Once the command has entered the current task state, it shall not be terminated with a RESERVATION CONFLICT due to a subsequent reservation.~~

~~A command that explicitly writes the medium shall be checked for reservation conflicts before the device server modifies the medium or cache as a result of the command. Once the command has modified the medium, it shall not be terminated with a RESERVATION CONFLICT due to a subsequent reservation.~~

NOTE 1 Due to the nature of streaming device types, Write Exclusive and Write Exclusive, Registrants Only modes of reservation do not protect an application client's continuity of operations when using the implicit address command set. While these modes do protect unauthorized modification of data, they do not protect from medium position changes that may result in errors due to incorrect position. It is the responsibility of the application client to manage this using means beyond the scope of this specification. Application clients should use exclusive modes of reservation while accessing the medium to prevent interference from other applications.

For each command, this standard and the SPC-3 standard define the conditions that result in RESERVATION CONFLICT.

**Table 1 — SSC-23 commands that are allowed in the presence of various reservations**

| Command | Addressed LU has this type of persistent reservation held by another <del>initiator I_T nexus</del> |                  |   |  |                       |
|---------|---|------------------|---|--|-----------------------|
|         | From any <del>initiator I_T nexus</del>   |                  | From registered <del>initiator I_T nexus</del> (RR all types) | From <del>initiator I_T nexus</del> not registered |                       |
|         | Write Exclusive   | Exclusive Access |   | Write Exclusive - RR                               | Exclusive Access - RR |
| ...     |   |                  |   |  |                       |

**Key:** LU = Logical Unit, RR = Registrants Only or All Registrants, <> Not Equal

**Allowed:** ~~Device server shall not terminate the command with a RESERVATION CONFLICT status. Commands 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 should complete normally.~~

**Conflict:** ~~Command shall not be performed and the device server shall terminate the command with a RESERVATION CONFLICT status. Commands 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 shall not be performed and the device server shall terminate the command with RESERVATION CONFLICT status.~~

**5.1 Summary of commands for explicit address mode**

The explicit address command set for sequential-access devices shall be as shown in table 12. Commands specified as mandatory in table 12 shall be implemented if the explicit address command set is supported.

Refer to table 11 for a description of ~~device reservations and command behavior.~~

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**6.1 Summary of commands for implicit address mode**

The implicit address commands for sequential-access devices are shown in table 19. Commands specified as mandatory in table 19 shall be implemented if the implicit address command set is supported.

If a synchronize operation is required for a command, the synchronize operation shall be performed as specified in 4.2.9.

Refer to table 11 for a description of ~~device reservations and command behavior.~~

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