Date: 23 June 2006  
To: T10 Technical Committee  
From: Ralph O. Weber  
Subject: SPC-4 Persistent Reservations correction

Revision History

r0 Initial revision

Overview

As noted in the two e-mail messages attached to 06-289r0, there is an inconsistency in the definition of the SPEC_I_PT bit vis a vis a REGISTER AND IGNORE EXISTING KEY service action. The model says the two are incompatible, but the parameter list definition says setting SPEC_I_PT bit to one for a REGISTER AND IGNORE EXISTING KEY service action should work.

Two years ago document 03-337r7 (SPC-3 Third party persistent reservations) changed the model. SPC-3 Letter Ballot comment HP 88 was deferred to SPC-4 owing to the lack of sufficient detail in the proposed changes (see 04-355r9).

As of yet, no specific proposals have been made to add support for setting SPEC_I_PT bit to one on a REGISTER AND IGNORE EXISTING KEY service action.

This proposal seeks to complete the removal of SPEC_I_PT bit support on REGISTER AND IGNORE EXISTING KEY service actions as was agreed during the approval of 03-337r7.

SPC-4 Changes

All references are to SPC-4 r05a. Additions are shown as red text. Deletions are shown as blue strike through text.

6.12.3 Basic PERSISTENT RESERVE OUT parameter list

...If the Specify Initiator Ports (SPEC_I_PT) bit is set to zero, the device server shall apply the registration only to the I_T nexus that sent the PERSISTENT RESERVE OUT command. If the SPEC_I_PT bit is set to one for the REGISTER AND IGNORE EXISTING KEY service action, then the command shall be terminated with CHECK CONDITION status, with the sense key set to ILLEGAL REQUEST, and the additional sense code set to INVALID FIELD IN PARAMETER LIST. If the SPEC_I_PT bit is set to one for the REGISTER service action or the REGISTER AND IGNORE EXISTING KEY service action, then the additional parameter data (see table 117) shall include a list of transport IDs and the device server shall also apply the registration to the I_T nexus for each initiator port specified by a TransportID. If a registration fails for any initiator port (e.g., if the logical unit does not have enough resources available to hold the registration information), none of the other registrations shall be made. ...

...
Subject: SPC-4: Persistent Reserve Out Confusion
From: "Hubis, Walt" <Walt.Hubis@lsil.com>
Date: Thu, 8 Jun 2006 10:43:46 -0600
To: <t10@t10.org>

* From the T10 Reflector (t10@t10.org), posted by:
  "Hubis, Walt" <Walt.Hubis@lsil.com>

  In SPC4-04, Section 5.6.6 "Registering", Table 34 "Register behaviors
for a REGISTER AND IGNORE EXISTING KEY service action", anytime the
SERVICE ACTION RESERVATION KEY is non-zero and SPEC_I_PT is set to one,
a CHECK CONDITION status is to be generated. But in section 6.12.3
"Basic PERSISTENT RESERVE OUT parameter list" states:

"If the SPEC_I_PT bit is set to one for the REGISTER service action or
the REGISTER AND IGNORE EXISTING KEY service action, then the additional
parameter data shall include a list of transport IDs (see table 116) and
the device server shall also apply the registration to the I_T nexus for
each initiator port specified by a TransportID. If a registration fails
for any initiator port (e.g., if the logical unit does not have enough
resources available to hold the registration information), none of the
other registrations shall be made."

This seems to be a contradiction - what am I missing here?

Cheers,
Walt

---

Walt Hubis  walt.hubis@lsil.com  <mailto:walt.hubis@lsil.com>
Software Architect
Engenio Storage Group
LSI Logic Corporation
5400 Airport Blvd Ste 100
Boulder, Colorado 80301  USA
Phone: (303) 381-4332
www.lsilogic.com/engenio

*  For T10 Reflector information, send a message with
  *  'info t10' (no quotes) in the message body to majordomo@t10.org
Subject: RE: SPC-4: Persistent Reserve Out Confusion
From: "Elliott, Robert (Server Storage)" <Elliott@hp.com>
Date: Thu, 8 Jun 2006 13:19:46 -0500
To: <t10@t10.org>

SPEC_I_PT used to work with REGISTER AND IGNORE EXISTING KEY, but that combination was removed by the REGISTER AND MOVE service action proposal 03-337 (apparently incompletely). SPC-3 letter ballot comments to reinstate it were rejected, saying a detailed proposal would be needed to make such a change in SPC-4.

--
Rob Elliott, elliott@hp.com
Hewlett-Packard Industry Standard Server Storage Advanced Technology
https://ecardfile.com/id/RobElliott

-----Original Message-----
From: owner-t10@t10.org [mailto:owner-t10@t10.org]
Sent: Thursday, June 08, 2006 11:44 AM
To: t10@t10.org
Subject: SPC-4: Persistent Reserve Out Confusion

* From the T10 Reflector (t10@t10.org), posted by:
* "Hubis, Walt" <Walt.Hubis@lsil.com>

In SPC4-04, Section 5.6.6 "Registering", Table 34 "Register behaviors for a REGISTER AND IGNORE EXISTING KEY service action", anytime the SERVICE ACTION RESERVATION KEY is non-zero and SPEC_I_PT is set to one, a CHECK CONDITION status is to be generated. But in section 6.12.3 "Basic PERSISTENT RESERVE OUT parameter list" states:

"If the SPEC_I_PT bit is set to one for the REGISTER service action or the REGISTER AND IGNORE EXISTING KEY service action, then the additional parameter data shall include a list of transport IDs (see table 116) and the device server shall also apply the registration to the I_T nexus for each initiator port specified by a TransportID. If a registration fails for any initiator port (e.g., if the logical unit does not have enough resources available to hold the registration information), none of the other registrations shall be made."

This seems to be a contradiction - what am I missing here?

Cheers,
Walt

---

Walt Hubis walt.hubis@lsil.com <mailto:walt.hubis@lsil.com>
Software Architect
Engenio Storage Group

LSI Logic Corporation
5400 Airport Blvd Ste 100
Boulder, Colorado 80301 USA
Phone: (303) 381-4332
www.lsilogic.com/engenio
For T10 Reflector information, send a message with 'info t10' (no quotes) in the message body to majordomo@t10.org