Persistent Reservation
Issue #346 Update

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Topics

• Basic problem as presented last September
• Current Progress
• Idea for Tracing SCSI infrastructure
Basic Situation

Two Initiators

Init A

Init B

Ancient FC-SCSI Bridge

New Tape Drive supports both Reserve & PR
Reserve works well

1. A issues reserve
2. Bridge processes reserve, limits access to LU to A
3. Bridge issues own reserve to LU
4. B access to LU blocked by bridge

Two Initiators

Init A

Init B

Ancient FC-SCSI Bridge

New Tape Drive supports both Reserve & PR
PR fails horribly

1. A issues PR Register & Reserve which flows thru to device.

2. LU responds & A thinks LU is reserved

3. B can still access device!!!
   LU cannot distinguish it from A

Two Initiators

Init A

Init B

New Tape Drive supports both Reserve & PR
Current Progress

- Since September, at least 2 bridge vendors have addressed the problem
  - Both now detect PR commands
  - Do not pass them through to the back end
  - Return “Illegal Command” to Initiator

- This protects against the problem OK
  - But doesn’t give much information about the reason for failure
Tracing SCSI Infrastructure

• The proposal to allow Inquiry to perform a function like “trace route” generated some supporting comments
  – Is there enough interest to warrant a proposal for SPC-4 independent of the bridge problem?
  – How should this be coordinated with the bridge commands proposal?
Add Field to INQUIRY

- Define new Level Count field (LC) containing unsigned integer in byte 1
- Rules as follows
  - If LC=0, existing behavior
  - If LC>1, decrement LC by 1
    - If result=1, respond to Inquiry command
    - Else, relay the command to the next level in the hierarchy as per SAM-3
- Would allow an application to map a hierarchy, and induce all SCSI-cognizant devices in path to identify themselves
  - Even supporting only EVPD=0 would be enough initially to indicate presence
  - May have to create some new Peripheral Device Type Codes e.g. Intermediate Device