

iSCSI Items

1. Provide (some) guidance for a ULP timeout value that is workable for the various error detection and recovery scenarios.

2. TPGT handling: spec currently states;

"If a SendTargets response reports an iSCSI address for a target, it SHOULD also report all other addresses in its portal group in the same response."

This statement brought up the question, what should the initiator do when two separate SendTargets responses contain the same TargetName with differing paths? Should the initiator believe the information in the first response is no longer valid? Or should the initiator simply add the new path to the target?

3. Text discussing the allocation of TPGT's (i.e. the target "controlling entity" thingy). It is not common knowledge that such an entity exists on a target implementation. There is no such entity on an initiator

implementation. Maybe the Naming and discovery doc speaks of this entity?

4. Clause 6.7 SCSI Timeouts: explicitly state that a command retry shouldn't be performed after a SCSI level timeout.

"An iSCSI initiator MAY attempt to plug a command sequence gap on the target end (in the absence of an acknowledgement of the command by way of ExpCmdSN) before the ULP timeout by retrying the unacknowledged command, as described in Section 6.1 Retry and Reassign in Recovery."

5. Text stating that any data and/or status received for an aborted command is discarded after sending a TMF=Abort Task. (Clause 6.7)

6. Text stating that a TMF=Abort Task must be issued for each outstanding command. (Clause 6.7)

7. Targets MUST support the command retry functionality. Don't think this functionality provides much benefit in its current state. Consider this case:

- a. tape locate command is issued with a 10 second ULP timer

- b. command is dropped at the target due to a digest error
- c. having seen no status for 8 seconds (for example) the iSCSI initiator decides to retry the command.

What happens with the timer on the first command? If it is not canceled, and if status is not received within 2 seconds, an abort for the command will be issued by the ULP.

8. CRN Processing and behavior: spec currently references SAM-2 for CRN.

Command Reference Number (CRN):

When this argument is used, all sequential commands of an I_T_L nexus shall include a CRN argument that is incremented by one. The initial, wrap, and reset CRN values shall be one. The CRN value zero shall be reserved for use as defined by the SCSI protocol. It is not an error for the application client to provide this argument when CRN is not supported by the SCSI protocol or logical unit.

More text specifying the behavior of CRN in the iSCSI realm is needed. In addition, a method to determine if CRN is being used (or not) is missing.

9. Mode page behavior: for example, an FCP initiator sends a mode page 0x18 (Protocol Specific LUN mode page) to a bridge/gateway. Is the bridge/gateway allowed to simply forward the mode page into the iSCSI realm? Protocol Specific Port mode page? Disconnect-Reconnect mode page?

I would expect the answer to be yes, the target can send Check Condition with an ILLEGAL REQUEST/INVALID FIELD IN CDB.

But, not sure what an FCP initiator will do when this is command is rejected.