

Accredited Standards Committee
X3, Information Processing Systems

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Project: TL2, S3P
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Reply to: Mark DeWilde

To: X3T10.1 Membership
From: Mark DeWilde

Subject: Clarification of Resets Proposal

BACKGROUND

Absolute and Total resets are treated basically the same in TL1/TL2. It is not defined when a web reset should use absolute instead of total reset, and what effect on upper level protocols the resets should have. Resets sent to upper level protocols such as s3p could have effects on other upper level protocols unless specifically prohibited, which it is not. S2P and S3P do not state how operating parameters of a device not controlled through mode page entries (e.g. whether a disk is spun up or not) are affected by total or absolute reset.

PROPOSAL

Define Total Reset to reset the transport layer only, and to notify the ULPs that the transport layer has been reset. Hardware not directly under the control of the transport layer (such as the spin up or down of a drive) will not be affected.

Define Absolute Reset to reset the transport and all SSA ULP's on the node, duplicating the effect of a power-up reset but with a 10 second delay before configuring the web as described in section 9.5.2. Post may be invoked. Hardware under the control of the transport layer or the ULPs running over the transport layer will be returned to power-up state. (e.g. a drive would spin down if it had been started, but a host system would not be reset).

Modify the web reset process so that Total Reset is the default used by the web reset process. Total reset will perform the functions listed in section 9.5.2 of TL2, and will also re-initialize TL2's pool of tags, release any channel assignments or reservations, and will notify all active upper level protocols of the transport layer reset. The specific action taken by the individual ULP to respond to the reset will not affect the Transport layer, or other resident upper layer protocols. If the node fails to respond to the Total Reset, then the master uses an Absolute reset and repeats the process of bringing the node on-line. If the Absolute reset fails to bring the node on-line, then the node is assumed to be nonfunctional.

Add clarification within TL2 that a reset command defined by any ULP shall not affect the transport layer or any other ULP running on the node. If there is hardware on the node being shared by ULPs, one ULP shall not change operational states of that hardware in such a way as to affect the operation of the other ULP or the transport layer.

Add clarification to S3P resets stating that hardware states and operating conditions not explicitly controlled by mode pages are not affected by ULP resets. As an example, a drive that has been started will not spin down upon receiving a target reset or a logical unit reset.

Add Clarification to S3P that upon receiving notification of a Transport Layer Reset, it purges it's incoming command queues, aborts all commands in process, and clears ACA conditions and reservation conditions. If the node has initiator functions, outgoing command queues may remain so that commands that have not received status may be re-issued.

Sincerely,

Mark A. DeWilde
Principal System Architect
Pathlight Technologies
Voice: (607)266-4000 X-403
FAX: (607)266-0352

Email: mark@pathlight.com