To: INCITS Technical Committee T10

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Date: December 15, 2003

Document: T10/04-008r1

Subject: ADT: I_T nexus loss definition 04-008r1

I have an action item from the ADI WG to provide a definition of I_T nexus loss for ADT.

As background for the intended purpose of I_T nexus loss I refer to SAM-3.

6.3.4 I_T nexus loss

An I_T nexus loss event notification is delivered by a SCSI port in response to a hard reset or an I_T nexus loss event. An I_T nexus loss notification event is an indication from the SCSI transport protocol to the SCSI application layer that an I_T nexus no longer exists. SCSI transport protocols may define I_T nexus loss events.

The I_T nexus loss condition applies to both SCSI initiator devices and SCSI target devices.

When a SCSI target port detects an I_T nexus loss, a Nexus Loss event notification indication (see 6.4) shall be delivered to each logical unit to which the I_T nexus has access. In response to the resulting I_T nexus loss condition a logical unit shall take the following actions:

a) Abort all tasks from the SCSI initiator port involved in the I_T nexus as described in 5.7;

b) Clear an ACA condition (see 5.9.2.4), if one is present for the SCSI initiator port;

c) Establish an unit attention condition for the SCSI initiator port involved in the I_T nexus (see 5.9.7 and 6.2); and

d) Perform any additional functions required by the applicable command set standards.

If the logical unit retains state information for the I_T nexus that is lost, its response to the subsequent I_T nexus re-establishment for the logical unit should include establishing a unit attention with an additional sense code of I_T NEXUS LOSS OCCURRED.

If the logical unit does not retain state information for the I_T nexus that is lost, it shall consider the subsequent I_T nexus re-establishment, if any, as the formation of a new I_T nexus for which there is no past history (e.g., establish a unit attention with an additional sense code of POWER ON OCCURRED).

When a SCSI initiator port detects an I_T nexus loss, it should terminate all its outstanding Execute Command procedure calls to that target port with a service response of SERVICE DELIVERY OR TARGET FAILURE.

Proposal:

Add the following section and adjust the numbering of any following clauses.

4.9 I_T nexus loss

An I_T nexus loss event shall occur when an ADT port:

a. sends a Port Login IU with the AOE bit set to one,

b. receives a Port Login IU with the AOE bit set to one,

c. detects the change of state of the Sense line from presence to absence ($Sense_a$ for DTD port and $Sense_b$ for automation port), or

d. the DTD port detects the assertion of the $Reset_a$ line.

When an ADT port detects an I_T nexus loss event it shall send a Nexus Loss event notification indication (see SAM-3) to the SCSI Application layer.