

To: INCITS T10 Committee  
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Subject: ADI Reset Definitions

## 1 Revision History

Revision 0:  
Initial proposal

## 2 Discussion

There are certain instances where the automation device needs a method to reset a data transfer device to either recover from an error condition or to perform some device configuration or other special operation. It is desirable to have multiple types of reset that have different affects on the data transfer device.

The **Reset<sub>a</sub> signal** is defined in section 5.2.1. This allows the automation device to reset the communication interface between the devices. For example, if the automation device detects a communication error, it may use this to reset the interface to a known state. This signal implies a port logout. This is not intended to be a hard reset of the data transfer device and should not affect the primary port of the data transfer device. This is already defined in the current revision of ADT.

A **LOGICAL UNIT RESET task management function** issued to the RMC device shall perform as described by the primary host protocol. The behavior of the device when issued to the ADC device server is defined in this proposal. The intent would be to reset the logical unit to a known initial state and cause the least amount of disruption as possible to the rest of the device.

The **TARGET RESET task management function** may be used to perform a hard reset of the entire data transfer device; all logical units. This is intended to cause a power on like reset. Some devices require this after changing configuration parameters or performing code update operations.

This proposal applies to ADT Revision 5. The following section details the changes to the ADT document.

## 3 Proposal

### 3.1 Definitions

3.1.10 **hard reset:** A target action in response to a reset event in which the target port performs the operations described in 4.x.

3.1.x logical unit reset: A logical unit action in response to a logical unit reset event in which the logical unit performs the operations described in 4.y.

3.1.y logical unit reset event: An event that triggers a logical unit reset from a logical unit as described in 5.4.y.

3.1.z reset event: A protocol specific event that triggers a hard reset from a device as described in 4.x.

## **3.2 General**

### **4.x Hard reset**

A hard reset is a response to a power on condition or a TARGET RESET event notification. The target port's response to a hard reset shall include initiating the equivalent of a logical unit reset for all logical units as described in 4.y.

The effect of the hard reset on tasks that have not completed, SCSI device reservations, and SCSI device operating modes is defined in the SCSI Architecture Model-2 standard.

### **4.y Logical Unit reset**

A LOGICAL UNIT RESET issued to a device that is exposed via the primary interface shall perform as described by the primary host protocol.

When responding to a logical unit reset condition, the logical unit shall:

- a) Abort all other open exchanges;
- b) Establish an unit attention condition;
- c) Reset all TapeAlert flags to zero;
- d) Return operating modes to their appropriate initial conditions. Mode parameters shall be restored to their last saved values if saved values have been established. Mode parameters for which no values have been saved shall be returned to their default values.

## **3.3 Transport Layer**

### **7.1.2 SCSI Request information unit**

Current text:

If the TASK MANAGEMENT FUNCTION field contains, 00h, the CDB field contains a SCSI Command Descriptor Block. Otherwise, the logical unit shall ignore the CDB field, and the task management function indicated by the TASK MANAGEMENT FUNCTION field shall be processed. See SAM-2 for a definition of the task management functions.

Proposed text:

If the TASK MANAGEMENT FUNCTION field contains, 00h, the CDB field contains a SCSI Command Descriptor Block. Otherwise, the logical unit shall ignore the CDB field, and the task management function indicated by the TASK MANAGEMENT FUNCTION field shall be processed. See SAM-2 for a definition of the task management functions.

A LOGICAL UNIT RESET shall perform the logical unit reset actions specified in 4.x before returning a SCSI Response information unit indicating function complete. Upon receipt of a TARGET RESET the device shall perform a logical unit reset for all logical units and may perform a hard reset. The device shall return a SCSI Response information unit and wait for the corresponding acknowledgment IU after resetting the logical units and before performing a hard reset.