To: INCITS T10 Committee

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Subject: Change ADT to allow DTD to send Port Logout IU before reset

1 Revision History

Revision 0:
Posted to the T10 web site on 24 June 2004.

Revision 1:
Posted to the T10 web site on 28 June 2004. Replace "receipt" with "transmission" in 2 places in the unordered list in section 6.5.5.

Revision 2:
Posted to the T10 web site on 14 June 2004. Updated document based on discussion and agreement at ADI WG meeting. Updates include removing REASON CODE field and adding LOGOUT DURATION field.

2 General

There are several situations in which a DTD will need to perform an internal reset. The current standard handles this situation by allowing the DTD to send a Port Login IU with the default operating parameters after the reset has occurred. However, if the automation device's baud rate is not the default, it will have to detect several framing errors before reverting to the default operating parameters and completing the login. It would be beneficial for the DTD to be able to alert the automation device that the reset is about to occur so that it can prepare for the login that will be sent after the reset. It would also be beneficial for the DTD to be able to indicate the condition which is causing the reset to occur. The following proposal addresses these needs by allowing the DTD to send the Port Logout IU and by adding a reason code to the Port Logout IU.

3 Proposal

3.1   Allow DTD to send Port Logout IU

3.1.1   Remove the following statement from section 4.3.2.2.1.:

Since only an automation device port is allowed to send a Logout IU, only an automation device port is allowed to transition to this state after completing a port logout (see 6.5.5).

3.1.2   Replace the following statement from section 4.3.2.5.1.:

Since only a DTD port is allowed to receive a Logout IU, only a DTD port is allowed transition to this state after completing a port logout (see 6.5.5).

With:

4.3.2.5.2 Transition P3:Logged-out to P0:Initial

A port shall transition to P0:Initial after the logout duration time specified in the Port Logout IU (see 6.5.5) has expired.

3.1.3   Add an arrow between P3:Logged-Out and P0:Initial in Figure 4

Update the figure to reflect the new state transition.

3.1.4   Change Section 6.5.5. to the following:

6.5.5 Port logout information unit

Upon receiving a Port Logout IU, a DTD port shall:

a)   abort all open exchanges;
b)   disable Asynchronous Event Reporting;
c)   disable initiating Port Login exchanges; and
d)   set port operating parameters to default following transmission of the ACK IU for the Port Logout IU (see 4.2).

Upon receiving a Port Logout IU, an automation port shall:

a)   abort all open exchanges;
b)   disable initiating Port Login exchanges; and
c)   set port operating parameters to default following transmission of the ACK IU for the Port Logout IU (see 4.2).

If a DTD port sends a Port Logout IU to an automation port, it should send a Port Login IU to the automation port within the logout duration time.

Knowledge of the logged out state may be volatile, as a result of a hard reset condition in the logged out port may cause the port to become active again and attempt to log in to the attached port.

The payload of the Port Logout IU is shown in Table 16.

Table 16 — Port Logout IU payload contents

Byte \ Bit	7	6	5	4	3	2	1	0
0 - 1	(MSB)			LOGOUT DURATION				(LSB)

The LOGOUT DURATION field contains the length in seconds that the port that receives the Port Logout IU shall remain in P3:Logged-out state. A value of zero indicates that the port that receives the Port Logout IU shall remain in the P3:Logged-out state until it receives a Port Login IU.

After a port sends an ACK IU in response to a Port Logout IU it shall set its operating parameters to default and enter the P3:Logged-Out state. Once the originator of a Port Logout IU receives an ACK IU for that exchange, it shall set its operating parameters to default and enter the P0:Initial state. See 4.3 for a definition of the port states.