

memorandum



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T10/04-381r0

To INCITS T10 Committee
From Michael Banther, HP
Subject ADT Transmitter Error Recovery Sub-State Machine, IU Statements in State Sub-clause

Date
06 November, 2004

Revision history

Revision 0 – Initial proposal.

Background

During resolution of ADT letter ballot comments at the 3 May 2004 [ADI meeting](#), the working group noticed inconsistencies in the state machine descriptions (see [ADTr13](#), 4.3). Specifically statements that describe how transition from one state to another causes the port to send an information unit appear in different places depending on the transition. Sometimes a statement appears in the description of the state entered into, sometimes a statement appears in the description of the transition, and sometimes no statement appears at all.

After some discussion, the working group concluded that the standard should use a consistent approach regarding the placement of these statements. The group decided to place statements that specify the sending of an IU in the state description.

During the 1 November 2004 [ADI teleconference](#), the working group discussed the approach to use for conditional statements about sending information units that appear in the state machine text. The working group also discussed some other problems that HP's investigation into the state machine text had uncovered (see [04-350r0](#) Guidance on state machines).

Insofar as possible¹, this proposal changes the Transmitter Error Recovery sub-state machine text to:

- a. Place the unconditional portion of each non-acknowledgement information unit statement associated with entry into a next state in the next state description clause;
- b. Place the conditional portion of each non-acknowledgement information unit statement associated with entry into a next state in the current state description clause; and
- c. Retain every acknowledgement information unit statement associated with entry into a next state in the transition description clause.

¹ Typically, the conditional portion of the existing text describes how to set the parameters for the information unit and the act of sending it is unconditional. The lettered list accurately describes how this proposal handles these situations. In cases where the decision to send the information unit depends on a condition, the new text in the next state description includes a statement of the condition, i.e., it's a conditional statement.



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Proposed changes

4.3.5.2.2 Transition TE0: Idle to TE1: Initiating Recovery

Upon receiving a Retryable Error Detected message, the port shall ~~send an Initiate Recovery IU and~~ transition to TE1: Initiating Recovery.

4.3.5.3 TE1: Initiating Recovery state

4.3.5.3.1 State description

A port upon entering TE1: Initiating Recovery state shall send an Initiate Recovery IU. A port in TE1: Initiating Recovery state shall not send any frames other than acknowledgement IUs, Initiate Recovery IUs, Port Login IUs, NOP IUs, Pause IUs, or Port Logout IUs.

4.3.5.3.3 Transition TE1: Initiating Recovery to TE2: Retry Initiate Recovery

~~If A port upon receiving~~ a Retryable Error Detected message or ~~an Initiate Recovery NAK IU for the Initiate Recovery IU is received, the port~~ shall ~~re-send the Initiate Recovery IU and~~ transition to TE2: Retry Initiate Recovery.

4.3.5.4 TE2: Retry Initiate Recovery state

4.3.5.4.1 State description

A port upon entering TE2: Retry Initiate Recovery state shall send an Initiate Recovery IU identical to the one sent in the TE1: Initiating Recovery state. A port in TE2: Retry Initiate Recovery state shall not send any frames other than acknowledgement IUs, Port Login IUs, NOP IUs, Pause IUs, or Port Logout IUs.

A port in TE2: Retry Initiate Recovery state shall discard ACK IUs and NAK IUs for frames other than Port Login IUs, NOP IUs, Pause IUs, and Port Logout IUs.