

memorandum



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To
INCITS T10 Committee

From
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Subject
ADT Fast Access Errors

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Introduction

This proposal allows a Data Transfer device (DTD) to report errors detected in an AER Control IU.

ADT requires an Automation device to set multi-bit fields in an AER Control IU to either all ones or all zeros. The text does not provide a mechanism for a DTD to report an error if it receives an illegal value in such a field. The text also does not state whether the DTD should report or not report subsequent events associated with the multi-bit field.

The definition of 'reserved' [ADT, 3.3.8] contains an implicit 'may' clause with regard to targets checking reserved bits. ADT does not provide a NAK frame status code for use by a DTD that checks reserved bits in an AER Control IU and finds one or more equal to one.

Proposed Text

7.2.6 AER Control information unit

The AER Control IU may optionally be sent by an Automation device to a Data Transfer device to enable or disable AER reporting. The payload of the AER Control IU shall contain a VHF Data structure, with the bits set to one for each field that the device shall report a change. Multiple-bit fields shall have either all of the bits of the field set to 1 or all of the bits in the field set to 0.

Data Transfer devices that do not support AER shall send a NAK IU in response with the STATUS field set to Unsupported frame type for selected protocol.

[A Data Transfer device that receives a multi-bit field containing at least one bit equal to zero shall treat that entire field as equal to zero. A Data Transfer device that receives a reserved bit equal to one shall treat the bit as equal to zero.](#)

[Except as noted above](#), Data Transfer devices that support AER shall respond to the receipt of a AER Control IU by sending an AER Control IU back to the Automation Device with the same x_origin and EXCHANGE ID values. The payload of the IU shall contain a VHF Data IU data structure. Each field that has been enabled for AER notification and is supported by the device shall contain all 1 bits. Each field that has been either disabled for AER notification or is not supported for AER notification by the device shall contain 0. The default setting for all AER events in a Data Transfer device shall be zero.

All AER control fields shall be set to zero by the Data Transfer device at the start of the port login process.