To: INCITS T10 Committee

From: Paul Entzel, Quantum

Date: 20 October 2004

Document: T10/04-348r0

Subject: Add more error handling to ADT encapsulated SCSI protocol

# 1 Revision History

Revision 0:
Posted to the T10 web site 20 October 2004.

# 2 General

ADT letter ballot comment IBM-124 requests that more error handling description be added to the encapsulated SCSI protocol. The working group agreed that this error handling should be modeled after the error handling described in SAS 1.1. This proposal does just that.

# 3 Proposed additions

Add the following paragraphs to ADT.

## *3.1 Add to subclause 7.1.2 SCSI Command IU*

If an ADT target port receives a SCSI Command IU and the payload of the frame is not 24 bytes, the ADT target port shall return a SCSI Response IU with the RESPONSE CODE set to INVALID FIELD IN ENCAPSULATED SCSI IU (EXCLUDES CDB).

If an ADT target port receives a SCSI Command IU with a tag that is already in use, it may return a CHECK CONDITION status with a sense key of ABORTED COMMAND and an additional sense code of OVERLAPPED COMMANDS DETECTED.

Editors note: The previous paragraph is from SAS 1.1. I believe this should be a “shall” instead of a “may”.

## *3.2 Add to subclause 7.1.3 SCSI Task Management IU*

If an ADT target port receives a SCSI Task Management IU that is too short, it shall return a SCSI Response IU with the RESPONSE CODE set to INVALID FIELD IN ENCAPSULATED SCSI IU (EXCLUDES CDB).

If an ADT target port receives a SCSI Task Management IU with a tag that is already in use, it may return a SCSI Response IU with the RESPONSE CODE set to INVALID FIELD IN ENCAPSULATED SCSI IU (EXCLUDES CDB).

If an ADT target port receives a SCSI Task Management IU with an unknown logical unit number, it shall return a SCSI Response IU with the RESPONSE CODE set to INVALID LOGICAL UNIT NUMBER IN SCSI TASK MANAGEMENT IU.

### *3.3 Add to subclause 7.1.5 SCSI Transfer Ready IU*

If an ADT initiator port receives a SCSI Transfer Ready IU that is not 8 bytes long, it shall discard the frame. It may then abort the command.

If an ADT target port receives a SCSI Transfer Ready IU that is not 8 bytes long, it shall discard the frame and terminate the command with a CHECK CONDITION status with a sense key of ABORTED COMMAND and an additional sense code of INFORMATION UNIT TOO SHORT or INFORMATION UNIT TOO LONG.

If an ADT initiator port receives a SCSI Transfer Ready IU in response to a command with no write data, it shall discard the frame. It shall then abort the command.

If an ADT initiator port receives a SCSI Transfer Ready IU requesting more write data than expected, it shall abort the command.

If an ADT initiator port receives a SCSI Transfer Ready IU requesting zero bytes, it shall abort the command.

If an ADT initiator port receives a SCSI Transfer Ready IU with a requested offset that was not expected, it shall abort the command.

If an ADT target port receives a SCSI Transfer Ready IU with a requested offset that was not expected, it shall terminate the command with a CHECK CONDITION status with a sense key of ABORTED COMMAND and an additional sense code of DATA OFFSET ERROR.

### *3.4 Add to subclause 7.1.6 SCSI Data IU*

If an ADT port receives a SCSI Data IU with an unknown tag, it shall discard the frame.

If an ADT target port receives a SCSI Data IU that does not contain first burst data and for which there is no SCSI Transfer Ready IU outstanding, it shall discard the frame.

If an ADT target port receives a SCSI Data IU with a data offset that was not expected, it shall discard that frame and any subsequent SCSI Data IUs received for that command and, shall terminate the command with a CHECK CONDITION

status with a sense key of ABORTED COMMAND and an additional sense code of DATA OFFSET ERROR.

If an ADT target port receives a SCSI Data IU with more write data than expected (i.e., the length of the SCSI Data IU extends past the end of the expected write data length), it shall discard the frame and terminate the command with a CHECK CONDITION status with a sense key of ABORTED COMMAND and an additional sense code of TOO MUCH WRITE DATA.

If an ADT target port receives a zero length SCSI Data IU, it shall discard the frame and terminate the command with a CHECK CONDITION status with a sense key of ABORTED COMMAND and an additional sense code of INFORMATION UNIT TOO SHORT.

If an ADT initiator port receives a SCSI Data IU with more read data than expected, it shall discard the frame and abort the command. It may receive a SCSI Response IU for the command before being able to abort the command.

If an ADT initiator port receives a SCSI Data IU with zero bytes, it shall discard the frame and abort the command. It may receive a SCSI Response IU for the command before being able to abort the command.

If an ADT initiator port receives a SCSI Data IU with a data offset that was not expected, it shall discard that frame and any subsequent SCSI Data IUs received for that command and abort the command. It may receive a SCSI Response IU for the command before being able to abort the command.