To: T10 Technical Committee
From: Mark Overby, NVIDIA Corporation (moverby@nvidia.com)
Date: 09 July 2007
Subject: T10/07-325r0 SAT-2: Translation of zero-length security commands

Revision History
Revision 0 - Initial draft of document

Related Documents
SAT-2 (T10/1826-D rev 01)

1 Overview

T10, at the March plenary, voted to approve the translation of the SECURITY PROTOCOL commands into ATA commands. Subsequent to this, it has been identified that the SECURITY PROTOCOL commands permit an allocation length of zero. The corresponding ATA commands (defined in ATA8-ACS) use the DMA, PIO data-in, and PIO data-out protocols. None of these ATA protocols permit a host to transmit no data, or a device to transmit no data. Therefore, in the current translation, undefined behavior will exist on the ATA device and host when this occurs.

This proposal would cause the SATL to return a CHECK CONDITION when this situation is encountered to present well-known behavior. If, in the future, T13 chooses to allow zero-length transfers using the SECURITY PROTOCOL commands, this restriction could be modified.

2 Document Changes

2.1 Changes to SAT-2 (T10/1826-D rev 00)

8.9.3 ALLOCATION LENGTH field translation overview

The translation of ALLOCATION LENGTH varies based on the value of SECURITY PROTOCOL. **If allocation length is zero, the SATL shall return CHECK CONDITION status with the sense key set to ILLEGAL REQUEST and the additional sense code set to INVALID FIELD IN CDB.**

8.10.3 ALLOCATION LENGTH field translation overview

The translation of ALLOCATION LENGTH varies based on the value of SECURITY PROTOCOL. **If allocation length is zero, the SATL shall return CHECK CONDITION status with the sense key set to ILLEGAL REQUEST and the additional sense code set to INVALID FIELD IN CDB.**