

**Date:** March 8, 2007  
**To:** T10 Committee (SCSI)  
**From:** Roger Cummings (Symantec)  
**Subject:** T10/07-110r0 Update Block Limits VPD Page for ORWRITE

### **Revision History**

07-110r0 Original

### **Related Documents**

sbc3r08a SCSI Block Commands - 3, Revision 08a  
06-393r3 On-disk bitmap support

### **Background**

Proposal 06-393r3 was approved at the January 2007 CAP Working Group & T10 Plenary meetings, and subsequently incorporated into SBC-3 Revision 08a. At the CAP meeting, Rob Elliott of HP pointed out that the XOR commands were referenced by name in the Block Limits VPD Page (see 6.4.2.of sbc3r08a), and I undertook to investigate and create a separate proposal for any needed changes.

Rob also suggested at that meeting that having a defined maximum size for the TRANSFER LENGTH field in the ORWRITE command should be investigated. He & I have subsequently discussed this in detail, and have concluded that having such a parameter in a Mode Page or a VPD Page is not necessary. The device server can just ask for data in whatever chunk size matches its buffer; perform the ORWRITE operation and write to medium,, and then fetch the next chunk of data. I also think that the ORWRITE situation is largely self-limiting, because unless the bits to set that are distributed evenly through a large extent, it's much easier from the application client perspective to just send multiple commands each covering smaller extents.

FYI, the Symantec applications that are looking to use ORWRITE are expected to use a maximum TRANSFER LENGTH of 64 kilobytes.

### **Proposal**

This document proposes updating the description of the OPTIMAL TRANSFER LENGTH GRANULARITY, MAXIMUM TRANSFER LENGTH and OPTIMAL TRANSFER LENGTH fields in the Block Limits VPD page defined in 6.4.2.of sbc3r08a as in Suggested Changes below.

### **Suggested Changes**

The OPTIMAL TRANSFER LENGTH GRANULARITY field indicates the optimal transfer length granularity in blocks for a single **ORWRITE**, PRE-FETCH command, READ command, VERIFY command, WRITE command, WRITE AND VERIFY command, XDREAD command, XDWRITE command, XDWRITEREAD command, or XPWRITE command. Transfers with transfer lengths not equal to a multiple of this value may incur significant delays in processing.

The MAXIMUM TRANSFER LENGTH field indicates the maximum transfer length in blocks that the device server accepts for a single **ORWRITE**, PRE-FETCH command, READ command, VERIFY command, WRITE command, WRITE AND VERIFY command, XDREAD command, XDWRITE command, XDWRITEREAD command, or XPWRITE command. Requests for transfer lengths exceeding this limit result in CHECK CONDITION status with the sense key set to ILLEGAL REQUEST and the additional sense code set to INVALID FIELD IN CDB. A MAXIMUM TRANSFER LENGTH field set to zero indicates that there is no reported limit on the transfer length.

■ The OPTIMAL TRANSFER LENGTH field indicates the optimal transfer length in blocks for a single **ORWRITE**, PRE-FETCH command, READ command, VERIFY command, WRITE command, WRITE AND VERIFY command, XDREAD command, XDWRITE command, XDWRITEREAD command, or XPWRITE command. Transfers with transfer lengths exceeding this value may incur significant delays in processing.