

To: Membership of X3T10

From: Edward Lappin
Exabyte Corporation
tedl@exabyte.com

Date: January 10, 1996
Subject: Block size granularity for sequential devices

Background

The current model for sequential (tape) devices requires that all block sizes be supported in a range. Support of odd block sizes is potentially costly, particularly with wide SCSI interfaces. Additionally, some existing products support more than one block size but not sequentially (such as 512 and 1024).

Proposal

I propose that a new field, Granularity, be incorporated in the Read Block Limits command. The changes do not require any modification of current SCSI-2 implementations since the new field returned 0 (reserved) indicating all block sizes within the range are supported.

The following changes are required in the Read Block Limits return data in the Sequential-access device section of SSC for SCSI-3. Changes are marked with change bars.

Table 1 - READ BLOCK LIMITS data

Bit Byte	7	6	5	4	3	2	1	0
0	Reserved			<u>Granularity</u> Granularity				
1	(MSB)			Maximum block				
2				length limit				
3				(LSB)				
4	(MSB)			Minimum block				
5				length limit				
				(LSB)				

The Granularity field indicates the supported block size granularity. The logical unit shall support all block sizes n such that n minus the Minimum block length limit is a multiple of $2^{\text{Granularity}}$ and n is greater than or equal to the Minimum block length limit and less than or equal to the Maximum block length limit.