DDC PERTEC

Date: March 4, 1990 X3T9.2/90-28 Revision 1

From: Mike Racelo

Subject: Adding Unrecorded Buffered Data Count to Extended Sense

This proposal reflects buffer mode write errors with unrecorded data in buffer in fixed block mode, variable block mode, mixed fixed and variable block modes, and all the above with filemarks and setmarks. In Revision 0, which was discussed at the Austin plenary meeting, it was proposed to have the unrecorded block count in buffer be returned in byte 16 of the extended sense data. After close examination a single byte count is not adequate to cover variable block mode, and mixed modes. In variable block mode it is required to report in the Extended Sense Information Field, bytes 3 thru 6 inclusive, the total number of bytes, filemarks and setmarks not written. In buffered mode the Information Field has the total number of bytes not transferred plus the total number of bytes, filemarks and setmarks in buffer. As was pointed out in Revision 0 the unrecorded buffered data count is not easily differentiated in the returned Information field, and it may not be possible if initiators did not keep track of all Write commands sent. Furthermore, the unrecorded buffered data count may easily be greater than 1 byte, and could possibly be greater than 2 bytes when you have variable block write errors.

A proposed 3 byte field seems adequate at this time to report unrecorded buffered data count. This represents a 16 MB buffer. A 4 byte field may seem an overkill, but in 2 to 4 years buffer designs may exceed a 3 byte field. In addition to the unrecorded buffered data count another byte is needed to validate this field, to qualify if it is bytes or blocks, and to indicate if filemarks and setmarks are in buffer. The proposed unrecorded buffered data count field is described below.

	7	6	5	4	3	2	1	0
19	XV	Fix	FSM	reserve				
20	Unrecorded Buffered Data Count (MSB)							
21	Unrecorded Buffered Data Count (NSB1)							
22	Unrecorded Buffered Data Count (NSB2)							
23	Unrecorded Buffered Data Count (LSB)							

Pertec Peripherals Corporation
20400 Plummer St. • P.O. Box 2198 • Chatsworth, CA 91311 • (818) 882-0030 • TWX: (910) 494-2093

XV = 0 Unrecorded Buffered Data Count is not valid

XV = 1 Unrecorded Buffered Data Count is valid

Fix = 0 Unrecorded Buffered Data Count = number of bytes

Fix = 1 Unrecorded Buffered Data Count = number of blocks

FSM = 0 Unrecorded Buffered Data Count has no filemarks or setmarks

FSM = 1 Unrecorded Buffered Data Count has filemarks or setmarks

A new paragraph to the Request Sense will describe the above field as:

"An extended valid bit of zero indicates the Unrecorded Buffered Data Count is not valid. An extended valid bit of one indicates the Unrecorded Buffered Data Count is valid.

A fix bit of zero indicates the Unrecorded Buffered Data Count is the number of unrecorded bytes in buffer. A fixed bit of one indicates the Unrecorded Buffered Data Count is the number of unrecorded blocks in buffer.

A filemark/setmark bit of zero indicates the Unrecorded Buffered Data Count has no filemarks or setmarks in buffer. A filemark/setmark of one indicates one or more unrecorded filemarks and/or setmarks are in buffer."