OSI Optical Storage International

Memo

Date: February 11, 1987

To: SCSI-2 Optical Working Group and
Accredited Standards Committee X3T9.2

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Subject: Disconnect/Reconnect Page Parameters

Attached for your review is a proposal for adding a "Minimum Burst Size" parameter to the subject page. This proposal follows the direction received from the Optical Working Group meeting January 19-20 in Colorado Springs.

Since the direction from the Working Group was to retain the existing page and simply add a Minimum Burst Size field, this proposal reflects that direction.

In the process of preparing this proposal, however, I found myself in disagreement with much of the existing page and will separately submit an alternative proposal.

Regards,

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Sales Technical Support

lcw/2-11-87

OSI-0003

Optical Devices

Disconnect/Reconnect Parameters

Bit / Byte	7	6	5	4	3	2	1	0
0	Reserved	Reserved		Page Code (02h)				
1	Additional Page Length							
2	Read Buffer Full Ratio							
3	Write Buffer Empty Ratio							
4	(MSB)							
5				Bus Inactivity Time Limit				(LSB)
6	(MSB)							
7				Disconnect Time Limit				(LSB)
8	(MSB)							
9				Connect Time Limit				(LSB)
10	(MSB)							
11				Maximum Burst Size				(LSB)
12	(MSB)							
13				Minimum Burst Size				(LSB)
14	Reserved							
15	Reserved							

Both the ratio parameters are the numerator of a fractional multiplier that has 256 as its denominator. This is advisory to the target. A value of zero indicates that the parameter is not used for determining when to reconnect.

Read Buffer Full Ratio indicates to the target, on READ commands, how full the buffer shall be prior to reconnecting. Targets that include a larger granular buffer block size shall round down to the nearest whole buffer block. The Disconnect Time Limit and the Minimum Burst Size requirements will take priority over this parameter.

Write Buffer Empty Ratio indicates to the target, on WRITE commands, how empty the buffer shall be prior to reconnecting to fetch more data. Targets that include a larger granular buffer block size shall round up to the nearest whole buffer block. The Disconnect Time Limit and the Minimum Burst Size requirements will take priority over this parameter.

Bus Inactivity Time Limit field indicates the maximum time, in 100 microseconds increments, that the target is allowed to maintain the bus busy without handshakes until it must attempt to disconnect. The target may round to its nearest capable value. A value of zero indicates that the target is allowed to either use its default limits or indefinitely maintain the bus busy without handshakes.

Optical Devices

Disconnect Time Limit field indicates the minimum time, in 100 microseconds increments, that the target should remain disconnected until it attempts to reconnect. The target may round to its nearest capable value. A value of zero indicates that the target is allowed to reconnect immediately provided the Minimum Burst Size field requirements are met.

Connect Time Limit field indicates the maximum time, in 100 microseconds increments, that the target should remain connected until it attempts to disconnect. The target may round to its nearest capable value. A value of zero indicates that the target is allowed to remain connected indefinitely or use its default connect time.

Maximum Burst Size field indicates the maximum amount of data that is to be transferred before the target attempts to disconnect. The value is expressed in increments of 512 bytes. A value of zero indicates no limit on the amount of data transferred, i.e. the Connect Time Limit field will be used to determine if and when to attempt to disconnect.

Minimum Burst Size field:
   o For READ's, this field indicates the minimum amount of data in the target buffer before the target will attempt to reconnect.
   o For WRITE's, this field indicates the minimum amount of empty target buffer space that must be available before the target will attempt to reconnect.
   o Minimum Burst Size field values are expressed in increments of 512 bytes. A value of zero defaults to 512

The Minimum Burst Size and the Disconnect Time Limit fields' requirements must both be satisfied before the target will attempt to reconnect.

lcw/le/optdevic