To: INCITS Technical Committee T10

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Date: October 25, 2006

Document: T10/06-468r0

Subject: ADC-2: NL-Port vs LN-Port

1. Revisions

2. Introduction

IBM drives have offered the ability to configure their Fibre Channel ports to autoconfigure in two different manners. The first is to use the standard LN-Port where the port attempts L-Port operation first and then if unsuccessful uses N-Port operation. The second method is to force the port to attempt to connect in N-Port first and if unsuccessful then switch to L-Port operation. IBMs legacy Library Drive Interface allowed this selection. We desire a manner in ADC to allow us to do the same.

3. Proposal

Add a topology negotiation method field to ADC-2

6.2.2.3.3 Fibre Channel descriptor parameter format

Table 39 describes the format of the descriptor parameter for Fibre Channel port types.

TABLE 38. DT device primary port descriptor format

Byte	Bit							
	7	6	5	4	3	2	1	0
0	P2P	TOPLOCK	RHA	LIV	MPN		Rsvd	PE
1	Reserved		TOPNEG		SPDLOCK	SPEED		
2	Reserved							
3	Rsvd	FC-AL LOOP ID						
4	PORT NAME							
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A point-to-point (P2P) bit set to one indicates the DT device primary port is configured to operate in point-to-point mode. If the P2P bit is set to one and the TOPLOCK bit is set to one, the RHA bit, LIV bit, and FC-AL LOOP ID field shall be ignored in a MODE SELECT command. A P2P bit set to zero indicates the DT device primary port is configured to operate in arbitrated loop mode.

The topology negotiation (TOPNEG) field defines the method by which the port negotiates its topology. If the TOPLOCK bit is set to one, the TOPNEG field shall be ignored. If the TOPLOCK bit is set to zero, the TOPNEG field is defined by Table a.

TABLE New-a. Topology negotiation method

Value	Description
00b	Vendor-specific behavior
01b	Port attempts to negotiate operation in FC-AL topology first. If unsuccessful then negotiates operation in point-to-point mode.
10b	Port attempts to negotiate operation in point-to-point mode first. If unsuccessful then negotiates to FC-AL topology.
11b	Reserved

The SPEED field indicates the bit rate (see table 42) in which the DT device primary port is configured to operate.

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