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(54) Title: METHOD AND MEANS FOR TOLERATING MULTIPLE DEPENDENT OR ARBITRARY DOUBLE DISK FAILURES IN A DISK ARRAY

100

101

DISK 0	DISK 1	DISK 2	DISK 3
D0	D1	D2	P0
D3	D4	P1	D5
D6	P2	D7	D8
P3	D9	D10	D11

102

DISK 4	DISK 5	DISK 6
D0	D1	D2
D3	D4	D5
D6	D7	D8
D9	D10	D11

(57) Abstract: Stored data can be recovered from a disk array having at least 2n + 1 physical disks that are capable of storing n physical disks worth of data when any two disks fail, or when more than two dependent disks fail. Data is stored in data stripes that are divided into n substantially equal-sized strips and are distributed across the n disks. Each data stripe has a corresponding parity strip that is generated by including the data strips in the data stripe only once when the parity strip is generated. The data strips of each data stripe, the copy of each such data strip and the corresponding parity strip are distributed across the disks in such a manner that the data strips of each data stripe, the copy of each such data strip and the corresponding parity strip are each on a respectively different disk of the disk array.

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