

(12) **United States Patent**
Cochran

(10) **Patent No.:** **US 7,058,850 B2**
(45) **Date of Patent:** **Jun. 6, 2006**

(54) **METHOD AND SYSTEM FOR PREVENTING DATA LOSS WITHIN DISK-ARRAY PAIRS SUPPORTING MIRRORED LOGICAL UNITS**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 574 days.

(21) Appl. No.: **10/210,368**

(22) Filed: **Jul. 31, 2002**

(65) **Prior Publication Data**
US 2004/0078638 A1 Apr. 22, 2004

(51) **Int. Cl.**
G06F 11/00 (2006.01)

(52) **U.S. Cl.** 714/6; 714/4; 714/43

(58) **Field of Classification Search** 714/6, 714/43, 4, 42

See application file for complete search history.

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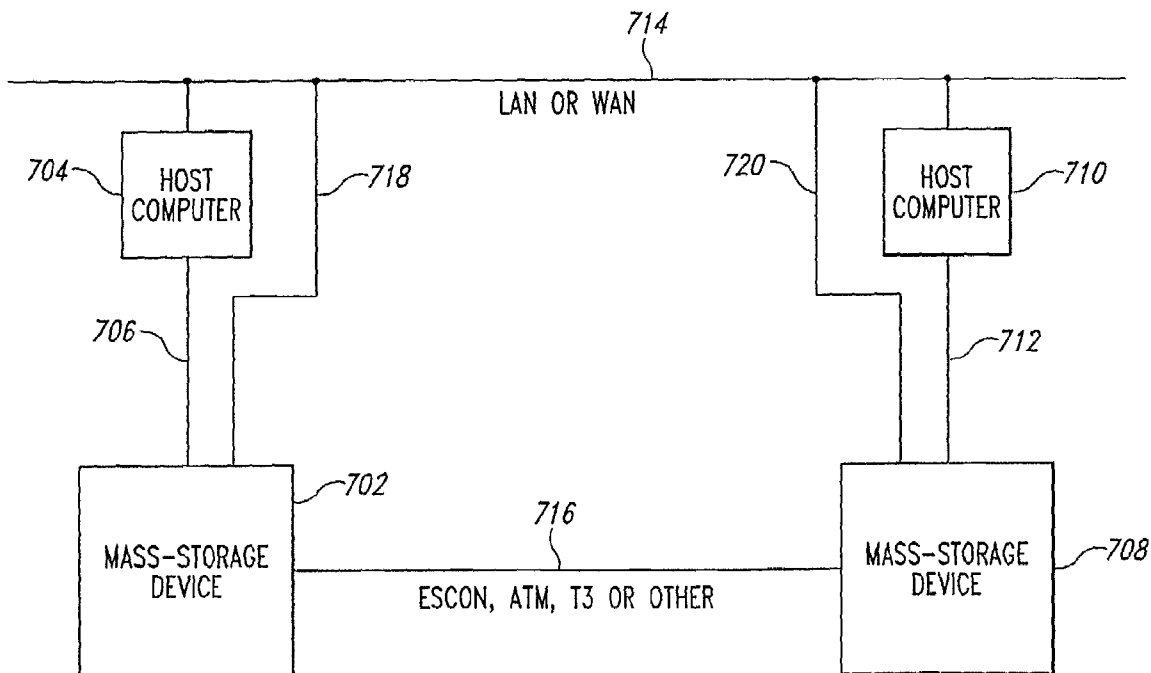
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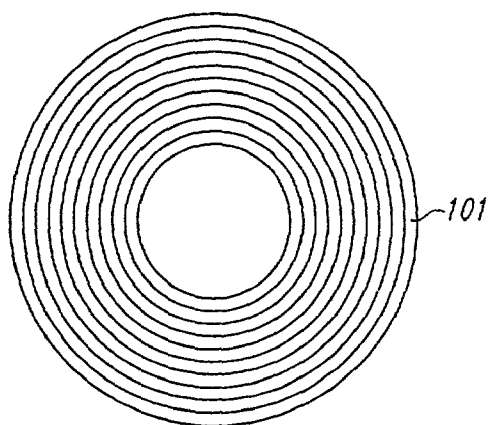
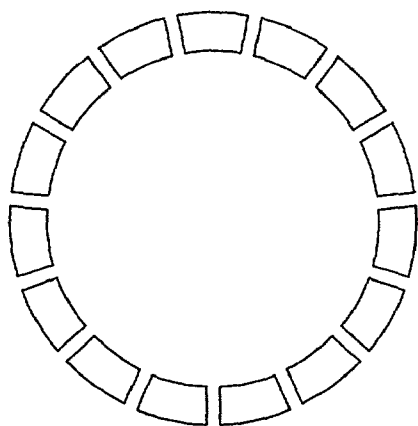
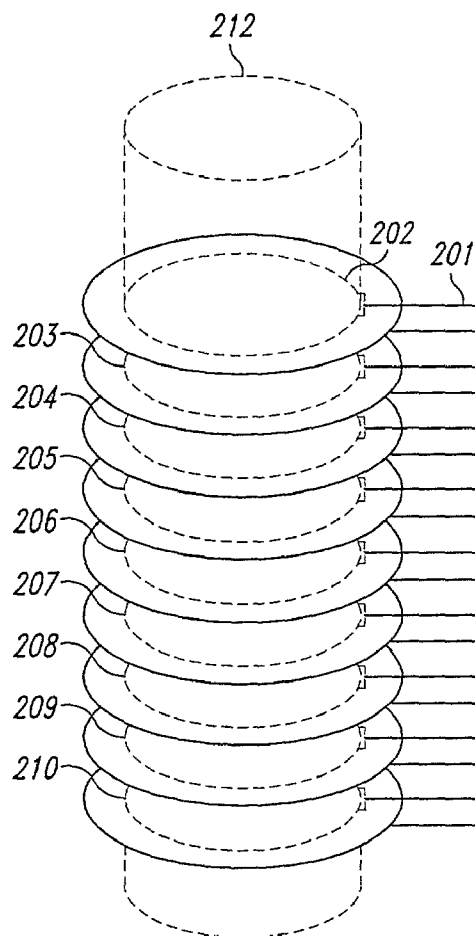
Primary Examiner—Robert Beausoliel
Assistant Examiner—Christopher McCarthy

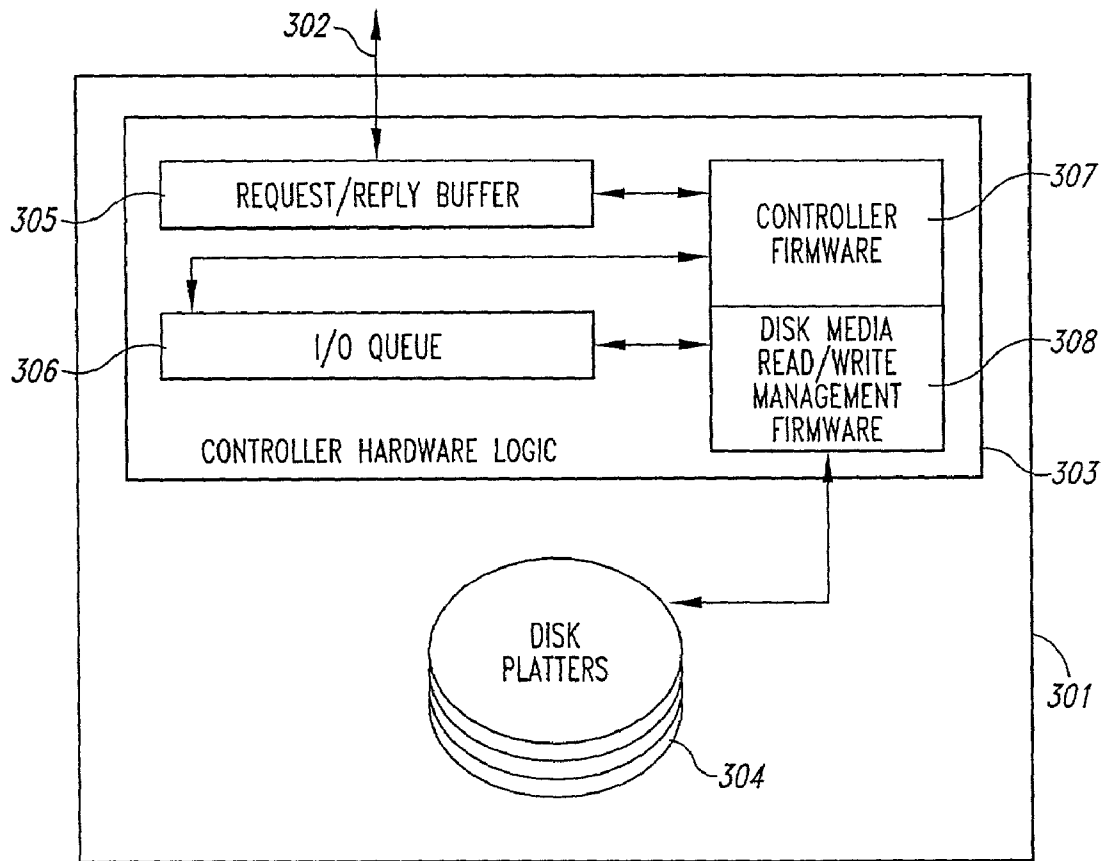
(57) **ABSTRACT**

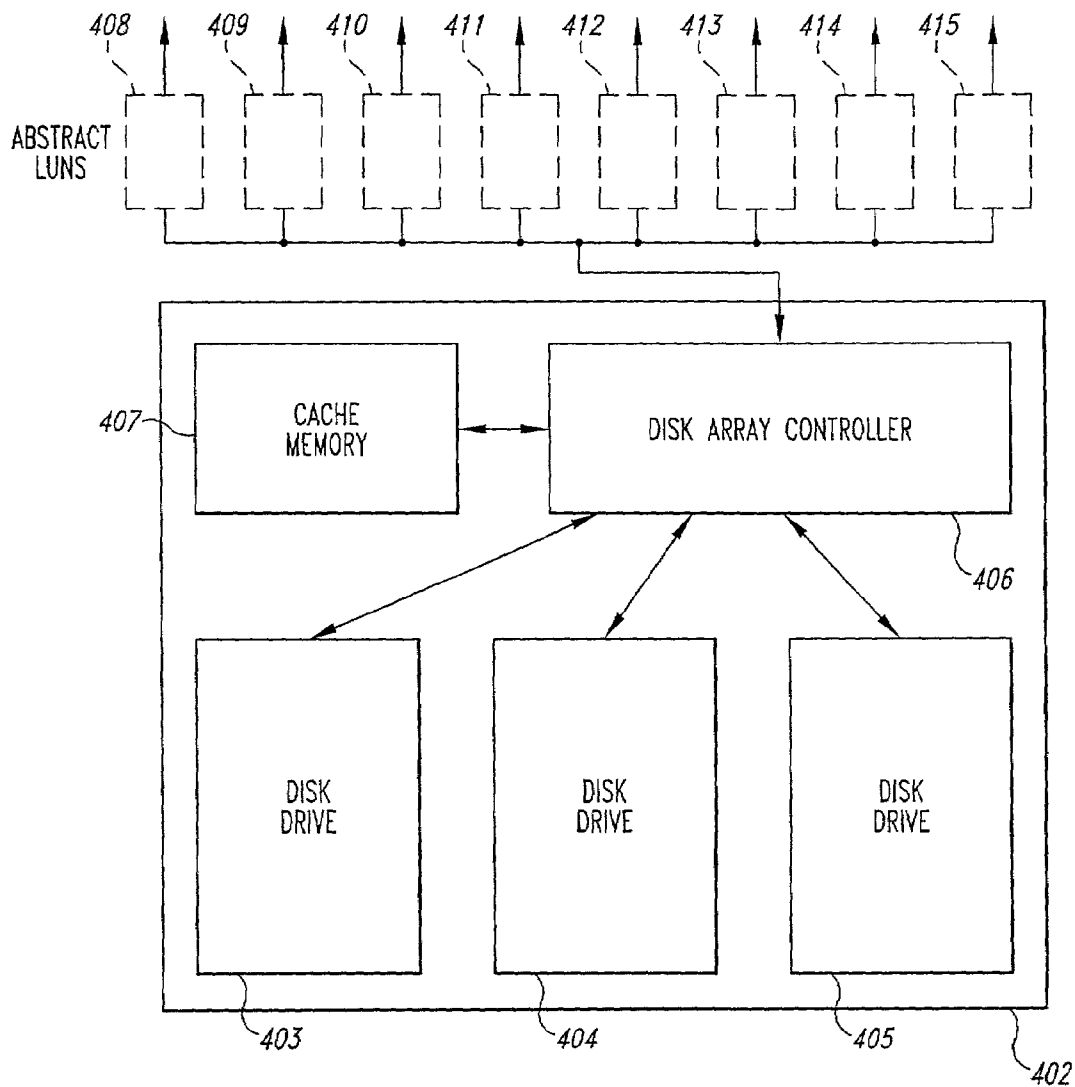
An additional communications link between two mass-storage devices containing LUNs of a mirrored-LUN pair, as well as incorporation of a fail-safe mass-storage-device-implemented retry protocol to facilitate non-drastic recovery from communications link failures within the controllers of the two mass-storage devices, prevents build-up of WRITE requests in cache and subsequent data loss due to multiple communications-link and host computer failures. The combination of the additional link and the retry protocol together ameliorates a deficiency in current LUN-mirroring implementations that often leads to data loss and inconsistent and unrecoverable databases.

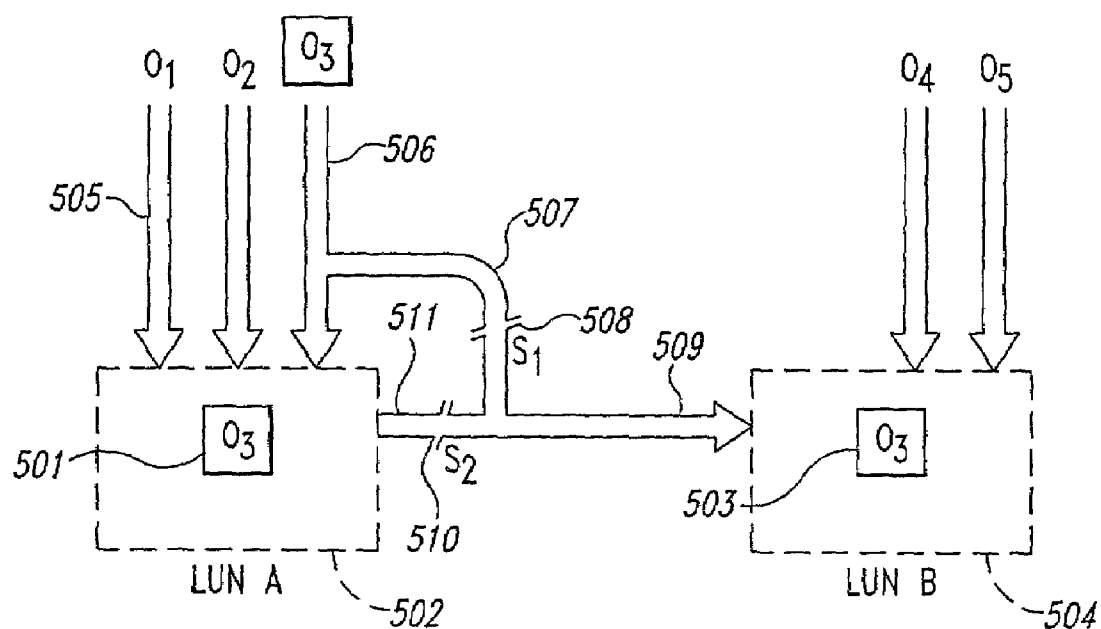
12 Claims, 22 Drawing Sheets



*Fig. 1A**Fig. 1B**Fig. 2*

*Fig. 3*

*Fig. 4*

*Fig. 5*

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