



US008250333B2

(12) **United States Patent**
Gorobets et al.

(10) **Patent No.:** **US 8,250,333 B2**
(45) **Date of Patent:** **Aug. 21, 2012**

(54) **MAPPING ADDRESS TABLE MAINTENANCE
IN A MEMORY DEVICE**

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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 670 days.

(21) Appl. No.: **12/348,782**

(22) Filed: **Jan. 5, 2009**

(65) **Prior Publication Data**

US 2010/0174869 A1 Jul. 8, 2010

(51) **Int. Cl.**
G06F 12/12 (2006.01)

(52) **U.S. Cl.** **711/207**; 711/135; 711/103

(58) **Field of Classification Search** None
See application file for complete search history.

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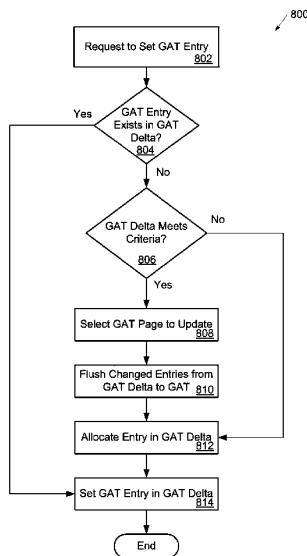
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Lione

(57) **ABSTRACT**

A method and system maintains an address table for mapping
logical groups to physical addresses in a memory device. The
method includes receiving a request to set an entry in the
address table and selecting and flushing entries in an address
table cache depending on the existence of the entry in the
cache and whether the cache meets a flushing threshold cri-
teria. The flushed entries include less than the maximum
capacity of the address table cache. The flushing threshold
criteria includes whether the address table cache is full or if a
page exceeds a threshold of changed entries. The address
table and/or the address table cache may be stored in a non-
volatile memory and/or a random access memory. Improved
performance may result using this method and system due to
the reduced number of write operations and time needed to
partially flush the address table cache to the address table.

22 Claims, 9 Drawing Sheets



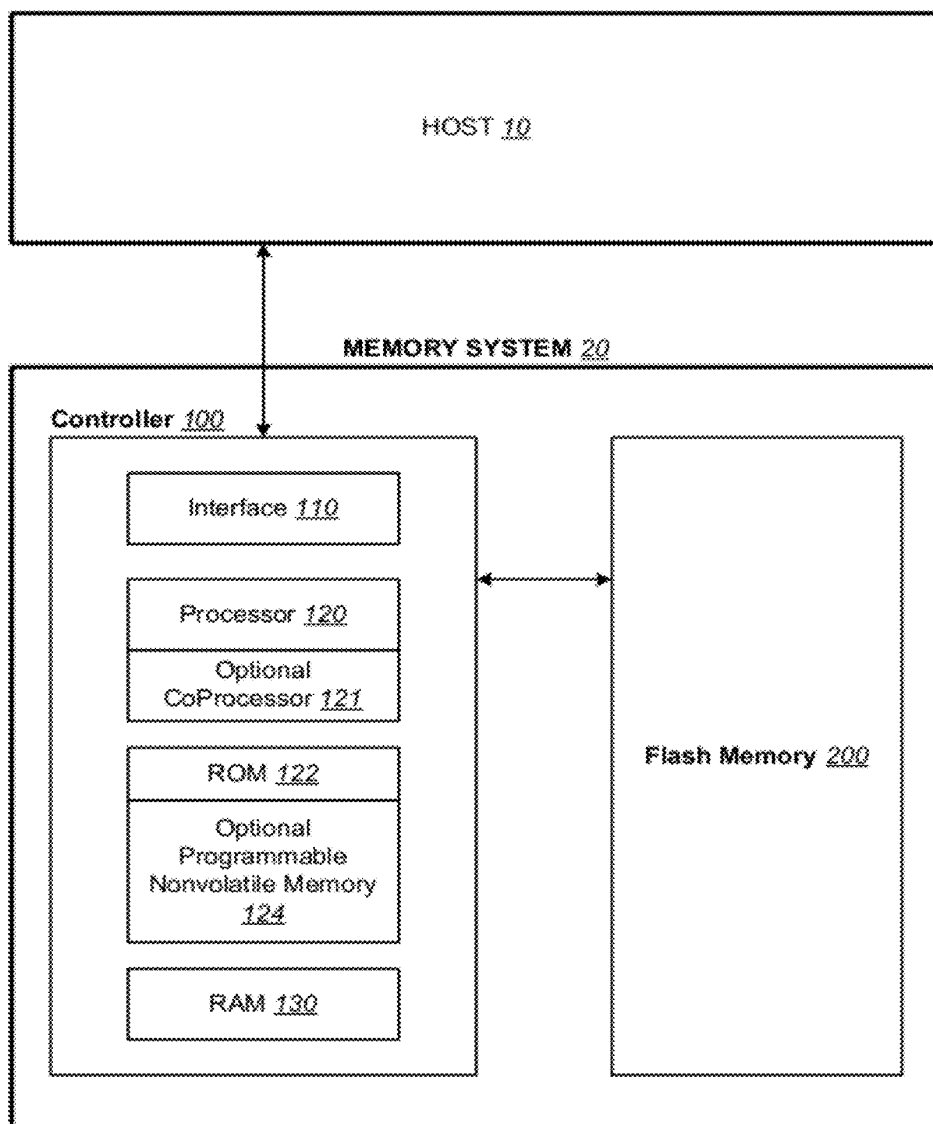


FIG. 1

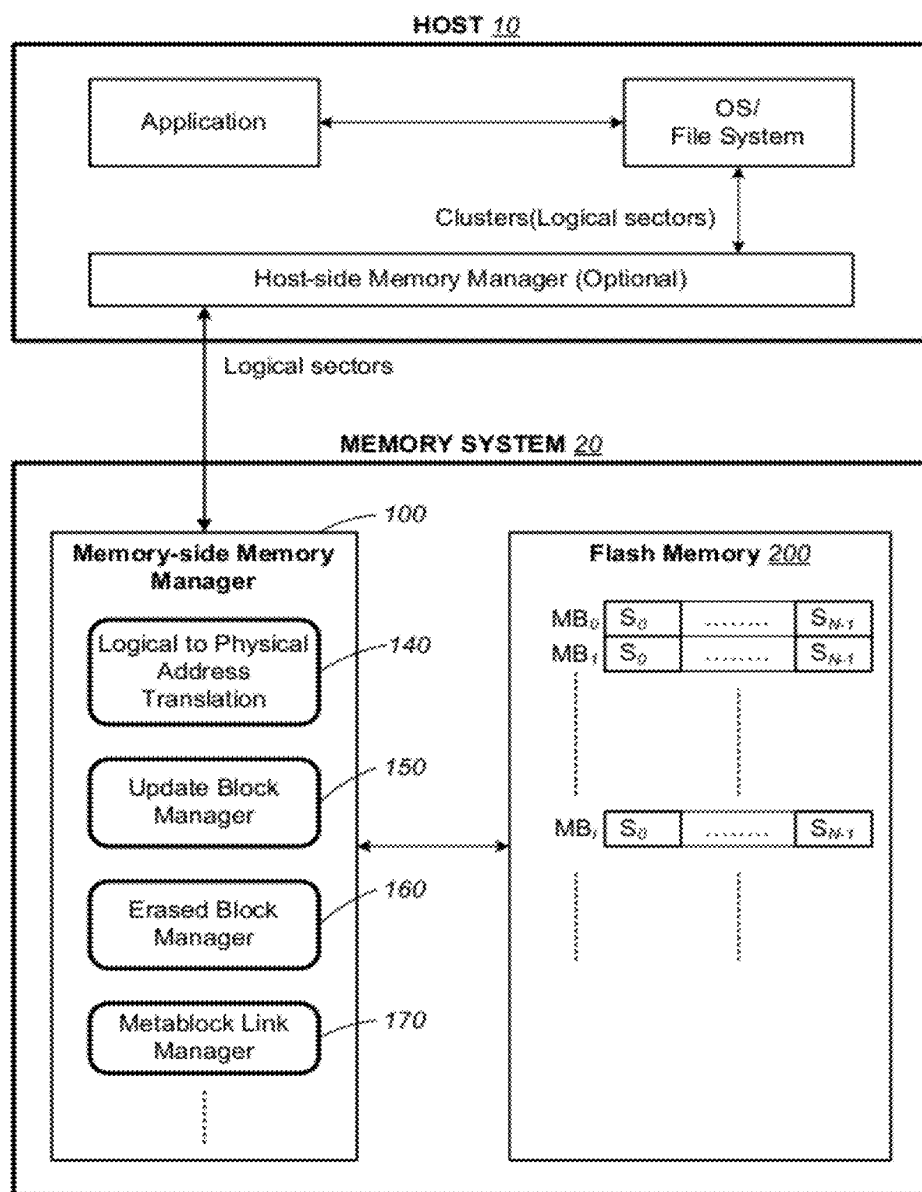


FIG. 2

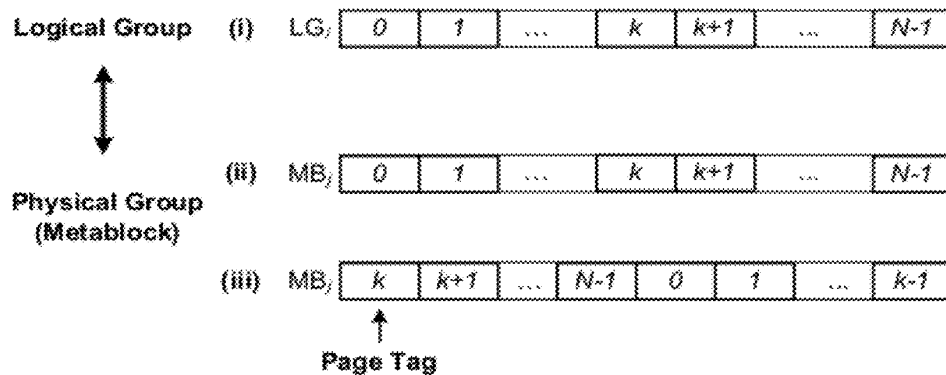


FIG. 3A

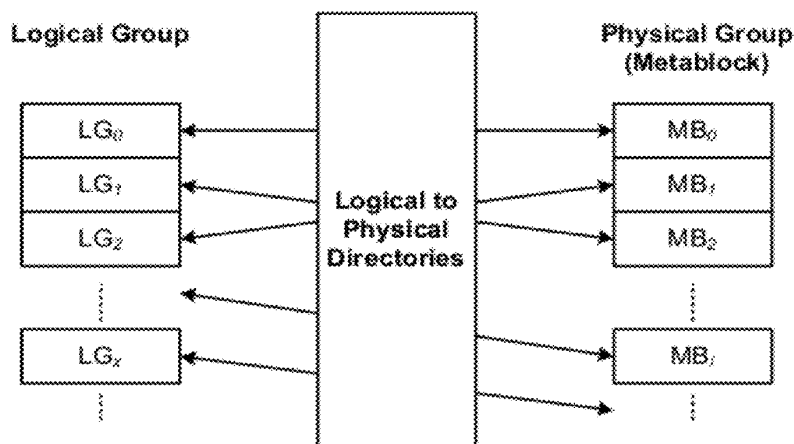


FIG. 3B

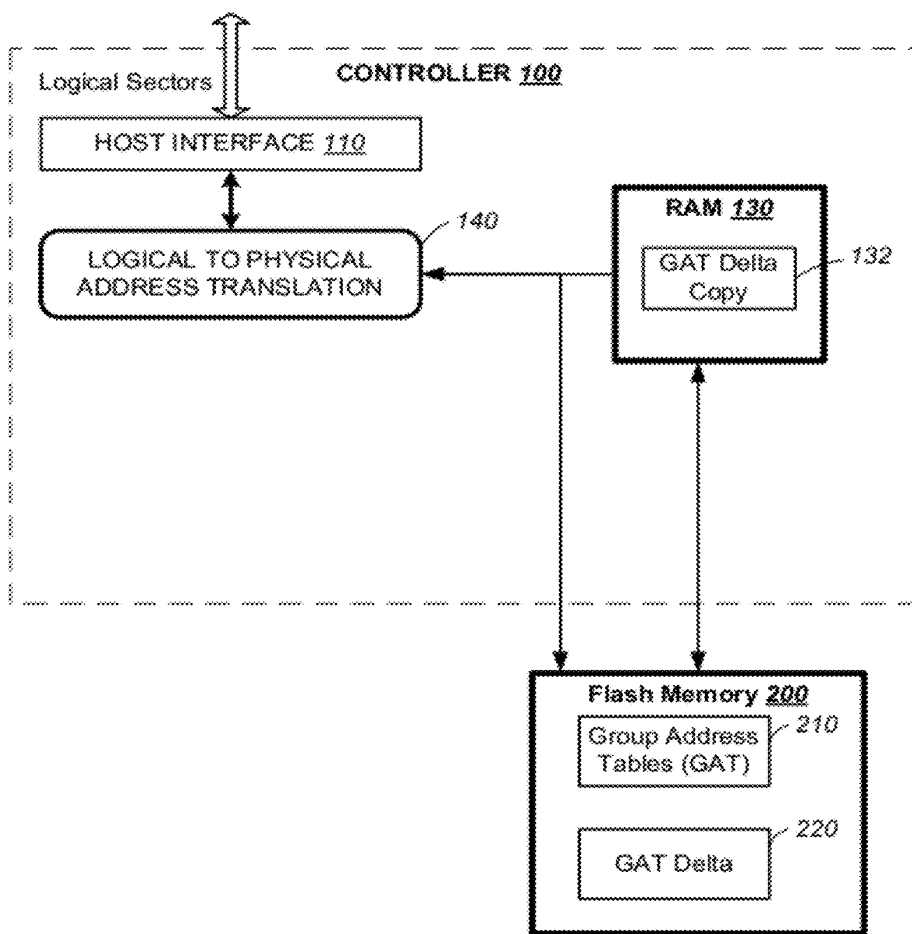


FIG. 4

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