

US007260679B2

(12) United States Patent

Benhase et al.

(54) APPARATUS AND METHOD TO MANAGE A DATA CACHE USING A FIRST AND SECOND LEAST RECENTLY USED LIST

- (75) Inventors: Michael T. Benhase, Tucson, AZ (US); Binny S. Gill, San Jose, CA (US); Thomas C. Jarvis, Tucson, AZ (US); Dharmendra S. Modha, San Jose, CA (US)
- (73) Assignee: International Business Machines Corporation, Armonk, NY (US)
- (*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 385 days.
- (21) Appl. No.: 10/964,474
- (22) Filed: Oct. 12, 2004

(65) **Prior Publication Data**

US 2006/0080510 A1 Apr. 13, 2006

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(45) **Date of Patent:** Aug. 21, 2007

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Primary Examiner—Hong Kim (74) Attorney, Agent, or Firm—Chandler & Udall, LLC; Dale F. Regelman

(57) ABSTRACT

A method is disclosed to manage a data cache. The method provides a data cache comprising a plurality of tracks, where each track comprises one or more segments. The method further maintains a first LRU list comprising one or more first tracks having a low reuse potential, maintains a second LRU list comprising one or more second tracks having a high reuse potential, and sets a target size for the first LRU list. The method then accesses a track, and determines if that accessed track comprises a first track. If the method determines that the accessed track comprises a first track, then the method increases the target size for said first LRU list. Alternatively, if the method determines that the accessed track comprises a second track, then the method decreases the target size for said first LRU list. The method demotes tracks from the first LRU list if its size exceeds the target size; otherwise, the method evicts tracks from the second LRU list.

42 Claims, 6 Drawing Sheets



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FIG. 3



FIG. 4



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