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(54) Title: **HIERARCHICAL IMMUTABLE CONTENT-ADDRESSABLE MEMORY PROCESSOR**

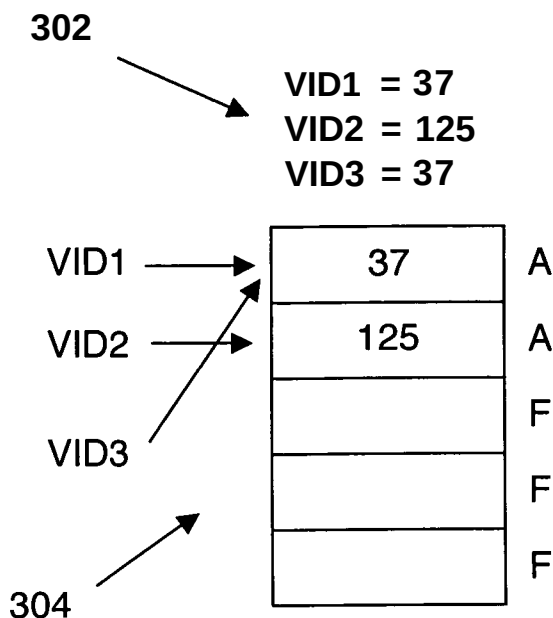


Fig. 3a

(57) Abstract: Improved memory management is provided according to a Hierarchical Immutable Content Addressable Memory Processor (HICAMP) architecture. In HICAMP, physical memory is organized as two or more physical memory blocks, each physical memory block having a fixed storage capacity. An indication of which of the physical memory blocks is active at any point in time is provided. A memory controller provides a non-duplicating write capability, where data to be written to the physical memory is compared to contents of all active physical memory blocks at the time of writing, to ensure that no two active memory blocks have the same data after completion of the non-duplicating write.

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B FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

711/108Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC **711/108. 158**; 365/49 1Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
PubWEST (PGPB,USPT,EPAB,JPAB), Google Scholar

Search Terms memory, physical memory, memory block, content-address, content address, fixed storage, storage capacity, controller, non-duplicate, non duplicate, no duplicate, not duplicate, duplicate, active, compare, match, unique represent, unique identifier, unique ID, write

C DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
X --- Y	US 2002/0133668 A1 (SHERMAN) 19 September 2002 (19 09 2002), abstract and para [0007], [0010]-[0013], [0025]-[0027], [0030]-[0035], [0039], [0042]-[0044], [0047], [0053]-[0054], [0064], [0067]-[0069]	1-9, 11-13 and 16-17 ----- 10, 14-15 and 18
Y	US 2003/0236961 A1 (QIU et al) 25 December 2003 (25 12 2003), abstract and para [0015], [0017], [0058], [0070], [0104]-[0107]	10
Y	US 2005/0065955 A1 (BABIKOV et al) 24 March 2005 (24 03 2005), abstract and para [0022]-[0026], [0140]-[0143]	14-15
Y	US 2003/0093616 A1 (SLAVIN) 15 May 2003 (15 05 2003), abstract and para [0011], [0021]-[0022], [0026], [0028] [0055], [0057], [0060], [0062], [0078]	18
A	US 2007/0022246 A1 (REGEV et al) 25 January 2007 (25 01 2007), entire document, especially abstract and para [0003]-[0011], [0022]-[0028], [0030]-[0037], [0045]-[0049]	1-18

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