United States Patent [19]

Duvall et al.

[11] Patent Number:

4,742,450

[45] Date of Patent:

May 3, 1988

[54]	METHOD TO SHARE COPY ON WRITE
	SEGMENT FOR MAPPED FILES

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[21] Appl. No.: 819,455

[22] Filed: Jan. 16, 1986

[58] Field of Search ... 364/200 MS File, 900 MS File

[56] References Cited

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[57]

ABSTRACT

A method for facilitating the interchange of data in a

UNIX* file between two UNIX processes being run concurrently on two virtual machines in a page segmented virtual memory virtual machine type data processing system. A Shared Copy-On-Write (SCOW) command is created for the UNIX type operating system which when executed in response to a system call from one processes causes the specified UNIX file to be mapped to a unique segment of the virtual memory. A map node data structure is established for storing the ID of the unique segment and for maintaining a count value of the number of user sharing the unique segment. A system call to the SCOW command by the second process involving the same UNIX file checks the map node data structure to see if the file is currently mapped for the SCOW mode. Subsequent instructions in the application programs which are run concurrently on the virtual machines operate on the copy of the file in the unique segment so that any data that is changed, i.e. written by one process, is available to be read by the second process.

UNIX is a Trademark of AT&T.

6 Claims, 9 Drawing Sheets

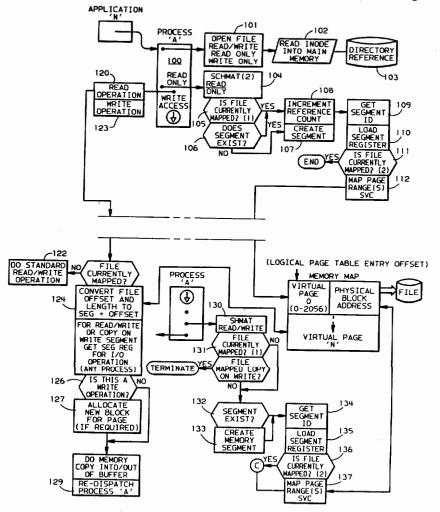




FIG. 1

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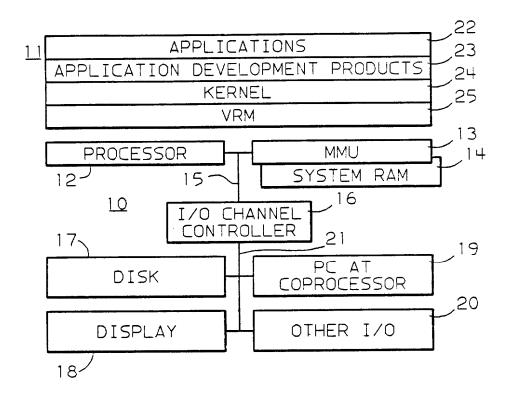
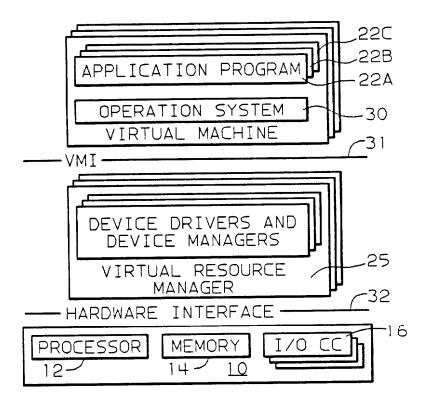
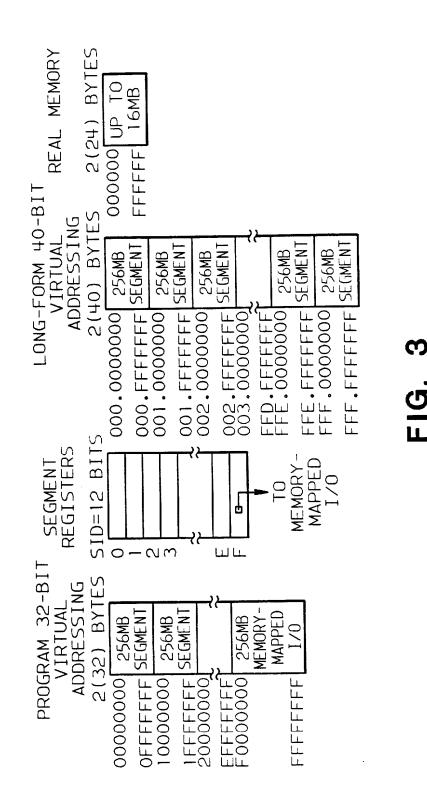


FIG. 2



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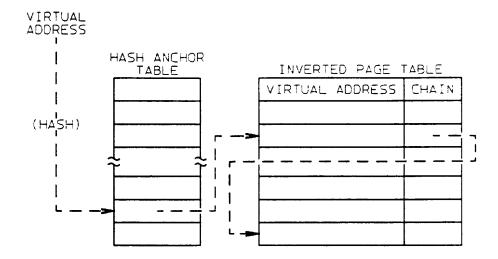


FIG. 4

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