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(54) **MEMORY WRITE TRACKING FOR VIRTUAL MACHINES**

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CPC ***G06F 11/1456*** (2013.01); ***G06F 11/0712*** (2013.01); ***G06F 11/2023*** (2013.01)

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See application file for complete search history.

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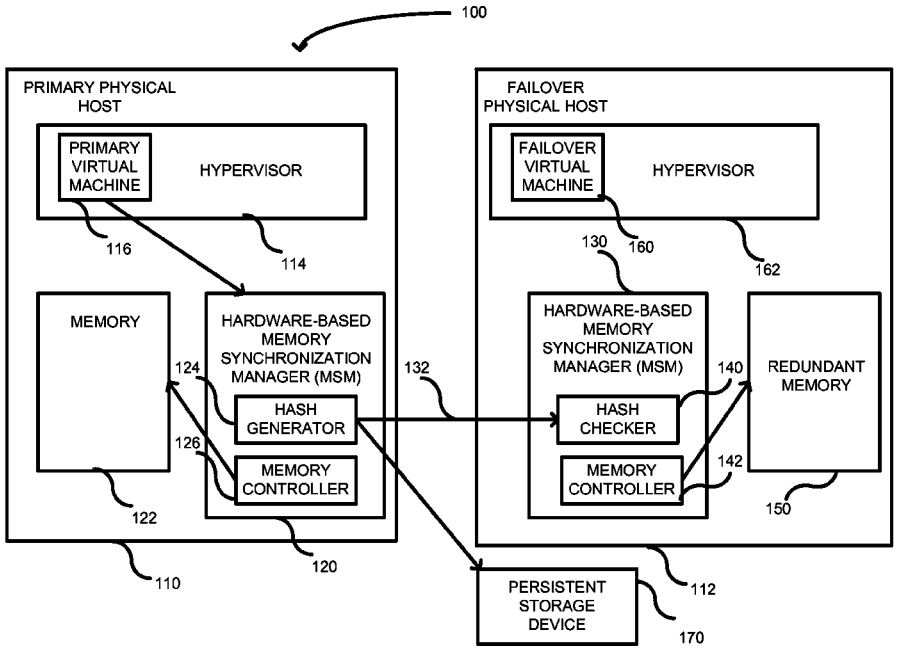
(57) **ABSTRACT**

The disclosed system and method can use memory change tracking to lessen an amount of data that is synchronized between a primary virtual machine and a failover virtual machine so that the failover virtual machine can take over operations should the primary virtual machine become unavailable. A hardware-based memory synchronization manager on a primary physical host can be used to track the changes in the memory and transmit the same to a failover physical host so that the changes can be available, if necessary, by the failover virtual machine. The change tracking can be synchronized in nearly real time between the two physical hosts and can be small enough data updates to allow minimal network bandwidth over the network.

26 Claims, 11 Drawing Sheets