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(54) Title: FASTER ACCESS OF VIRTUAL MACHINE MEMORY BACKED BY A HOST COMPUTING DEVICE'S VIRTUAL MEMORY

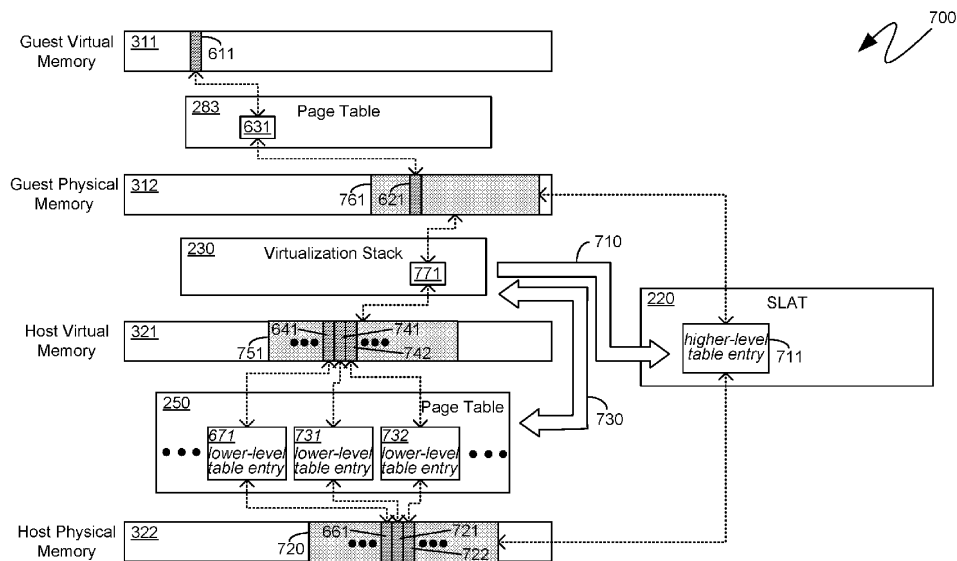


Figure 7

(57) Abstract: To increase the speed with which the hierarchical levels of a Second Layer Address Table (SLAT) are traversed as part of a memory access where the guest physical memory of a virtual machine environment is backed by virtual memory assigned to one or more processes executing on a host computing device, one or more hierarchical levels of tables within the SLAT can be skipped or otherwise not referenced. While the SLAT can be populated with memory correlations at hierarchically higher-levels of tables, the page table of the host computing device, supporting the host computing device's provision of virtual memory, can maintain a corresponding contiguous set of memory correlations at the hierarchically lowest table level, thereby enabling the host computing device to page out, or otherwise manipulate, smaller chunks of memory. If such manipulation occurs, the SLAT can be repopulated with memory correlations at the hierarchically lowest table level.

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