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WO 2025/196531 A1

(54) **Title:** ADDRESS TRANSLATION METHOD, FAST MAPPING TABLE CONSTRUCTION METHOD, DEVICE, STORAGE MEDIUM AND PROGRAM PRODUCT

(54) 发明名称: 地址转换和快速映射表构建方法、设备、存储介质及程序产品

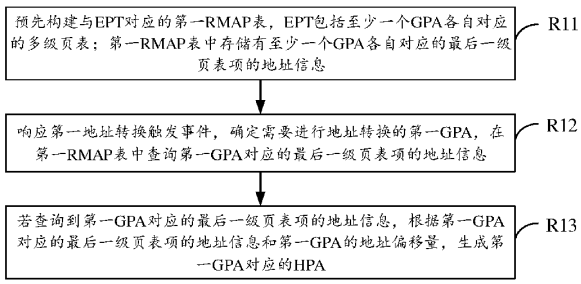


图 1a

R11 Pre-construct a first RMAP table corresponding to an EPT, the EPT comprising a multi-level page table respectively corresponding to at least one GPA, and the first RMAP table storing address information of the last-level page table entry respectively corresponding to the at least one GPA

R12 In response to a first address translation trigger event, determine a first GPA required to undergo address translation, and query the first RMAP table for the address information of the last-level page table entry corresponding to the first GPA

R13 If the address information of the last-level page table entry corresponding to the first GPA is searched out, on the basis of the address information of the last-level page table entry corresponding to the first GPA and the address offset of the first GPA, generate an HPA corresponding to the first GPA

(57) **Abstract:** Provided in the embodiments of the present disclosure are an address translation method, a fast mapping table construction method, a device, a storage medium and a program product. In an embodiment of the present disclosure, the address translation method comprises: constructing a first RMAP table adapted to an EPT, the first RMAP table storing address information of the last-level page table entry respectively corresponding to at least one GPA in the EPT; establishing a fast mapping relationship from GPAs to HPAs on the basis of first RMAP table so as to implement fast address translation from the GPAs to the HPAs; and further, creating a second

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— 关于申请人有权要求在先申请的优先权(细则4.17(iii))

本国际公布:
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RMAP table for the EPT, the second RMAP table storing address translation information from at least one HPA to a corresponding GPA to establish a fast mapping relationship from the HPAs to the GPAs so as to implement fast address translation from the HPAs to the GPAs. Bidirectional fast mapping can be implemented on the basis of the first RMAP table and the second RMAP table, so as to improve address translation efficiency.

(57) 摘要: 本公开实施例提供一种地址转换和快速映射表构建方法、设备、存储介质及程序产品。在本公开实施例中，针对 EPT 表构建适配的第一 RMAP 表，在第一 RMAP 表中存储 EPT 中至少一个 GPA 各自对应的最后一级页表项的地址信息，基于第一 RMAP 表建立 GPA 到 HPA 之间的快速映射关系，实现 GPA 到 HPA 的快速地址转换。进一步，针对 EPT 创建第二 RMAP 表，第二 RMAP 表中存储有至少一个 HPA 到对应 GPA 的地址转换信息，用以建立 HPA 到 GPA 之间的快速映射关系，实现 HPA 到 GPA 的快速地址转换。基于第一 RMAP 表和第二 RMAP 表可以实现双向快速映射，提高地址转换效率。