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(54) **Title:** MEMORY PAGE FAULT HANDLING METHOD AND SYSTEM

(54) 发明名称: 内存页缺页处理方法以及系统

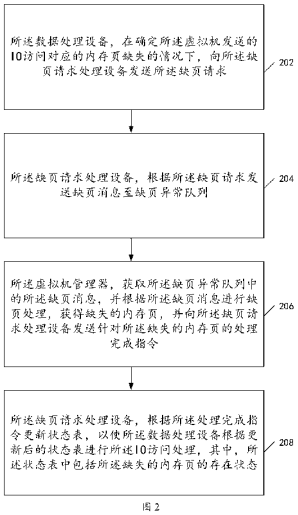

图 2

202 After determining that a page fault occurs in a memory page corresponding to an I/O access sent by means of a virtual machine, a data processing device sends a page fault request to a page fault request processing device

204 The page fault request processing device sends a page fault message to a page fault abnormality queue on the basis of the page fault request

206 A virtual machine manager acquires the page fault message in the page fault abnormality queue, performs page fault handling on the basis of the page fault message, so as to obtain a faulty memory page, and sends to the page fault request processing device a processing completion instruction regarding the faulty memory page

208 The page fault request processing device updates a status table on the basis of the processing completion instruction, such that the data processing device performs I/O access processing on the basis of the updated status table, wherein the status table comprises a presence status of the faulty memory page

(57) **Abstract:** Provided in the embodiments of the present disclosure are a memory page fault handling method and system. The method comprises: after determining that a page fault occurs in a memory page corresponding to an I/O access sent by means of a virtual machine, a data processing device sending a page fault request to a page fault request processing device; the page fault request processing device sending a page fault message to a page fault abnormality queue on the basis of the page fault request; a virtual machine manager acquiring the page fault message in the page fault abnormality queue, performing page fault handling on the basis of the page fault message, so as to obtain a faulty memory page, and sending the faulty memory page to the page fault request processing device; and the page fault request processing device updating a mapping page table on the basis of the faulty memory page, such that the data processing device performs I/O access processing on the basis of the updated mapping page table.

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本国际公布:
— 包括国际检索报告(条约第21条(3))。

(57) 摘要: 本公开实施例提供内存页缺页处理方法以及系统，该方法包括：所述数据处理设备，在确定所述虚拟机发送的I/O访问对应的内存页缺失的情况下，向缺页请求处理设备发送缺页请求；缺页请求处理设备，根据缺页请求发送缺页消息至缺页异常队列；虚拟机管理器，获取所述缺页异常队列中的所述缺页消息，并根据缺页消息进行缺页处理，获得缺失的内存页，并向所述缺页请求处理设备发送所述缺失的内存页；所述缺页请求处理设备，根据所述缺失的内存页更新映射页表，以使所述数据处理设备根据更新映射页表进行所述I/O访问处理。