Title: A METHOD AND APPARATUS FOR SUPPORTING ADDRESS TRANSLATION IN A VIRTUAL MACHINE ENVIRONMENT

"Virtual TLB" 204

PD = page directory
PT = page table
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Abstract: In one embodiment, a method includes receiving control transitioned from a virtual machine (VM) due to a privileged event pertaining to a translation-lookaside buffer (TLB), and determining which entries in a guest translation data structure were modified by the VM. The determination is made based on metadata extracted from a shadow translation data structure maintained by a virtual machine monitor (VMM) and associated with entries in the shadow translation data structure. The method further includes synchronizing entries in the shadow translation data structure that correspond to the modified entries in the guest translation data structure with the modified entries in the guest translation data structure.
A. CLASSIFICATION OF SUBJECT MATTER
INV. G06F9/455

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED
Minimum documentation searched (classification system followed by classification symbols)
G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic database consulted during the international search (name of database and, where practical, search terms used)
EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:

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Date of the actual completion of the international search: 7 July 2006
Date of mailing of the international search report: 19/07/2006

Name and mailing address of the ISA/
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Authorized officer: Skomorowski, M

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<td>BARHAM P ET AL: &quot;Xen and the Art of Virtualization&quot; PROCEEDINGS OF THE ACM SYMPOSIUM ON OPERATING SYSTEMS PRINCIPLES, XX, XX, October 2003 (2003-10), pages 164-177, XP002298786 abstract page 165, paragraph 2. - page 167, left-hand column, line 35 page 169, paragraph 3.3.3 - page 170, paragraph 3.3.4</td>
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