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(54) **Title:** OPTIMIZED VIRTUAL MACHINE MIGRATION MECHANISM

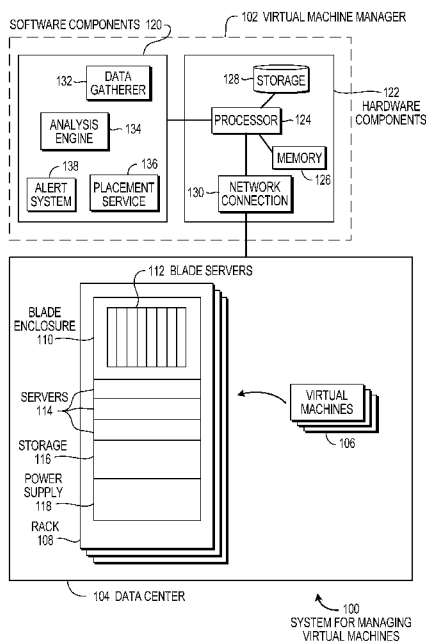


FIG. 1

(57) **Abstract:** A virtual machine management system may perform a three phase migration analysis to move virtual machines off of less efficient hosts to more efficient hosts. In many cases, the migration may allow inefficient host devices to be powered down and may reduce overall energy costs to a datacenter or other user. The migration analysis may involve performing a first consolidation, a load balancing, and a second consolidation when consolidating virtual machines and freeing host devices. The migration analysis may also involve performing a first load balancing, a consolidation, and a second load balancing when expanding capacity.

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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 15/16; G06F 1/26; G06F 9/455; G06F 15/177; G06F 1/32

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

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) &amp; Keywords: virtual machine, migration, consolidation, load balancing.

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2005-0251802 A1 (JAMES BOZEK et al.) 10 November 2005 See the abstract, figures 1-4 and 6, and paragraphs [0040-0052].	1-15
A	US 2006-0069761 A1 (SUMANKUMAR SINGH et al.) 30 March 2006 See the abstract, figure 3, and paragraphs [0012] and [0017-0021].	1-15
A	US 2007-0130566 A1 (HANS VAN RIETSCHOTE et al.) 07 June 2007 See the abstract, figures 2-3, and paragraphs [0009] and [0042-0047].	1-15
A	US 2005-0060590 A1 (DAVID BRADLEY et al.) 17 March 2005 See the whole document.	1-15

 Further documents are listed in the continuation of Box C. See patent family annex.

\* Special categories of cited documents:

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"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

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"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

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Information on patent family members

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