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CHINES CORPORATION [US/US]; New Orchard
Road, Armonk, New York 10504 (US).(71) Applicants (for MG only): IBM UNITED KINGDOM
LIMITED [GB/GB]; PO Box 41, North Harbour, Ports-
mouth, Hampshire PO6 3AU (GB). IBM (CHINA) IN-
VESTMENT COMPANY LIMITED [CN/CN]; 25/F,
Pangu Plaza, No.27, Central North 4th Ring Road, Chaoy-
ang District, Beijing 100101 (CN).(72) Inventors: GSCHWIND, Michael, Karl; IBM Corpora-
tion, 2455 South Rd, Poughkeepsie, NY 12601-5400 (US).
SALAPURA, Valentina; IBM Corporation, 1101 Kit-chawan Rd, Route 134 / Po Box 218, Yorktown Heights,
NY 10598 (US).(74) Agent: LITHERLAND, David; IBM United Kingdom
Limited, Intellectual Property Law, Hursley Park,
Winchester, Hampshire SO21 2JN (GB).(81) Designated States (unless otherwise indicated, for every
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KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD,
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[Continued on next page]

(54) Title: INSTRUCTION MERGING OPTIMIZATION

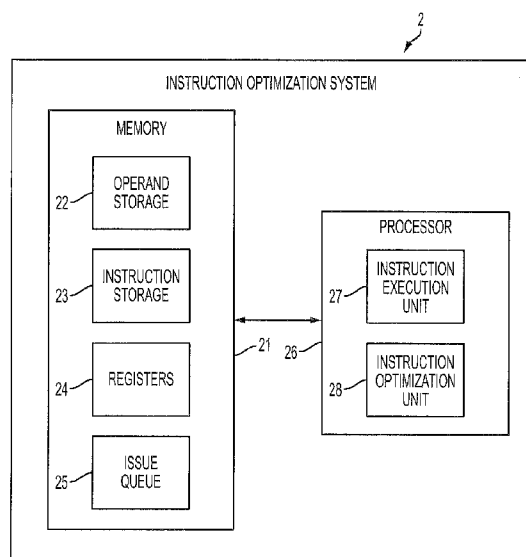


FIG. 2

(57) Abstract: A computer system for optimizing instructions is configured to identify two or more machine instructions as being eligible for optimization, to merge the two or more machine instructions into a single optimized internal instruction that is configured to perform functions of the two or more machine instructions, and to execute the single optimized internal instruction to perform the functions of the two or more machine instructions. Being eligible includes determining that the two or more machine instructions include a first instruction specifying a first target register as a source register and a target register. The second instruction is a next sequential instruction of the first instruction in program order, wherein the first instruction specifies a first function to be performed, and the second instruction specifies a second function to be performed.



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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

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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)

IPC: G06F 9/-

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

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

CNPAT, DWPI, EPODOC, CNKI: instruction+, optimiz+, merg+, execut+, load, memory, stor+, function, single, stream, analyz+, process+, data, register, source, target, order, sequen+

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2005/0289529 A1 (ALMOG, Y. et al.) 29 December 2005(29.12.2005) the whole document	1-20
A	US 6282633 B1 (TENSILICA INC) 28 August 2001(28.08.2001) the whole document	1-20
A	CN 86103765 A (HEWLETT-PACKARD COMPANY) 24 December 1986(24.12.1986) the whole document	1-20

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

* Special categories of cited documents:	“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
“A” document defining the general state of the art which is not considered to be of particular relevance	“X” document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
“E” earlier application or patent but published on or after the international filing date	“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
“L” document which may throw doubts on priority claim (S) or which is cited to establish the publication date of another citation or other special reason (as specified)	“&” document member of the same patent family
“O” document referring to an oral disclosure, use, exhibition or other means	
“P” document published prior to the international filing date but later than the priority date claimed	

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6 Xitucheng Rd., Jimen Bridge, Haidian District, Beijing, China
100088
Facsimile No. 86-10-62019451Authorized officer
Zhan, Qianqian
Telephone No. (86-10)62411654

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Information on patent family members

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