Abstract: A computer processor architecture is disclosed that exhibits both the speed of register-oriented architectures in the prior art and the code efficiency of stack-oriented machines in the prior art. The illustrative embodiment accomplishes this by providing an operand stack and a stack-oriented instruction set but also a set of general registers (RO) and a set of instructions that enable the illustrative embodiment to substitute the general registers and literals for the stack in any operation. The result is a processor (709) that can function as a traditional stack-oriented machine, a register-oriented machine, or a new hybrid stack-register machine on an instruction-by-instruction basis.
(88) Date of publication of the international search report:
29 November 2007

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.
INTERNATIONAL SEARCH REPORT

International application No
PCT/US06/37 175

A. CLASSIFICATION OF SUBJECT MATTER

IPC: G06F 9/30(2006.01), G06F 9/40(2006.01)

USPC: 7 12/202

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)
U.S.: 7 12/202

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Google, terms used: zero-address dyadic instruction, hybrid stack register machine

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim</th>
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<td>Y</td>
<td>Applicant Admitted Prior Art (AAPA), background of the invention</td>
<td></td>
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<tr>
<td>Y</td>
<td>Nakagawa et al. US Patent 5,24 1,679 (31 Aug. 1993)</td>
<td>1,6, 12</td>
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<td>A</td>
<td>Circello et al. US 5,76 1,494</td>
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<tr>
<td>A</td>
<td>Shibasaki et al. US 4,334,269</td>
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<tr>
<td>A</td>
<td>Lin et al. US 5,852,726</td>
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<tr>
<td>A</td>
<td>Feierbach et al. US 6,088,786</td>
<td>1-20</td>
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Further documents are listed in the continuation of Box C.

Date of the actual completion of the international search: 02 August 2007 (02.08.2007)

Date of mailing of the international search report: 24 SEP 2007

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