(51) International Patent Classification:
G06F 9/06 (2006.01)  G06F 9/44 (2006.01)
G06F 9/38 (2006.01)

(21) International Application Number:
PCT/US2011/061456

(22) International Filing Date:
18 November 2011 (18.11.2011)

(25) Filing Language:
English

(26) Publication Language:
English

(30) Priority Data:
61/415,210 18 November 2010 (18.11.2010) US
61/415,205 18 November 2010 (18.11.2010) US
13/232,774 14 September 2011 (14.09.2011) US

(63) Related by continuation (CON) or continuation-in-part (CIP) to earlier application:
US 13/232,774 (CON)
Filed on 14 September 2011 (14.09.2011)

(54) Title: CONTEXT SWITCH METHOD AND APPARATUS

(57) Abstract: A method for switching from a first context to a second context on a processor having a pipeline with a predetermined depth is provided. A first task in the first context is executed on the processor so that the first task traverses the pipeline. A context switch is invoked by asserting a switch lead (force_pcz, force_ctxz) for the processor through a changing a state of signal on the switch lead (force_pcz, force_ctxz). The second context for a second task is read from a save/restore memory. The second context for the second task is provided to the processor over an input lead (new_ctx, new_pc). Instructions corresponding to the second task are fetched. The second task in the second context is executed on the processor, a save/restore lead (cmem_wrz) on the processor is asserted after the first task has traversed the pipeline to its predetermined pipeline depth.

FIG. 17


Declarations under Rule 4.17:
— as to applicant’s entitlement to apply for and be granted a patent (Rule 4.17(h))
— as to the applicant’s entitlement to claim the priority of the earlier application (Rule 4.17/in)

Published:
— with international search report (Art. 21(3))
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(b))

Date of publication of the international search report: 19 July 2012
A. CLASSIFICATION OF SUBJECT MATTER

G06F 9/06(2006.01)i, G06F 9/38(2006.01)i, G06F 9/44(2006.01)i

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 9/06; G06F 9/46; G06F 9/312; G06F 009/46

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) & Keywords: switching, context, pipeline, switch lead, input lead, restore lead;

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 No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>US 2006-0048148 A1 ( FALU GOOTHERTS et al.) 02 March 2006 See the abstract, claims 1-28 and figures 1-4.</td>
<td>1-19</td>
</tr>
<tr>
<td>A</td>
<td>US 2010-0161948 A1 ( ABDALLAH MOHAMMAD A.) 24 June 2010 See the abstract, claims 1-10 and figures 1-15.</td>
<td>1-19</td>
</tr>
</tbody>
</table>

Further documents are listed in the continuation of Box C.

See patent family annex.

Date of the actual completion of the international search

30 MAY 2012 (30.05.2012)

Date of mailing of the international search report

30 MAY 2012 (30.05.2012)

Name and mailing address of the ISA/KR

Korean Intellectual Property Office
189 Cheongna-ro, Seo-gu, Daejeon Metropolitan City, 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

BOK, Jin Yo

Telephone No. 82-42-481-51 13

Form PCT/ISA/210 (second sheet) (July 2009)


<table>
<thead>
<tr>
<th>Patent document cited in search report</th>
<th>Publication date</th>
<th>Patent family member(s)</th>
<th>Publication date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>EP 1544737 A1</td>
<td>22.06.2005</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EP 1544737 B1</td>
<td>19.05.2010</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EP 1544738 A1</td>
<td>22.06.2005</td>
</tr>
<tr>
<td>US 2006-0048148 A1</td>
<td>02.03.2006</td>
<td>US 7681199 B2</td>
<td>16.03.2010</td>
</tr>
<tr>
<td>US 2010-0161948 A1</td>
<td>24.06.2010</td>
<td>CN 10 1627365 A</td>
<td>13.01.2010</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EP 2122461 A4</td>
<td>24.03.2010</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wo 2008-06 1154 A2</td>
<td>22.05.2008</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wo 2008-06 1154 A3</td>
<td>04.09.2008</td>
</tr>
</tbody>
</table>