MODEL CHECKING OF MULTI-THREADED SOFTWARE

Abstract: A technique for model checking of multi-threaded software is herein disclosed which advantageously can be used to verify correctness properties expressed using temporal logic, e.g., linear time temporal logic and branching time temporal logic. The model checking problem of a concurrent current system is decomposed into a plurality of model checking problems on individual threads of the multi-threaded software.
(88) Date of publication of the international search report:

22 November 2007

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

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(8): G06F 9/44 (2007.01)
USPC: 717/104

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(8): G06F 9/44 (2007.01)
USPC: 717/104

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

USPC: 717/104, 114, 120, 149; 712/220, 235, 241

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

Electronic databases: USPTO WEST (PGPB, USPT, EPAB, JPAB); DIALOG PRO; GOOGLE

Search Terms Used: model, thread, check, verify, correct, multi-thread, paradigm, pushdown, forward, backward, process, task, lock, logic, interaction, temporal, path, acceptance etc.

**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>
</table>

* Further documents are listed in the continuation of Box C.

**Date of the actual completion of the international search**

14 May 2007 (14.05.2007)

**Date of mailing of the international search report**

05 SEP 2007

**Name and mailing address of the ISA/US**

Mail Stop PCT, Attn: ISA/US, Commissioner for Patents
P.O. Box 1450, Alexandria, Virginia 22313-1450
Facsimile No. 571-273-3201

**Authorized officer:**

Lee W. Young

[Signature]

PCT Helpdesk: 571-272-4200
PCT OSP: 571-272-7774