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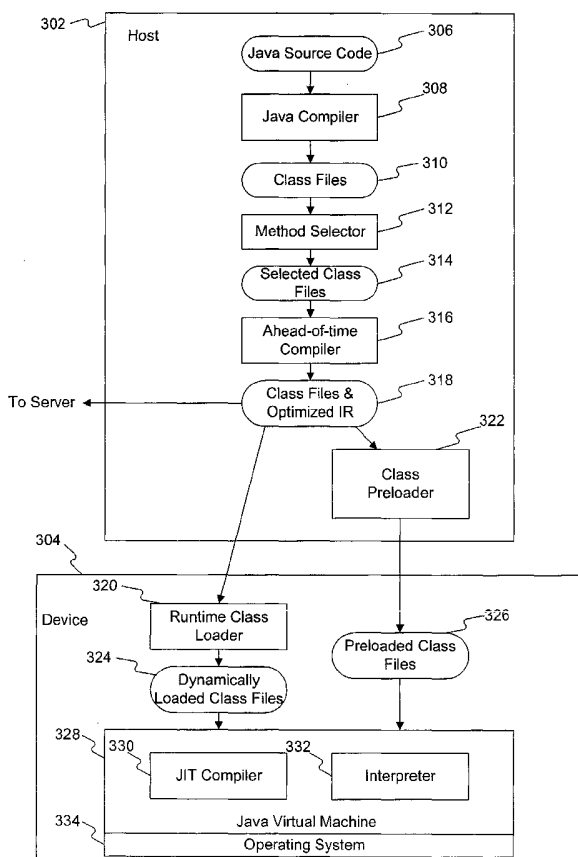
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[Continued on next page]

(54) Title: PLATFORM-INDEPENDENT SELECTIVE AHEAD-OF-TIME COMPILATION



(57) Abstract: Methods and systems for platform-independent selective ahead-of-time compilation are herein described. A method selector comprising a profiling tool and heuristic selects a subset of methods for ahead-of-time compilation. The profiling tool ranks a set of methods according to predetermined criteria, and the heuristic identifies the subset of methods from the set of methods. An ahead-of-time compiler comprises a first unit and a second unit. The first unit converts, for each selected method, bytecodes corresponding to the selected method to a platform-independent intermediate representation. The second unit optimizes the platform-independent intermediate representation of each selected method, wherein each optimized intermediate representation is stored with a corresponding selected method. A virtual machine on a device converts an optimized intermediate representation associated with a selected method loaded onto the device to platform-dependent machine code.

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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 7 G06F

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 practical, search terms used)

EPO-Internal, WPI Data, PAJ, INSPEC, COMPENDEX

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	EP 0 943 990 A (TEXAS INSTRUMENTS INC) 22 September 1999 (1999-09-22) page 3, line 19 - line 23 page 6, line 10 - line 12 page 6, line 15 - line 17 figure 1	1-66
Y	KASTNER W ET AL: "A new approach for Java in embedded networks" FACTORY COMMUNICATION SYSTEMS, 2000. PROCEEDINGS. 2000 IEEE INTERNATIONAL WORKSHOP ON PORTO, PORTUGAL 6-8 SEPT. 2000, PISCATAWAY, NJ, USA, IEEE, US, 6 September 2000 (2000-09-06), pages 19-26, XP010521791 ISBN: 0-7803-6500-3 page 24, right-hand column, line 21 -page 25, left-hand column, line 41	1-66

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>HSIEH C-H A ET AL: "Java bytecode to native code translation: the Caffeine prototype and preliminary results" PROCEEDINGS OF THE 29TH. ANNUAL IEEE/ACM INTERNATIONAL SYMPOSIUM ON MICROARCHITECTURE. MICRO-29. PARIS, DEC. 2 - 4, 1996, PROCEEDINGS OF THE ANNUAL IEEE/ACM INTERNATIONAL SYMPOSIUM ON MICROARCHITECTURE. (MICRO), LOS ALAMITOS, IEEE COMP. SOC. PRESS, U, vol. SYMP. 29, 2 December 1996 (1996-12-02), pages 90-97, XP010206088 ISBN: 0-8186-7641-8 page 91, right-hand column, line 18 - line 60 figure 1</p>	<p>1,2,16, 30-32, 34,45, 49,50, 59,65,66</p>
A	<p>ARNOLD M., HIND M., RYDER B.G.: "An Empirical Study of Selective Optimization" PROCEEDINGS OF THE INTERNATIONAL WORKSHOP ON LANGUAGES AND COMPILER FOR PARALLEL COMPUTING LCPC, 'Online! August 2000 (2000-08), XP002273265 Retrieved from the Internet: <URL:http://www.prolangs.rutgers.edu/refs/docs/lcpc00.ps> 'retrieved on 2004-03-11! page 1, line 7 - line 9 page 6, line 42 - line 44</p>	<p>1,2,16, 30-32, 34,45, 49,50, 59,65,66</p>

INTERNATIONAL SEARCH REPORT
Information on patent family members

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			JP 11296380 A	29-10-1999
			US 6412107 B1	25-06-2002
