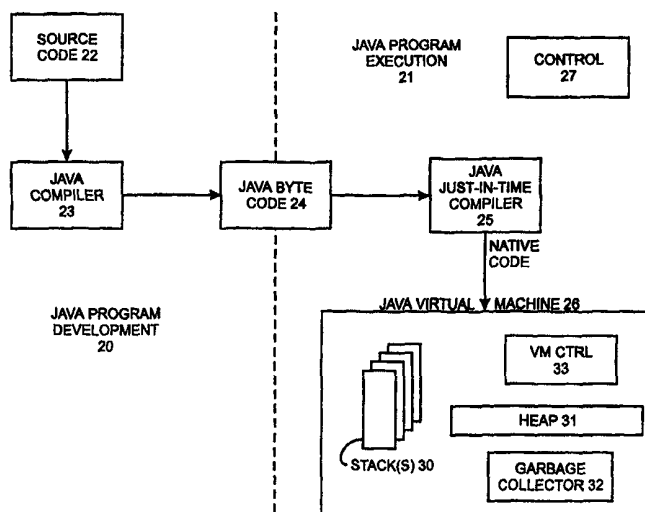




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(54) Title: SYSTEM AND METHOD FOR AUTOMATICALLY AND SELECTIVELY PROMOTING OBJECT VARIABLES TO METHOD FIELDS AND VARIABLES IN A DIGITAL COMPUTER SYSTEM



(57) Abstract

A code generating system generates, from code in a program, native code that is executable by a computer system. The computer system includes a memory subsystem including a heap in which objects are stored and a stack in which method variables are stored. The code generating system may be included in a just-in-time compiler used to generate native code that is executable by a computer system, from a program in Java Byte Code form, and specifically determines, in response to Java Byte Code representative of an operator for enabling instantiation of a new object, whether the object to be instantiated contains a variable to be used in processing of the received program code portion which can be promoted to a method variable, and, if so, generates native code to enable said variable to be instantiated on the stack.

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 99/23834

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G06F9/44 G06F9/45

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)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	ADL-TABATABAI A -R ET AL.: "FAST, EFFECTIVE CODE GENERATION IN A JUST-IN-TIME JAVA COMPILER" ACM SIGPLAN NOTICES, 'Online!' vol. 33, no. 5, May 1998 (1998-05), pages 280-290, XP000766277 ACM, NEW YORK, US ISSN: 0362-1340 ACM Digital Library Retrieved from the Internet: <URL:http://www.acm.org/pubs/articles/proceedings/pldi/277650/p280-adl-tabatabai/p280-adl-tabatabai.pdf> 'retrieved on 2000-03-31! page 285, right-hand column, line 21 -page 286, right-hand column, line 20 page 280, left-hand column, line 13 -page 281, left-hand column, line 6 abstract -/--	1-4, 6-11, 13-18, 20, 21

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Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 99/23834

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>BRUNO BLANCHET: "Escape analysis: correctness proof, implementation and experimental results" PROCEEDINGS OF THE 25TH ACM SIGPLAN-SIGACT SYMPOSIUM ON PRINCIPLES OF PROGRAMMING LANGUAGES POPL 98, SAN DIEGO, CA USA, 'Online! 19 - 21 January 1998, pages 25-37, XP002134656 ASM, USA ACM Digital Library Retrieved from the Internet: <URL:http://www.acm.org/pubs/articles/proceedings/plan/268946/p25-blanchet/p25-blanchet.pdf> 'retrieved on 2000-03-30! abstract page 32, right-hand column, line 1 -page 33, right-hand column, last line; figure 10; examples 5.1,5.2 -----</p>	1,8,15