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(54) **SYSTEM AND METHOD FOR IMPROVING THE MANAGEABILITY AND USABILITY OF A JAVA ENVIRONMENT**

(75) Inventors: **Andrew W. Spyker**, Raleigh, NC (US); **Matthew David Walnock**, Cary, NC (US)

(73) Assignee: **International Business Machines Corporation**, Armonk, NY (US)

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(52) **U.S. Cl.** **717/176**; 717/176; 709/106; 709/242

(58) **Field of Search** 711/11; 709/204, 709/106, 242; 717/168–178

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Primary Examiner—Gregory Morse
Assistant Examiner—Chuck Kendall
(74) Attorney, Agent, or Firm—Jeanine S. Ray-Yarletts; Marcia L. Doubet

(57) **ABSTRACT**

A method, system, and computer-readable code for improving the manageability and usability of a Java environment. The advantages of applets and applications are combined, while avoiding particular disadvantages of both, resulting in a technique whereby all Java programs are executed without relying on use of a browser to provide a run-time environment. Techniques for improving the packaging of Java components, including run-time environments and extensions as well as applications, are defined. Dependencies are specified in a manner which enables them to be dynamically located and installed, and enables sharing dependent modules (including run-time environments) among applications. The dependency specification technique ensures that all dependent code will be automatically available at run-time, without requiring a user to perform manual installation. The run-time environment required for an application is specified, and a technique is provided for dynamically changing the run-time that will be used (including the ability to change run-times on a per-program basis), without requiring user intervention.

33 Claims, 11 Drawing Sheets

FIG. 1

FIG. 2
(Prior Art)

FIG. 3

Start

300 Normal Build Process

305 Application JAR file

310 Jobbi Packager

Jobbi Packager

320 Specify fields of Jobbi properties (i.e. describe application dependencies, runtime requirements)

325 Create new Jobbi JAR file

315 Jobbi JAR file

330 Application JAR (unaltered)

335 Jobbi Properties File

End
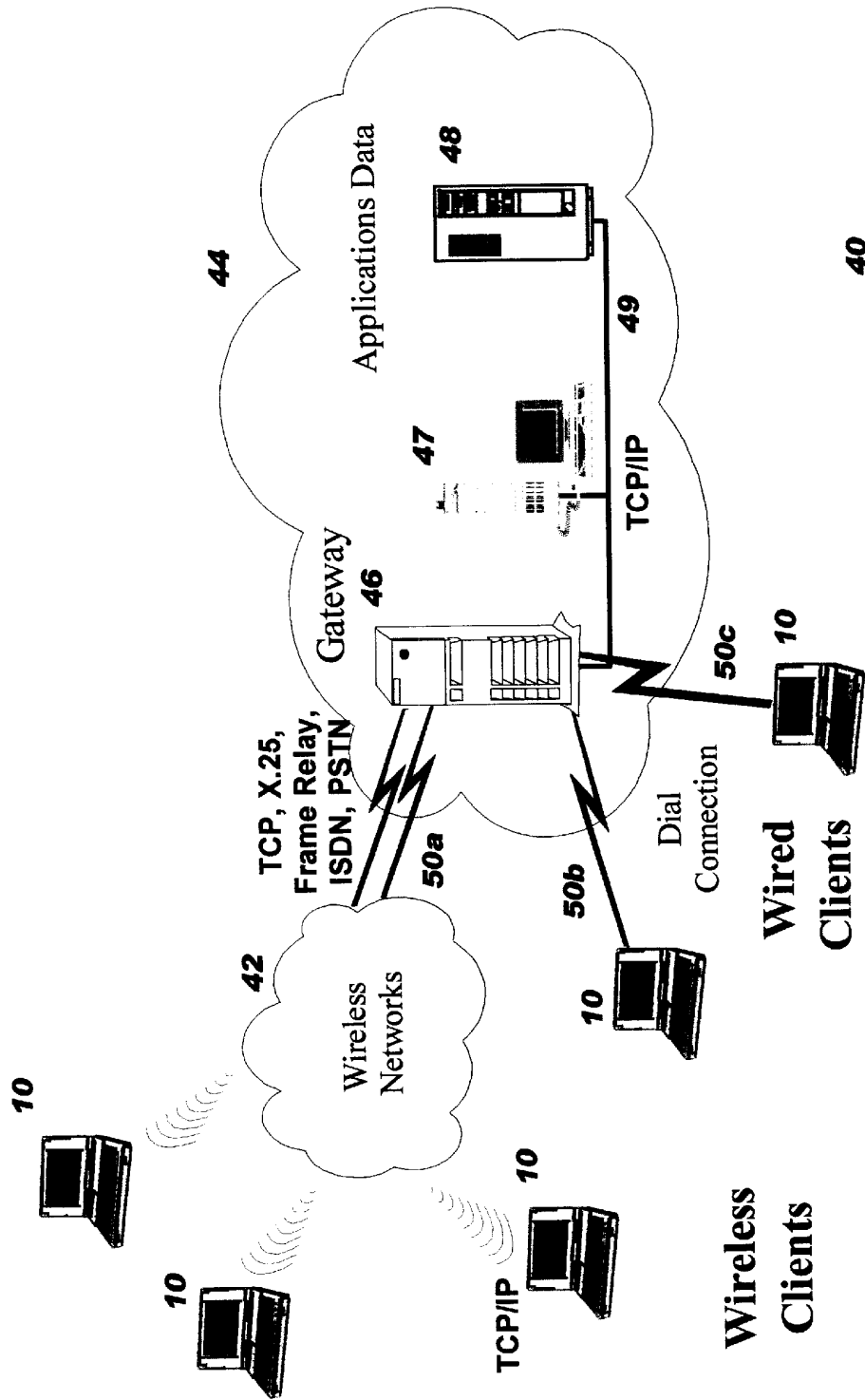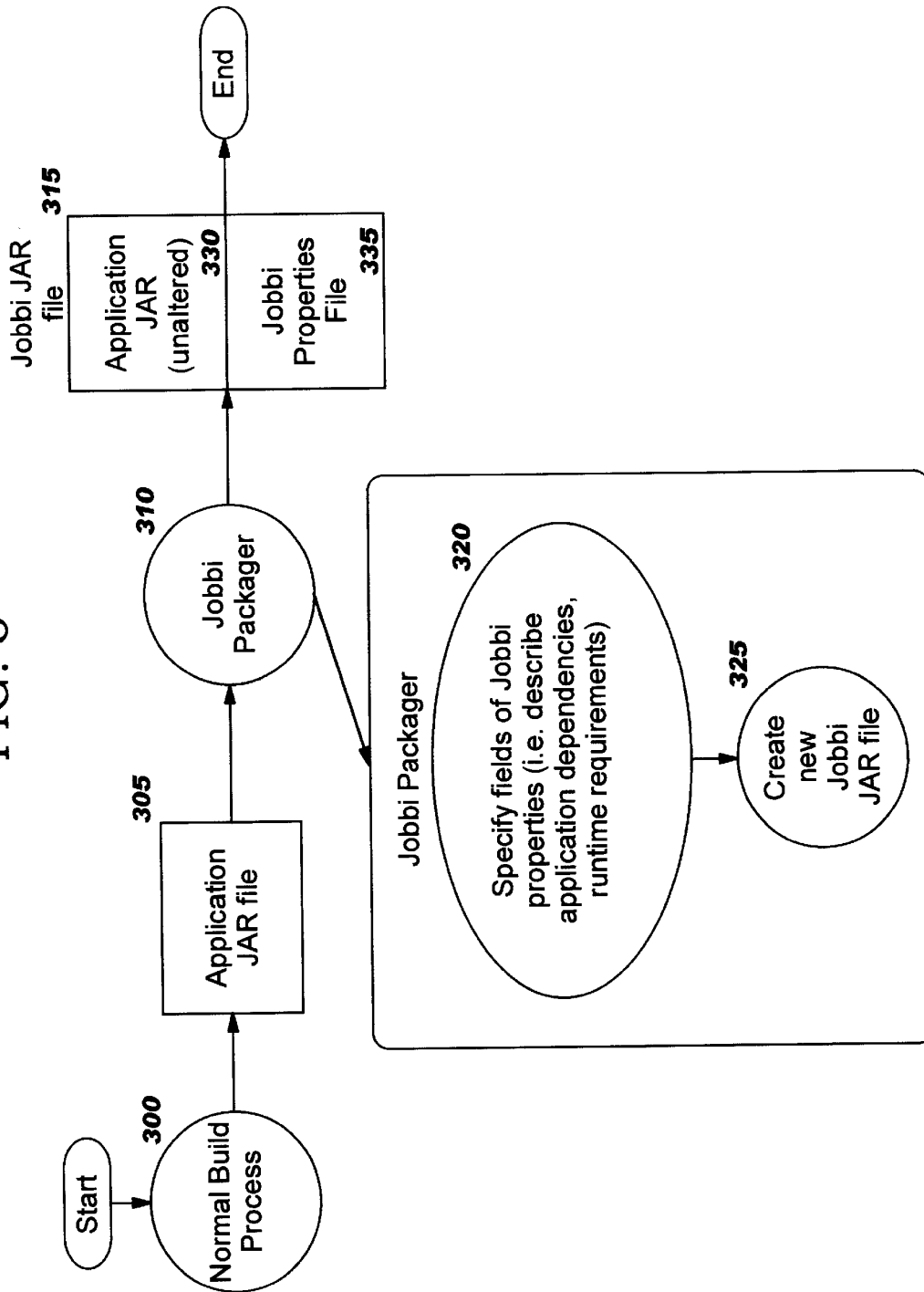
400   FIG. 4A
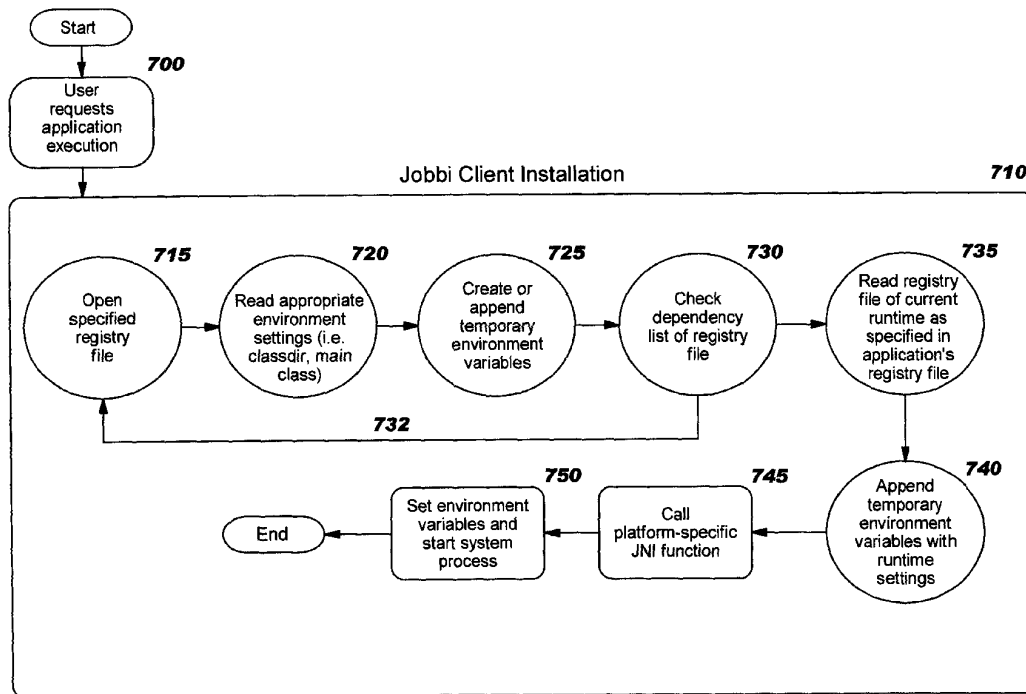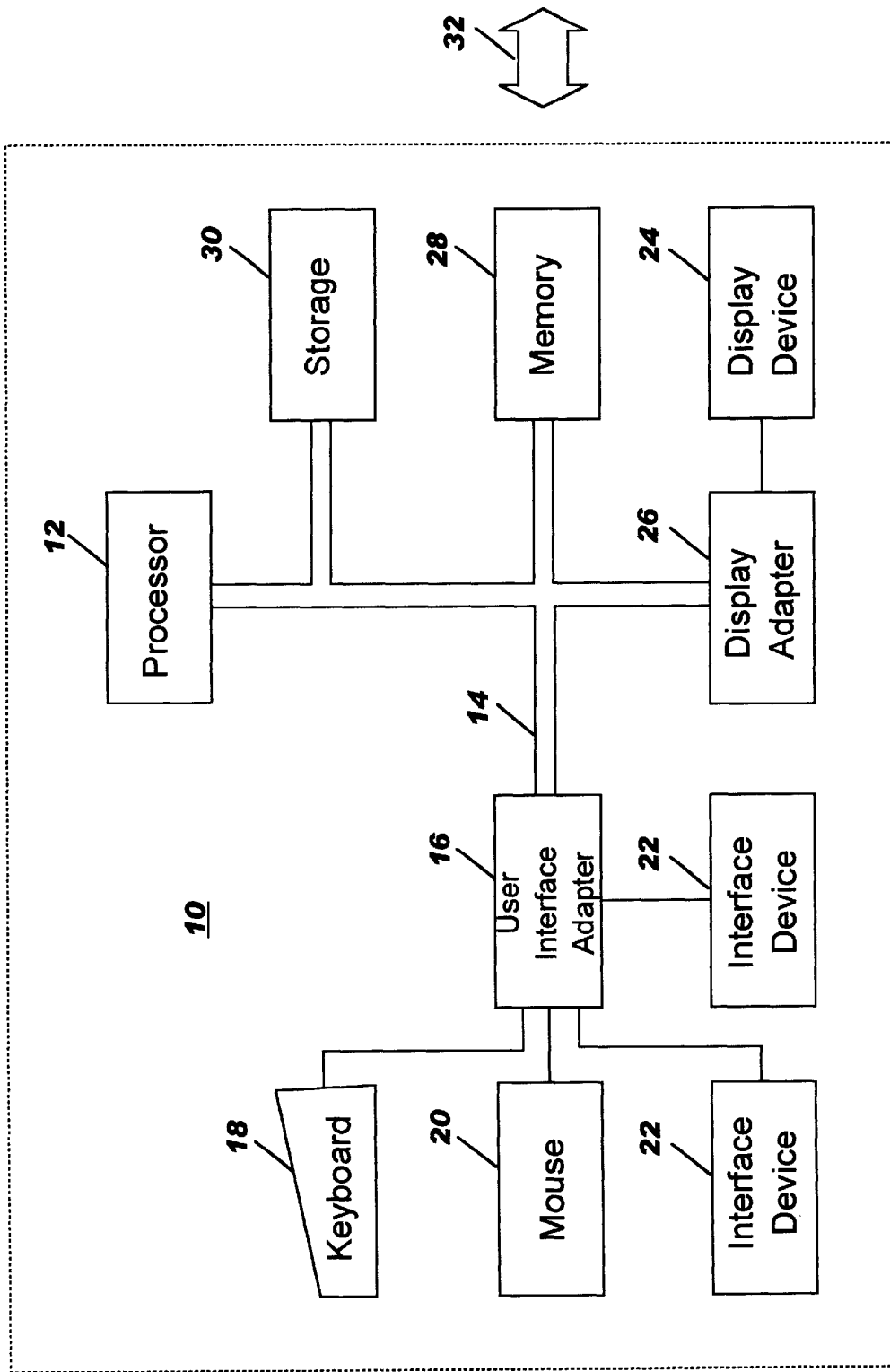
405 Property Key - displayname
Displayname

408 Property Key - displayicon
Display icon

410 Property Key - version
Comma separated list in form of Major.Minor.Rev.Build version information

415 Property Key - jobbitype
Either application, runtime, or extension
application - Can be added to the jobbi desktop
runtime - Can be added to the list of runtimes
extension - Can be added to the list of extensions

420 Property Key - jobbilocationtype
Either URL | file | jobbi-lookup-server
URL - the jobbi archive is located at the URL specified in jobbilocation
file - the jobbi archive is contained in a file name specified in jobbilocation
jobbi-lookup-server - goes to the jobbi-server and looks up the location information

425 Property Key - jobbilocation
Either a URL, filename, prompt, or '.'
URL - URL pointing to jobbi archive
filename - presents the user with a file chooser box specifying the name of the jobbi archive
428   prompt - presents the user with a dialog that either lets the user put in a URL or filename
'.' - use of this syntax indicates that the jobbi archive is contained within the current archive

430 Property Key - nativecode
Either true or false
true - jobbi archive contains native code
false - jobbi archive does not contain native code

435 Property Key - nativecodeplatform
One of the strings of the jobbi supported platforms
Empty if nativecode is false

440 Property Key - dependencies
Comma separated list of UID's that this package depends on
Empty if there are no dependencies for this jobbi package

445 Property Key - main
Java class name of class containing the main() function. This field is only specified if
jobbitype = application

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