US006131166A

United States Patent [19]

Wong-Insley

[11] **Patent Number: 6,131,166**

[45] **Date of Patent: Oct. 10, 2000**

[54] **SYSTEM AND METHOD FOR CROSS-PLATFORM APPLICATION LEVEL POWER MANAGEMENT**

[75] Inventor: **Becky Wong-Insley**, Sunnyvale, Calif.

[73] Assignee: **Sun Microsystems, Inc.**, Palo Alto, Calif.

[21] Appl. No.: **09/256,826**

[22] Filed: **Feb. 24, 1999**

Related U.S. Application Data

[63] Continuation of application No. 09/042,211, Mar. 13, 1998.

[51] **Int. Cl.**[7] **G06F 1/26**

[52] **U.S. Cl.** **713/300**; 713/320; 713/330; 709/302

[58] **Field of Search** 713/300, 320, 713/330, 201; 709/1, 101, 100, 302; 706/45; 707/10; 717/1, 4; 379/10

[56] **References Cited**

U.S. PATENT DOCUMENTS

5,675,814	10/1997	Pearce	713/300
5,696,952	12/1997	Fontarelli	713/600
5,845,140	12/1998	Stanley et al.	713/322
5,953,536	9/1999	Nowlin, Jr.	713/323
5,978,923	11/1999	Kou	713/323

OTHER PUBLICATIONS

"Advanced Configuration and Power Interface," ACPI—PC Webopaedia Definition and Links, http://webopedia.internet.com/TERM/A/A/ACPI.html, Dec. 22, 1998, pp. 1–2.

"1.6 ACPI Specification and the Structure of ACPI," ACPI—http://www.teleport.com/~acpi/acpihtml/topic7.htm, Dec. 28, 1998, pp. 1–2.

"3.1 System Power Mangement," ACPI—http://www.teleport.com/~acpi?acpihtml.topic23.htm, Dec. 28, 1998, pp. 1.

"OnNow Power Management Architecture for Applications," Microsoft OnNow Design Initiative White Paper, 1996–1997 Microsoft Corportation, pp. 1–19.

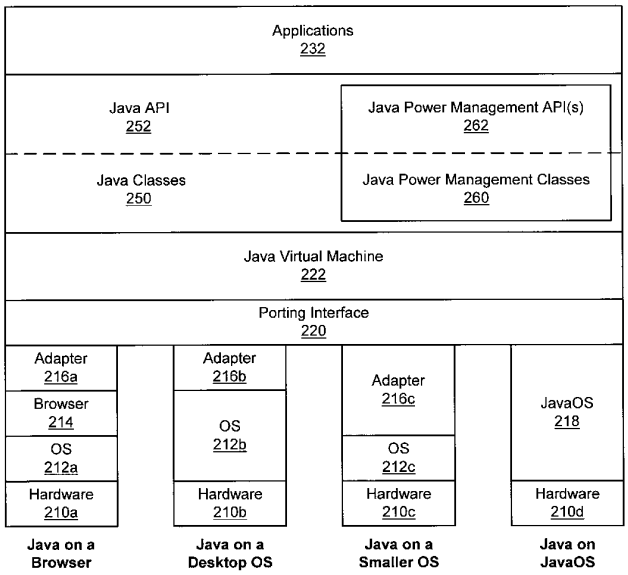
Primary Examiner—Ario Etienne

Attorney, Agent, or Firm—Conley, Rose & Tayon P.C.; B. Noel Kivlin

[57] **ABSTRACT**

A framework for the development of applications which manage the power resources and power states of power-manageable computer systems and attached devices. In one embodiment, the power management framework comprises a plurality of Java™ programming interfaces (APIs) which are part of the Java™ Platform. Therefore, the same framework is configured to enable the same power-aware Java™ applications to execute on many different computing platforms, operating systems, and computer hardware. The programming interfaces comprise a system-level programming interface, a notification programming interface, an exception programming interface, and a device-level programming interface. The system-level programming interface permits Java™ applications to obtain a current system power state and, with the proper privilege, to influence the current system power state. The notification programming interface permits Java™ applications to be notified regarding transitions from one system power state to another system power state. The exception programming interface permits Java™ applications to be notified regarding errors in power management. The device-level programming interface permits Java™ applications to obtain a current device power state and, with the proper privilege, to influence the current device power state. The power management framework defines a plurality of standardized system power states, standardized device power states, and power state transitions.

42 Claims, 6 Drawing Sheets



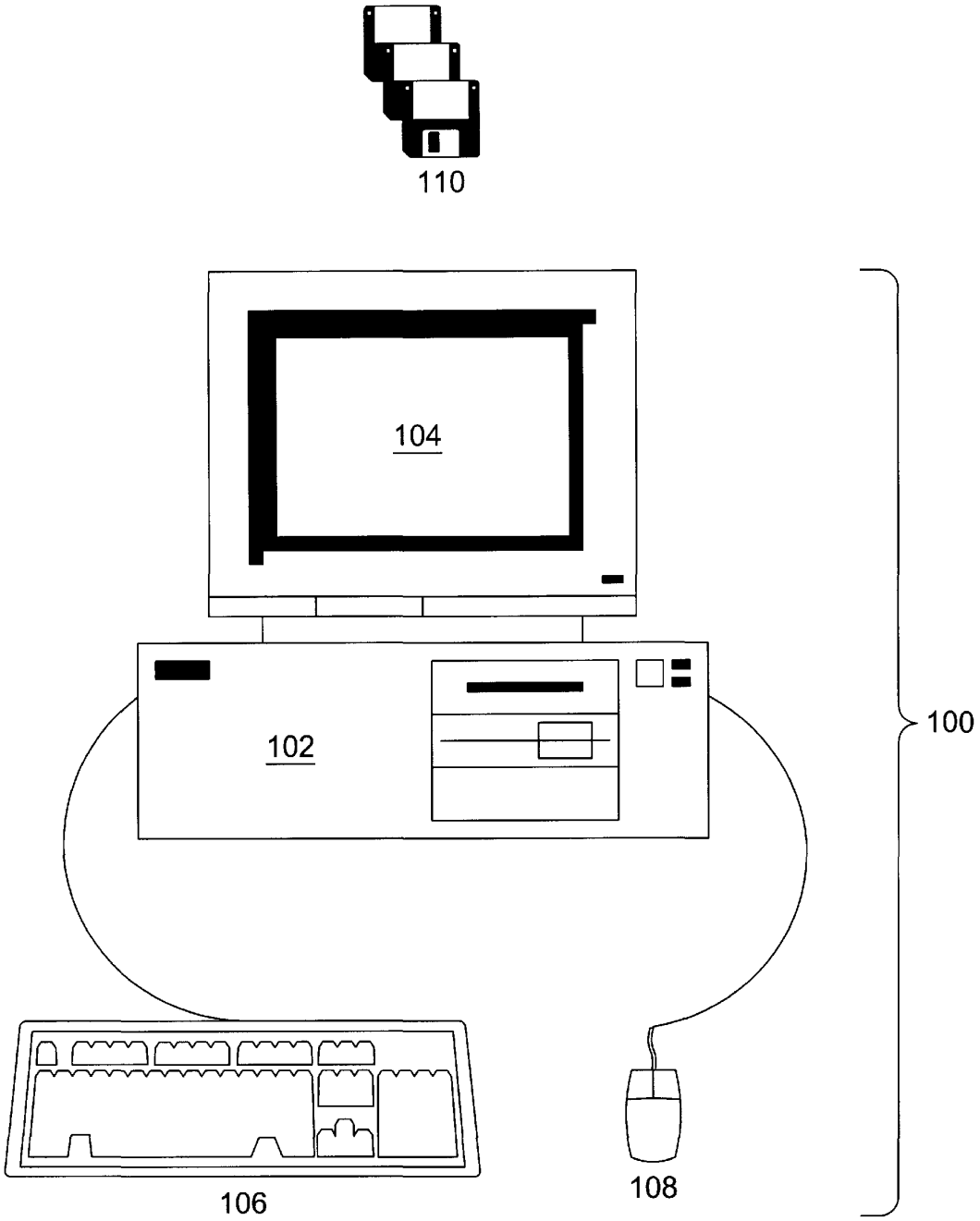


FIG. 1 (PRIOR ART)

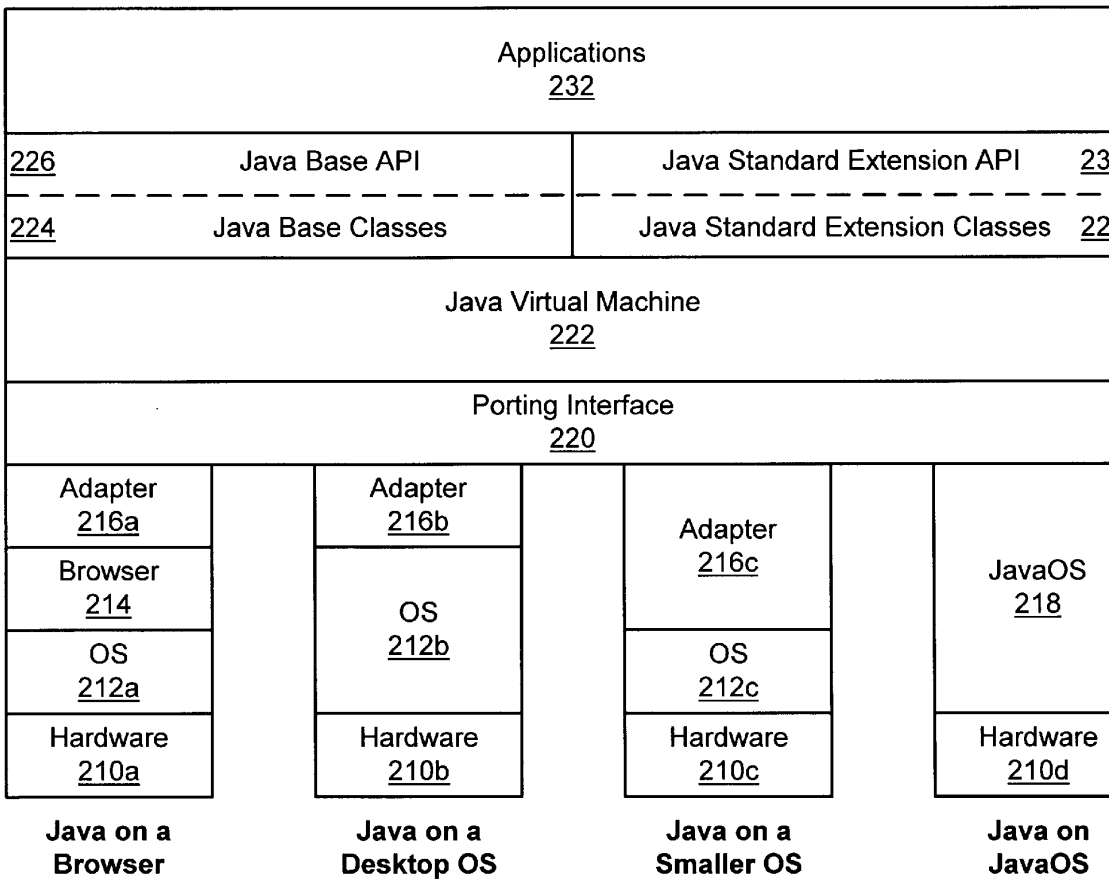
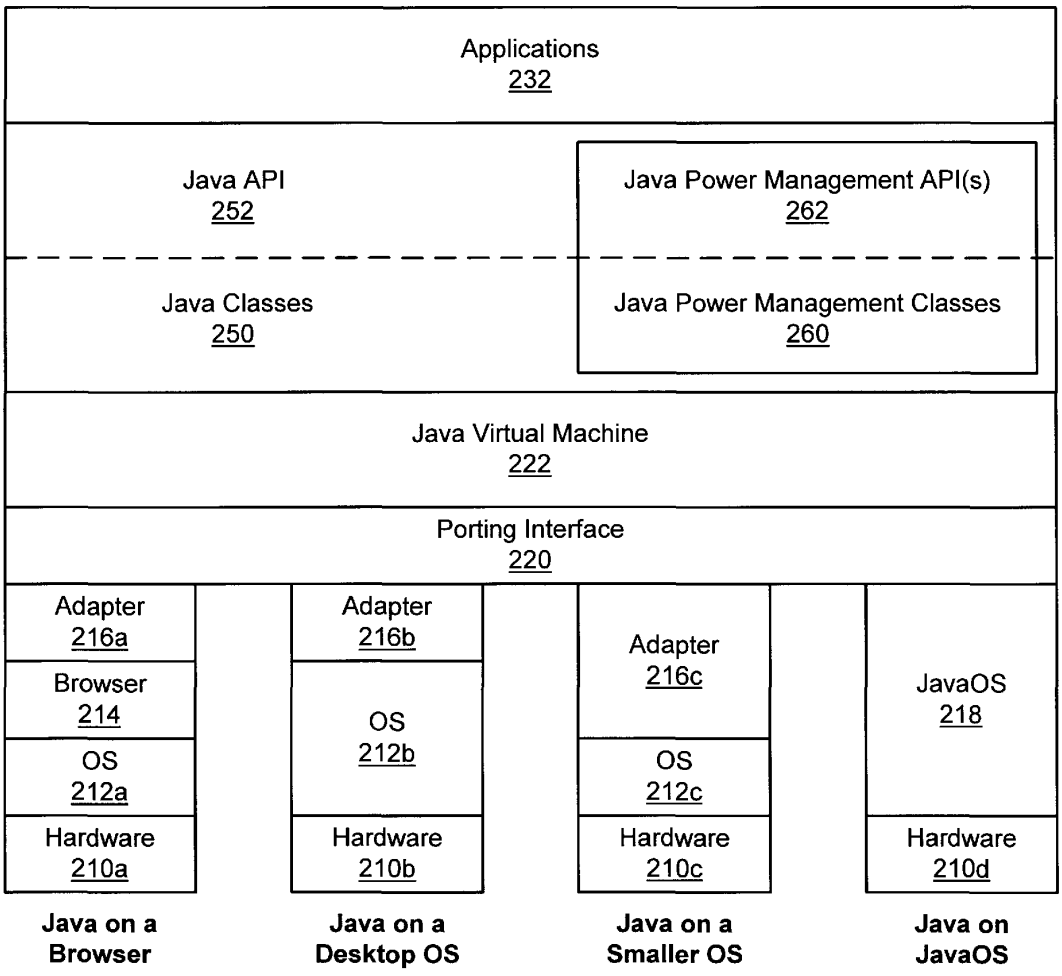


FIG. 2 (PRIOR ART)



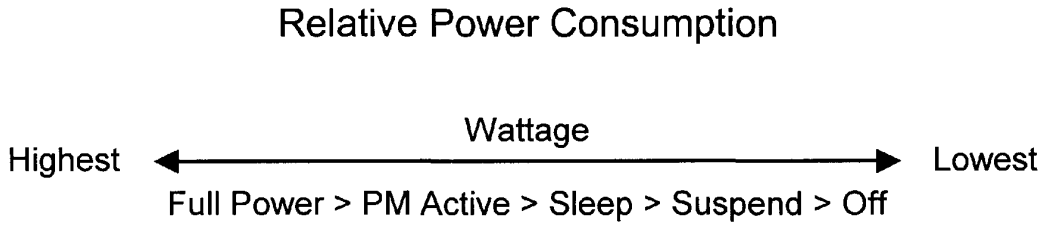


FIG. 4

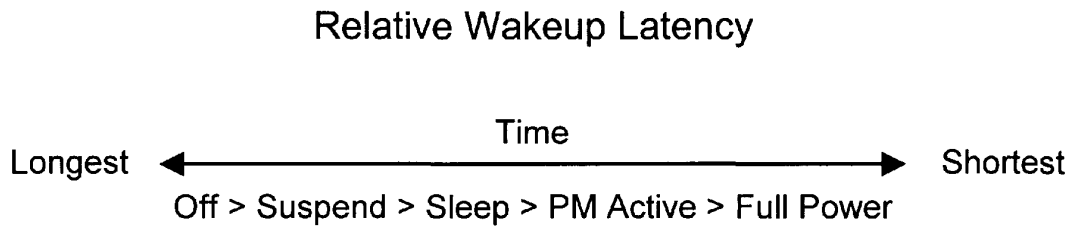


FIG. 5

DOCKET ALARM

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts

Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research

With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips

Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS
Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS
Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS
Sync your system to PACER to automate legal marketing.