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**United States Patent** [19]  
**Wong-Insley**

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[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.<sup>7</sup>** ..... **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

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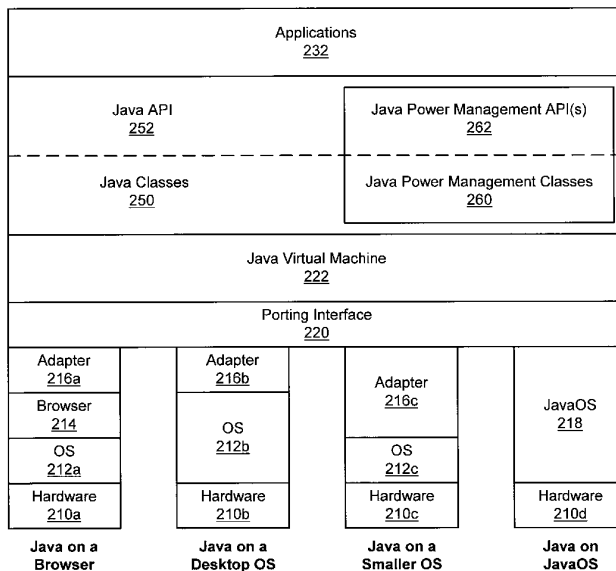
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[57] **ABSTRACT**

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**



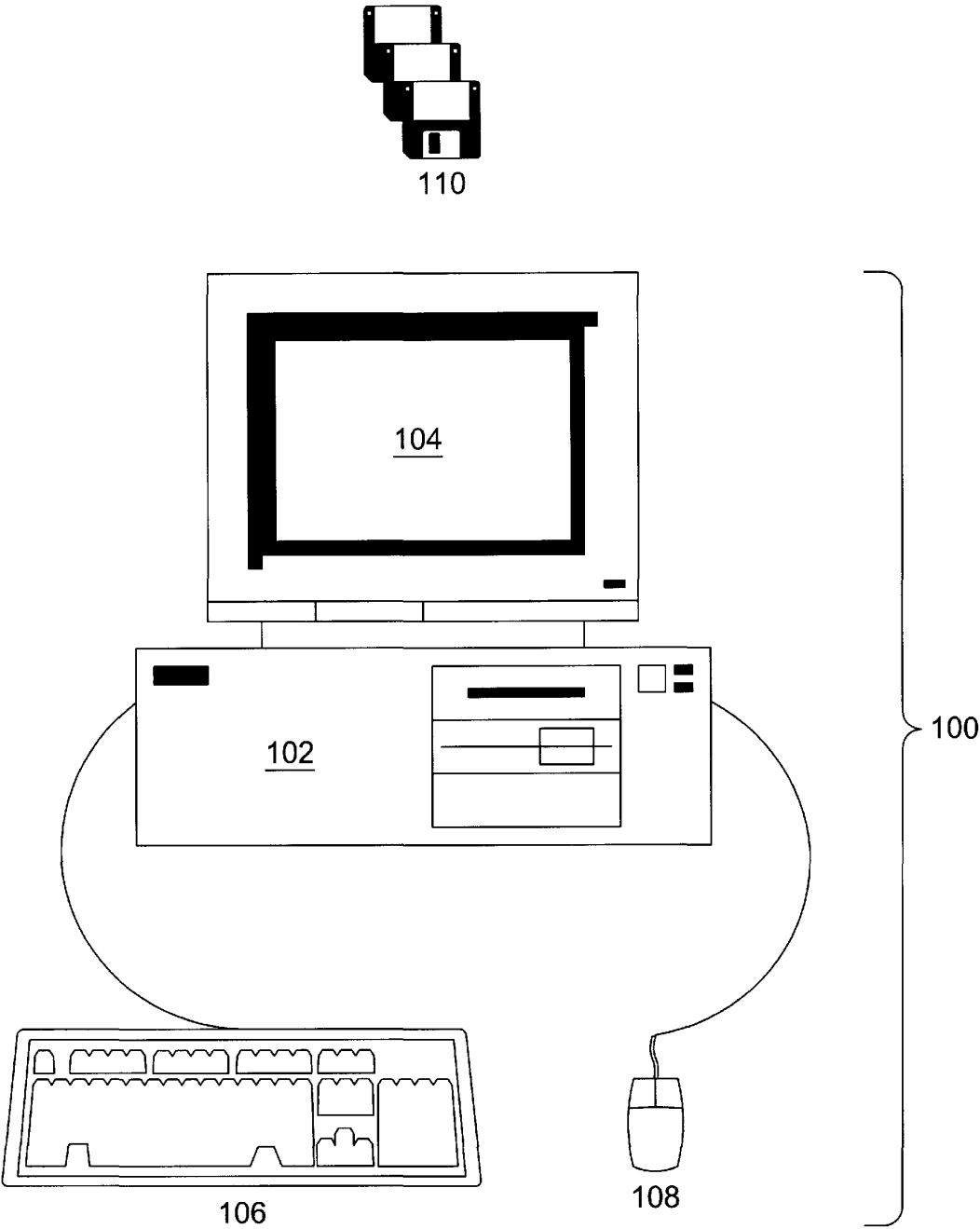


FIG. 1 (PRIOR ART)

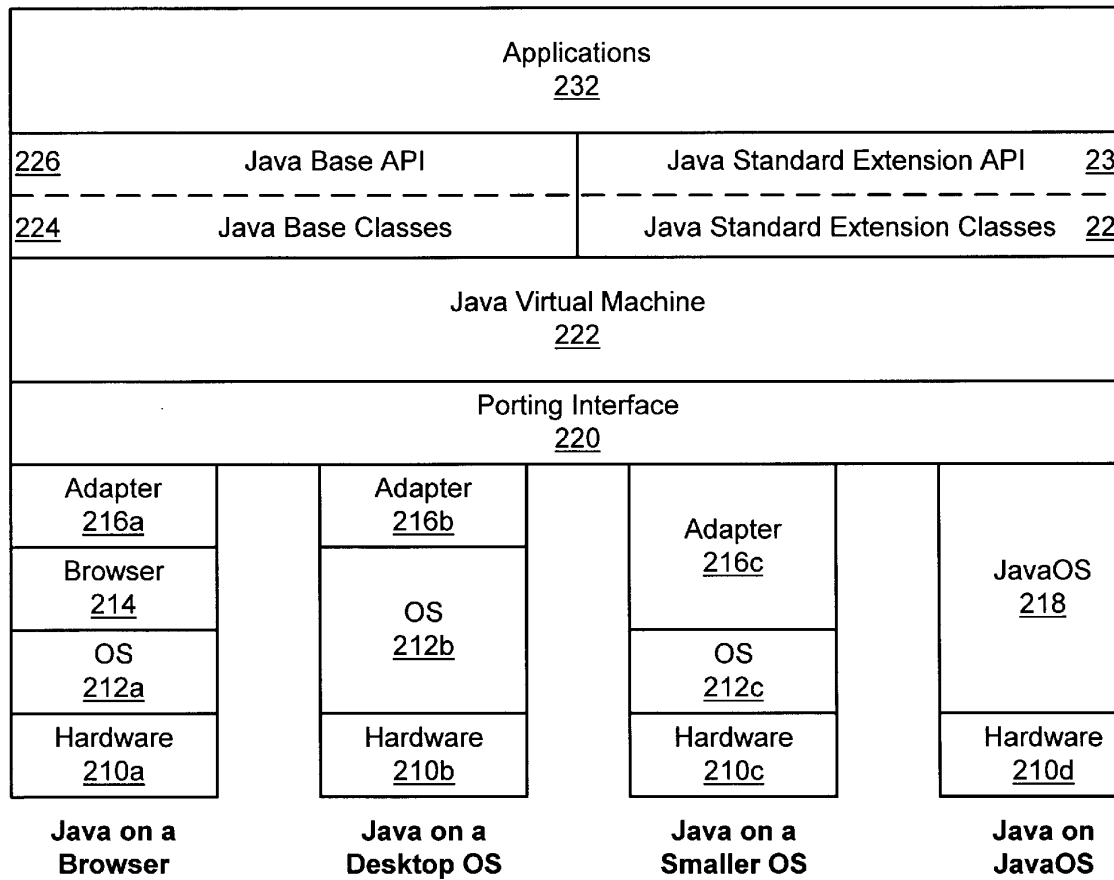
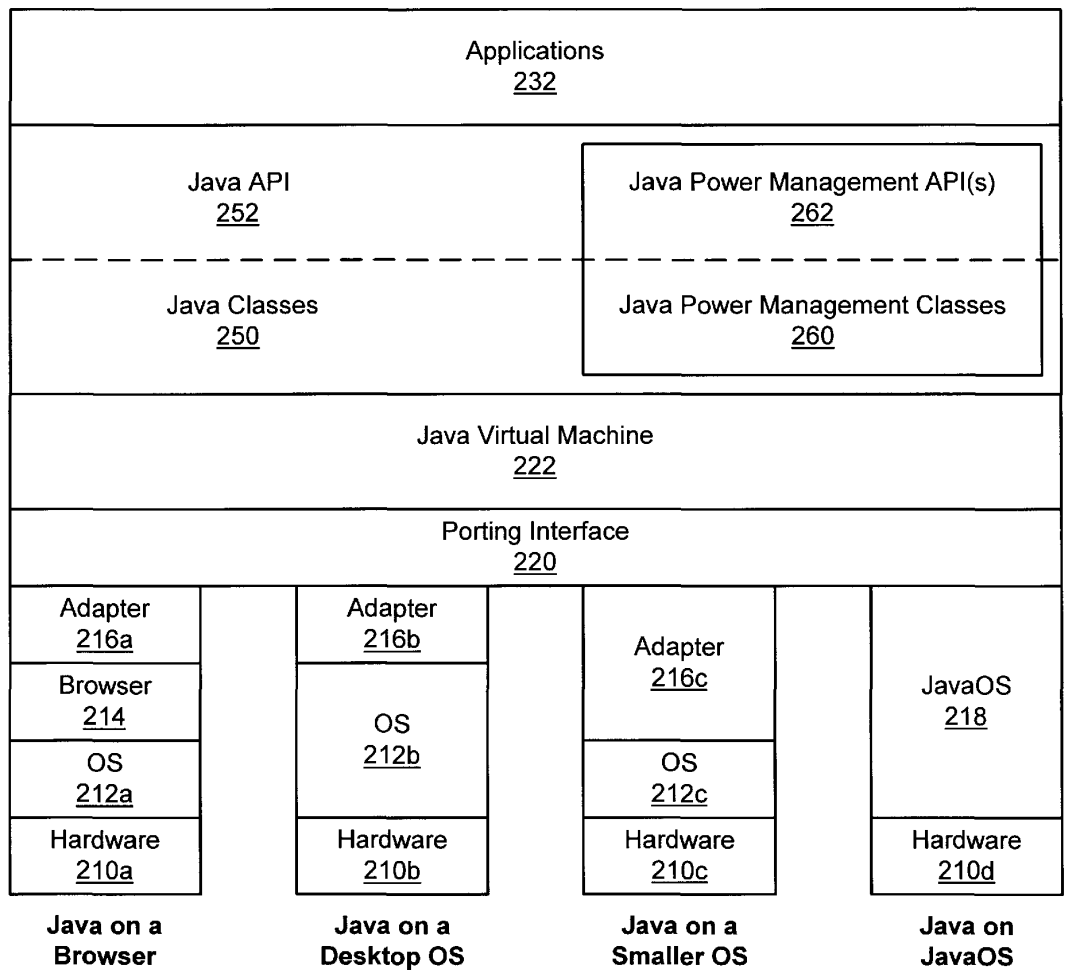


FIG. 2 (PRIOR ART)



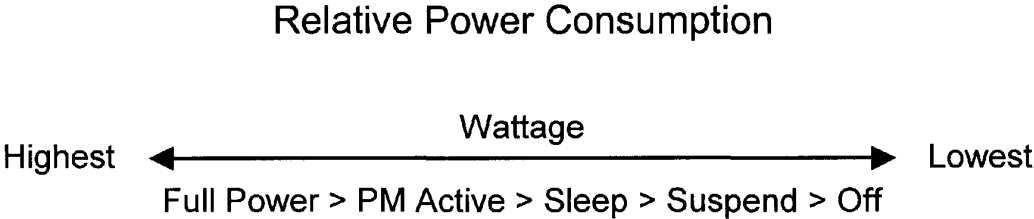


FIG. 4

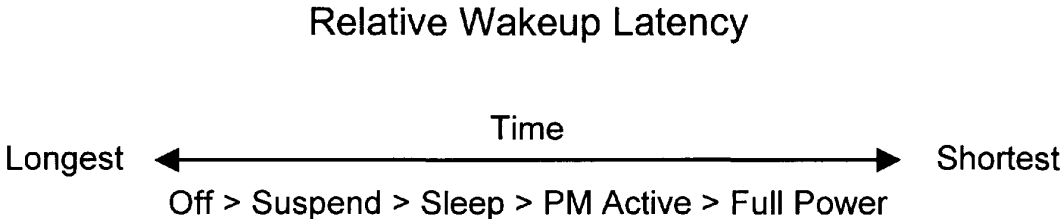


FIG. 5

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