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United States Patent [19]

Erickson et al.

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[54] **METHOD FOR PERFORMING SEQUENCE OF ACTIONS IN DEVICE CONNECTED TO COMPUTER IN RESPONSE TO SPECIFIED VALUES BEING WRITTEN INTO SNOOPED SUB PORTIONS OF ADDRESS SPACE**

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[21] Appl. No.: **577,678**

[22] Filed: **Dec. 21, 1995**

[51] **Int. Cl.**[6] **G06F 15/02**

[52] **U.S. Cl.** **395/829**

[58] **Field of Search** 395/821, 823, 395/829, 832, 846, 882, 284, 309, 500, 473

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[57] **ABSTRACT**

A method of controlling an input/output (I/O) device connected to a computer to facilitate fast I/O data transfers. An address space for the I/O device is created in the virtual memory of the computer, wherein the address space comprises virtual registers that are used to directly control the I/O device. In essence, control registers and/or memory of the I/O device are mapped into the virtual address space, and the virtual address space is backed by control registers and/or memory on the I/O device. Thereafter, the I/O device detects writes to the address space. As a result, a pre-defined sequence of actions can be triggered in the I/O device by programming specified values into the data written into the mapped virtual address space.

19 Claims, 7 Drawing Sheets

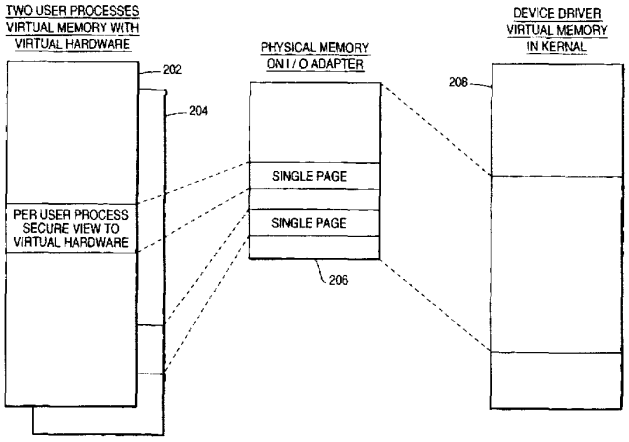


FIG. 1

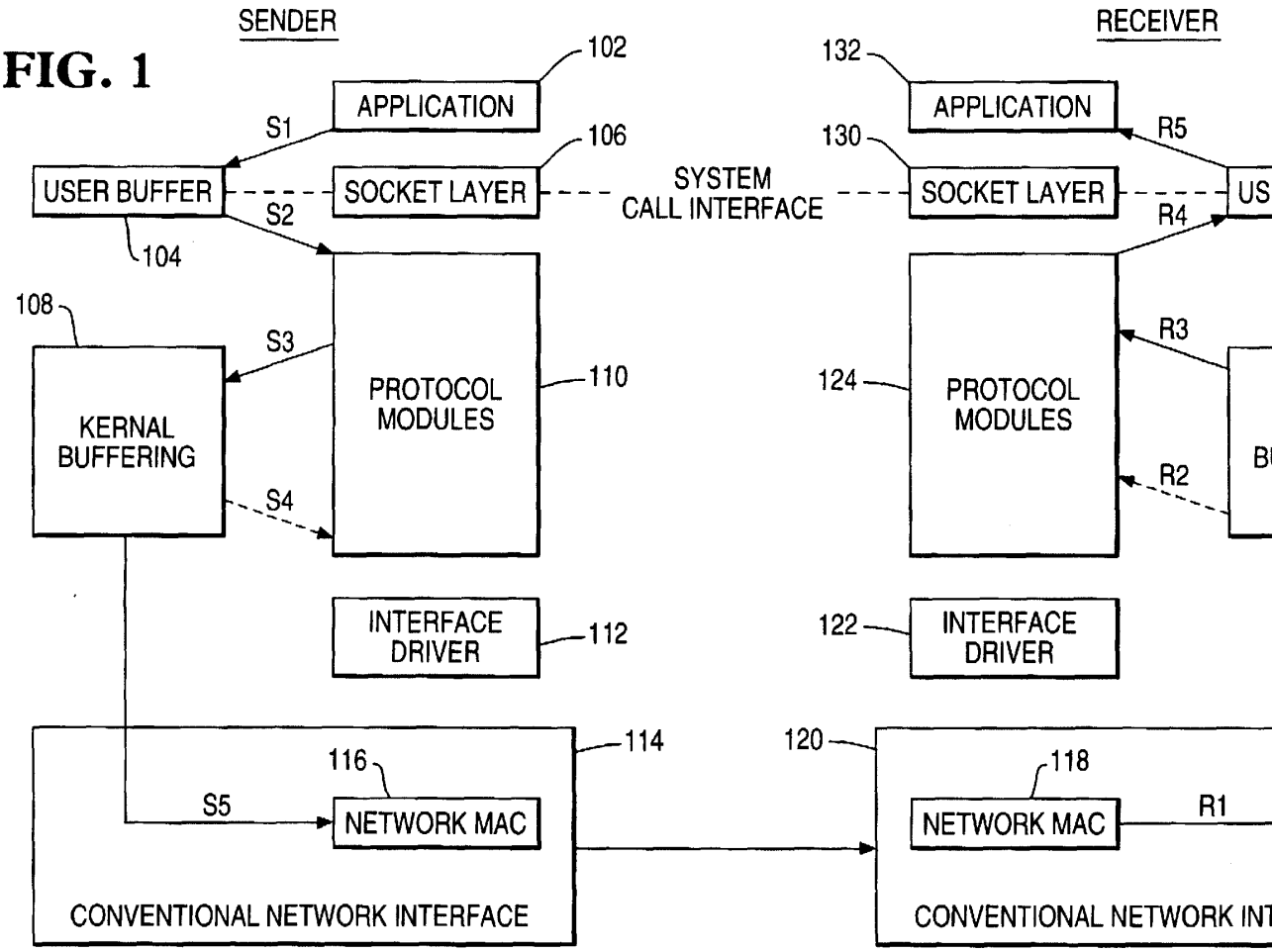


FIG. 2

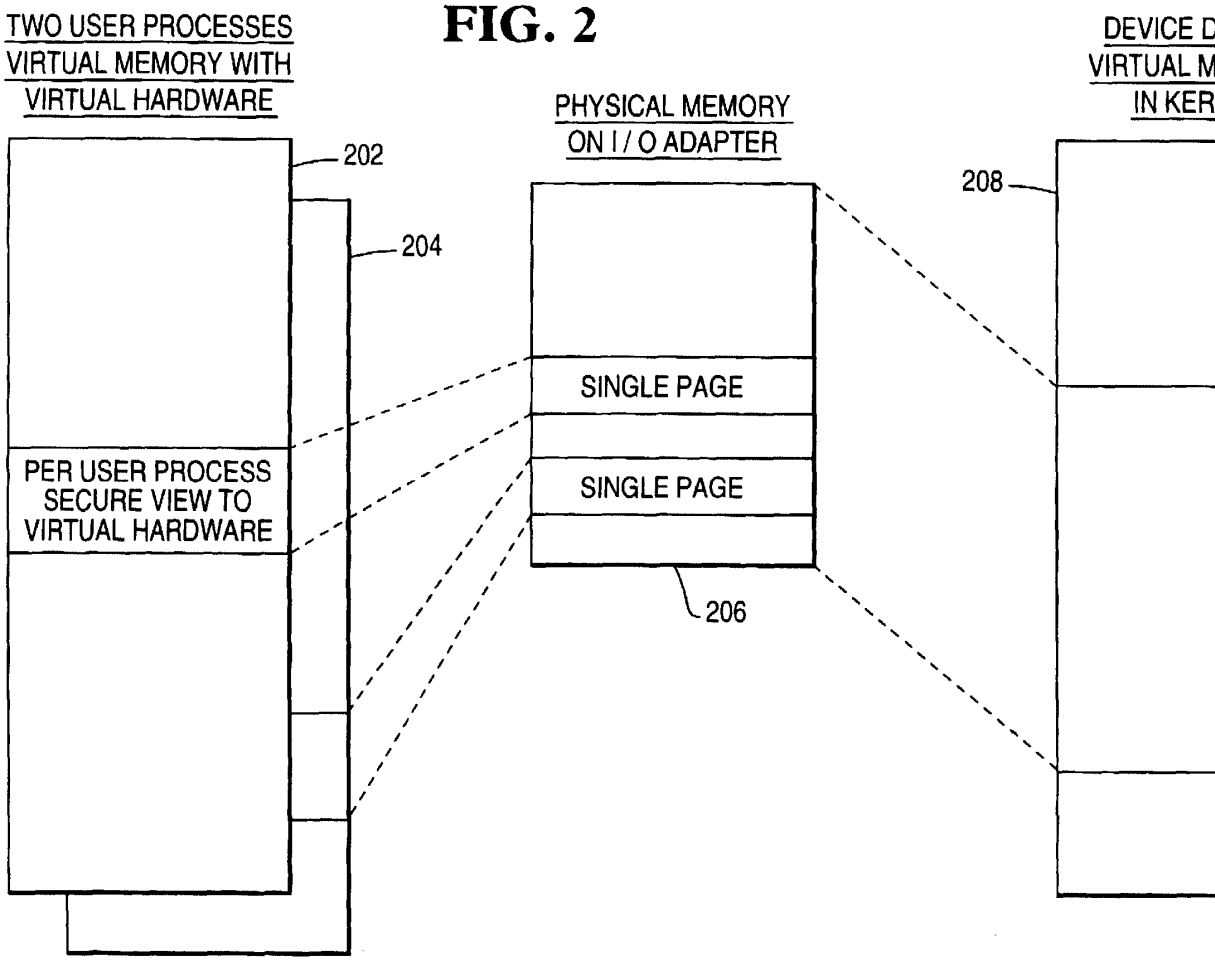


FIG. 3

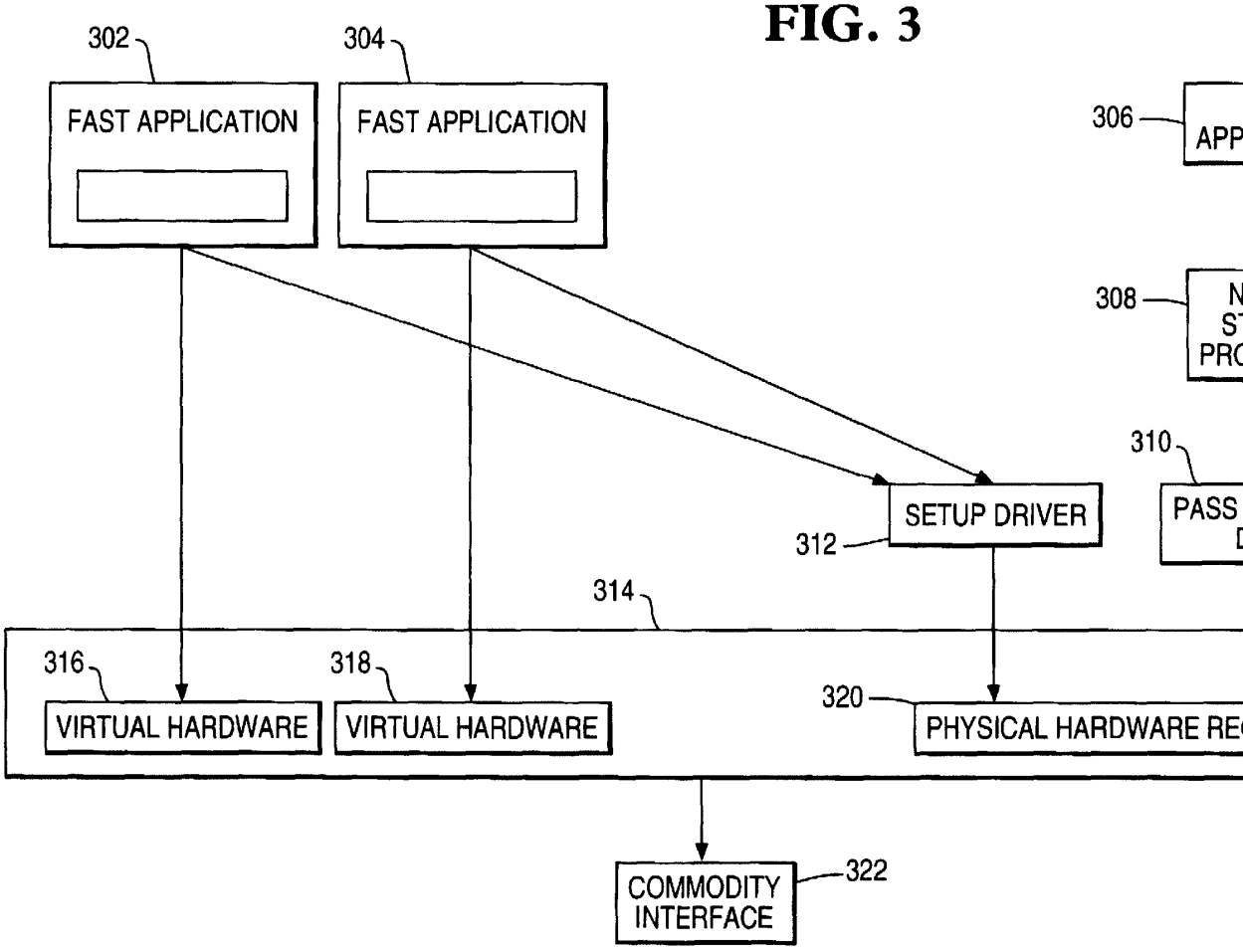
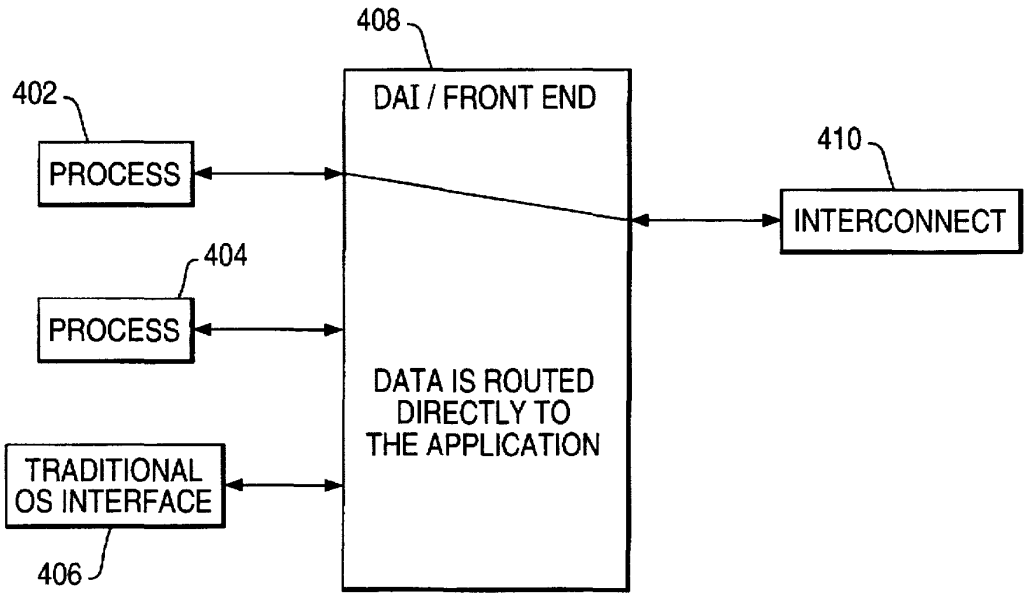


FIG. 4



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