ABSTRACT

VIRTUAL INPUT/OUTPUT PROCESSOR

A virtual I/O processor (VIOP) is implemented using a programmed I/O (PIO) unit. The PIO unit is complemented by a VIOP interrupt, a VIOP interrupt handler, and a number of VIOP data structures. Preferably, the PIO unit is further complemented with a set of dedicated I/O global registers, a number of VIOP library read/write routines for various I/O device types, and non-blocking read and write operations. During execution, these elements cooperate with each other to perform multiple sequences of programmed I/Os as if they were being performed by a dedicated I/O processor.

(Fig. 2A)