ABSTRACT OF THE DISCLOSURE

Provided are a memory controller and an application processor (AP) for controlling utilization and performance of an input/output (I/O) device and a method of operating the memory controller. The memory controller includes an address translator configured to translate a first address received from a host processor into a second address indicating a memory address based on an address translation scheme selected from a plurality of address translation schemes based on memory resource utilization; and an evaluation module configured to evaluate the memory resource utilization of each of the plurality of address translation schemes based on a plurality of memory addresses generated based on each of the plurality of address translation schemes.

FIG. 1