

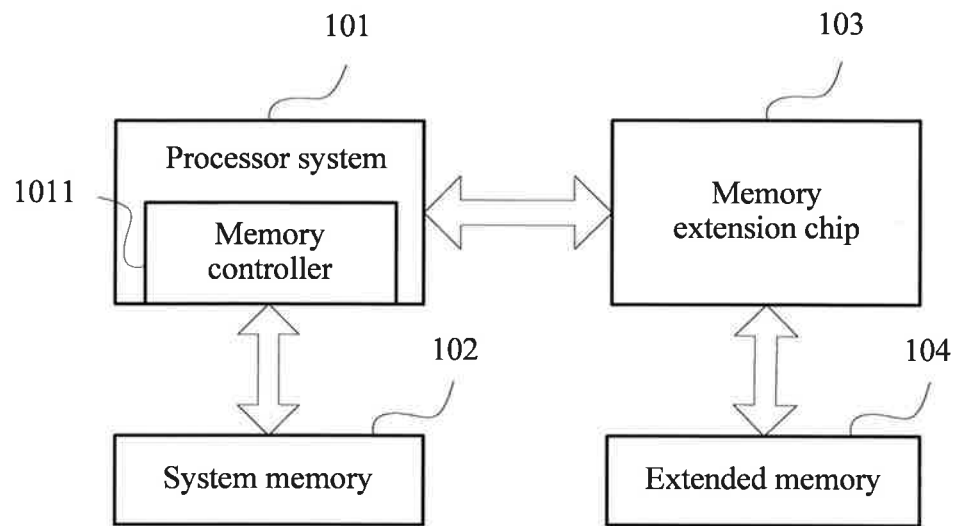


FIG. 1

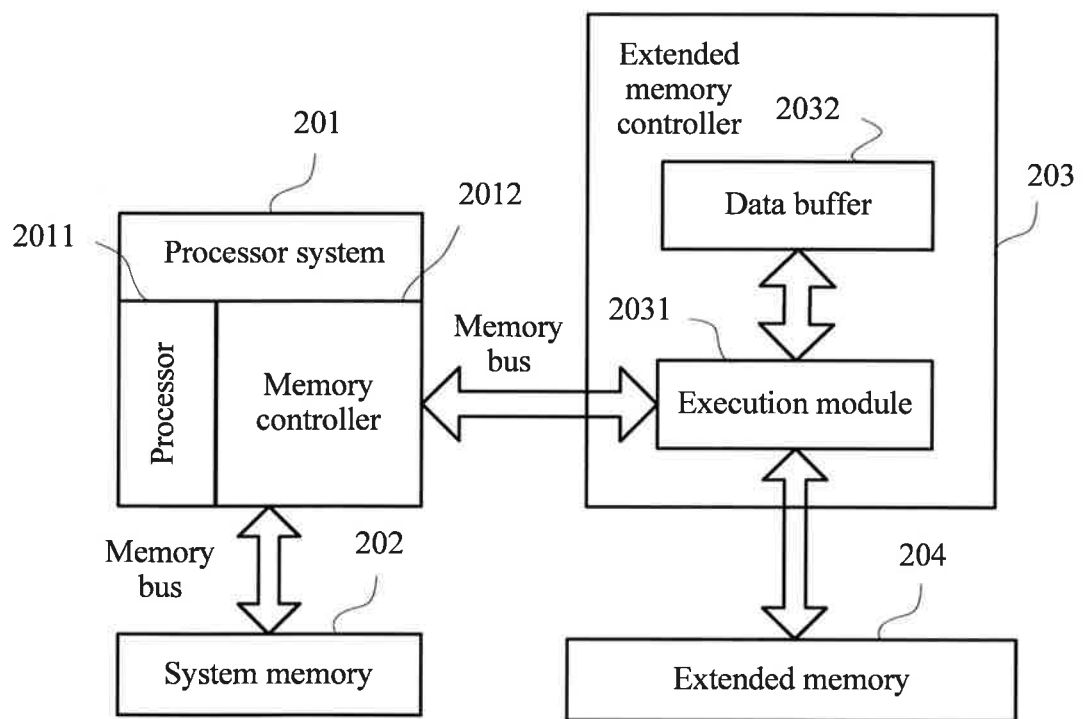


FIG. 2

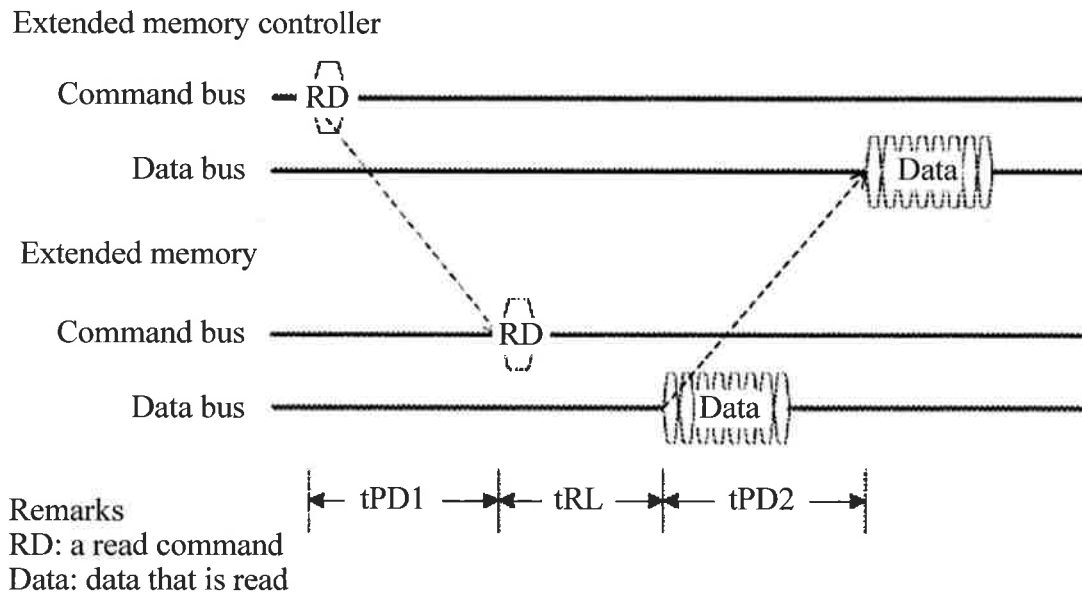
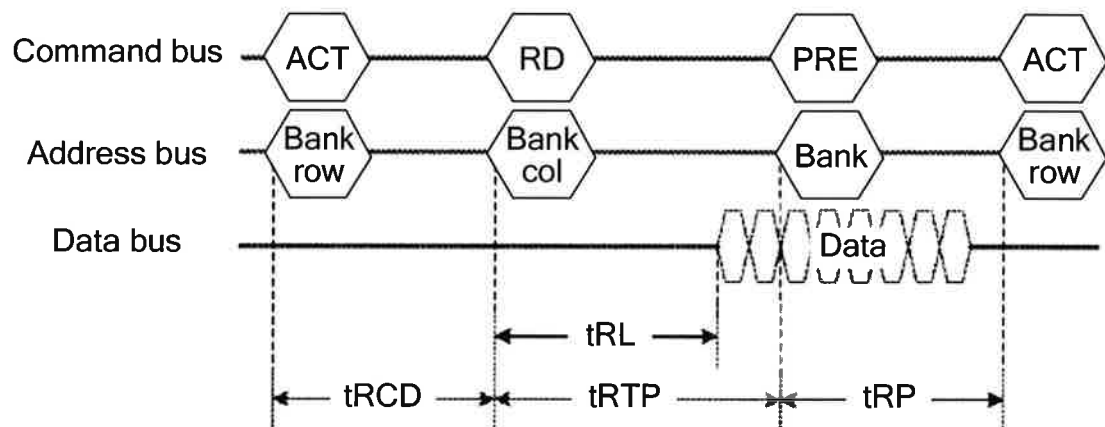


FIG. 3



Remarks:

ACT: activate, an activate instruction;

RD: a read instruction, a read data instruction;

PRE: a pre-charge instruction, a pre-charge instruction;

Bank row: a bank address and a row address;

Bank col: a bank address and a column address;

Bank: a bank address

FIG. 4

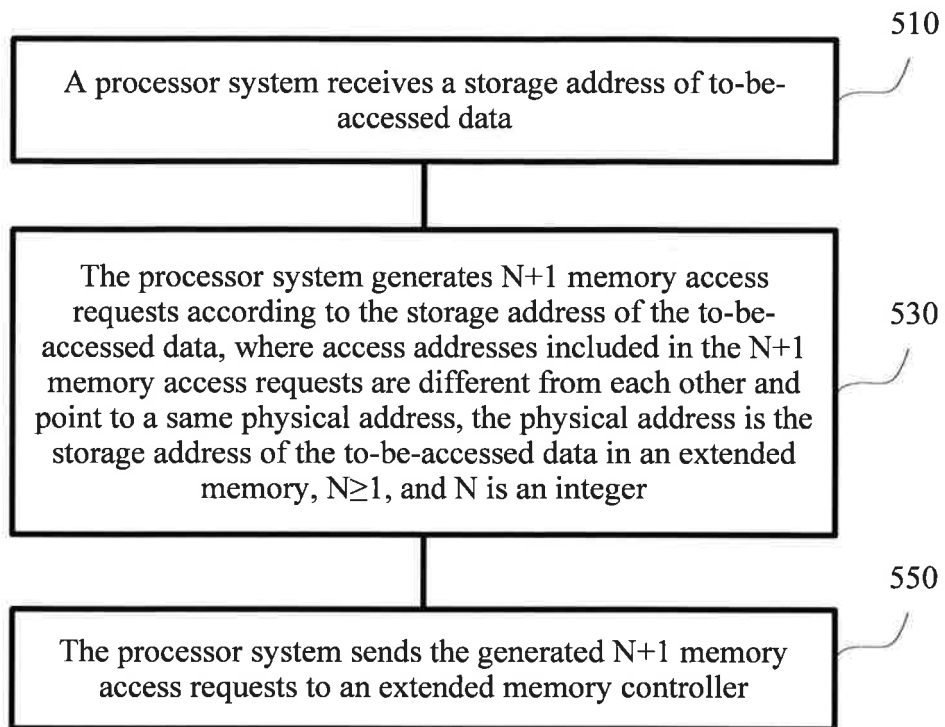


FIG. 5A

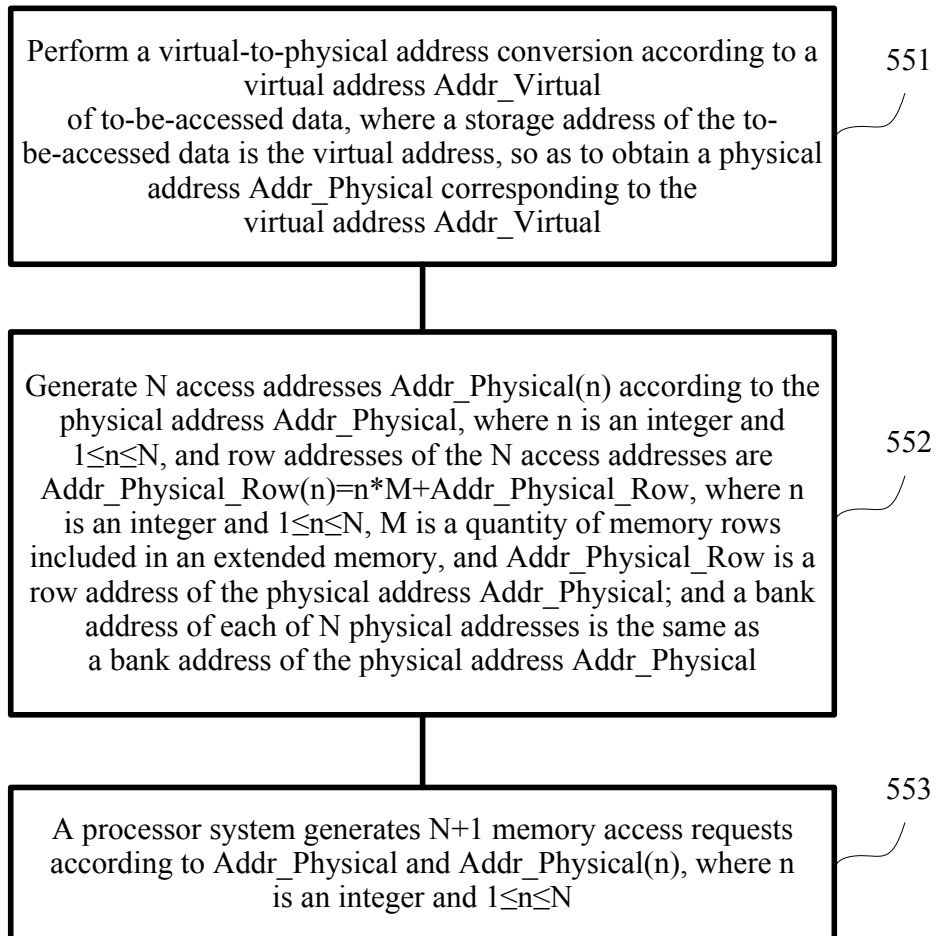


FIG. 5B

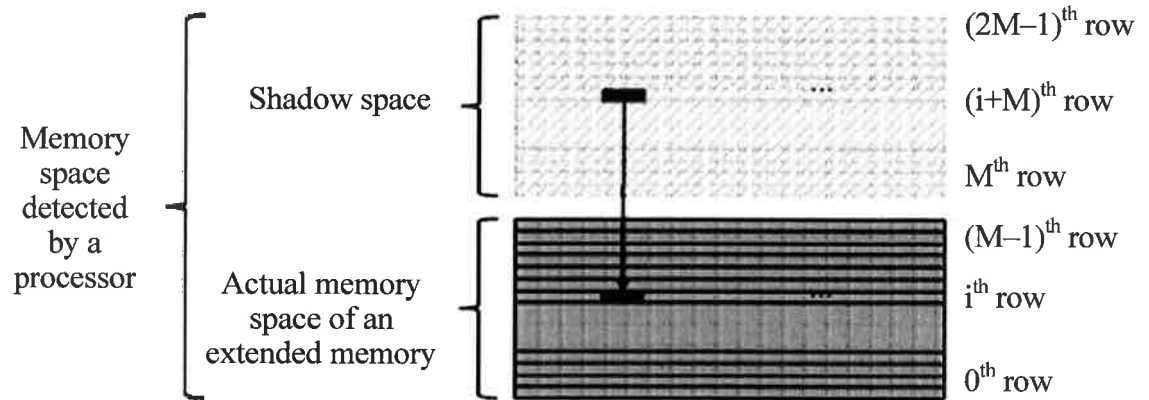


FIG. 6

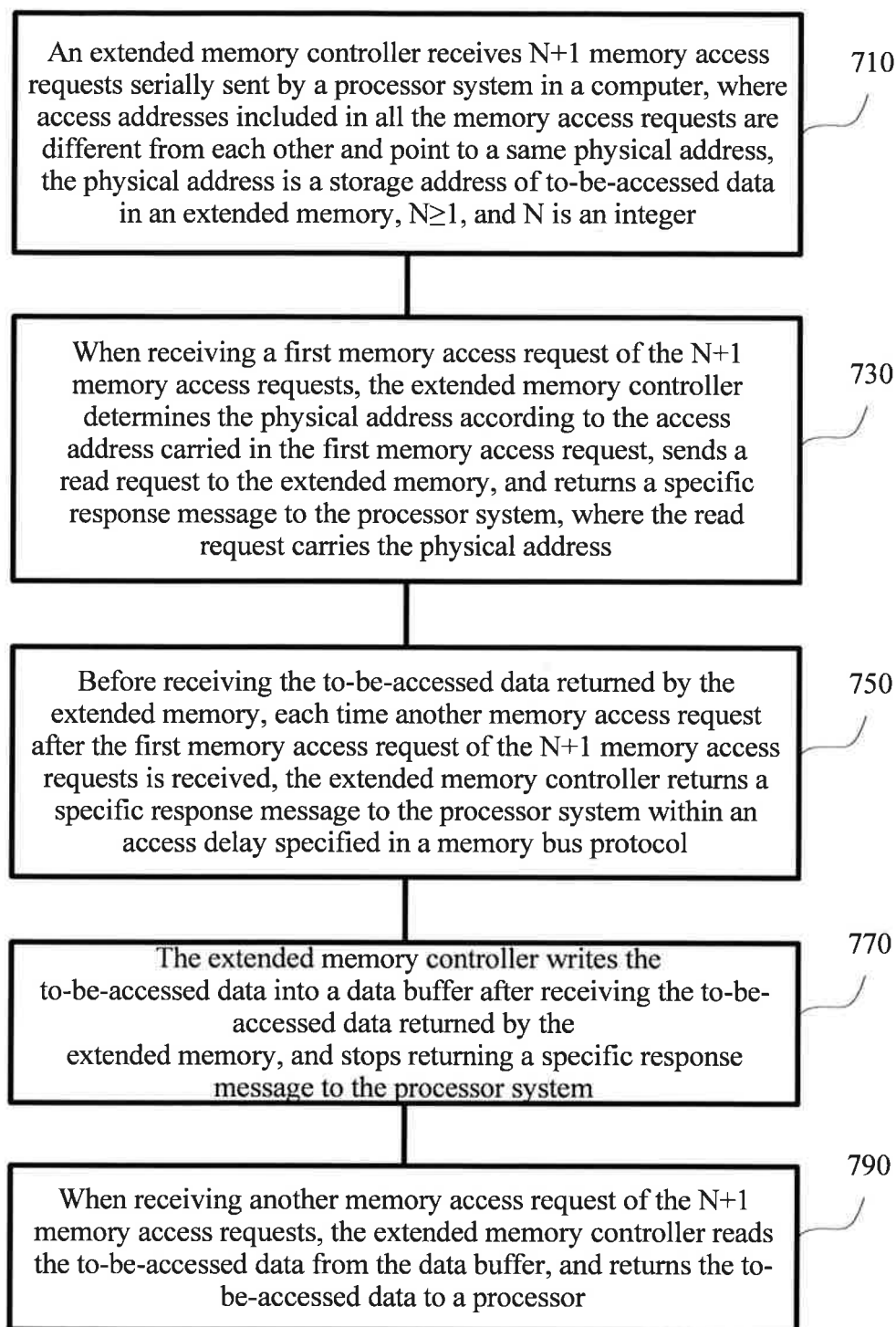


FIG. 7

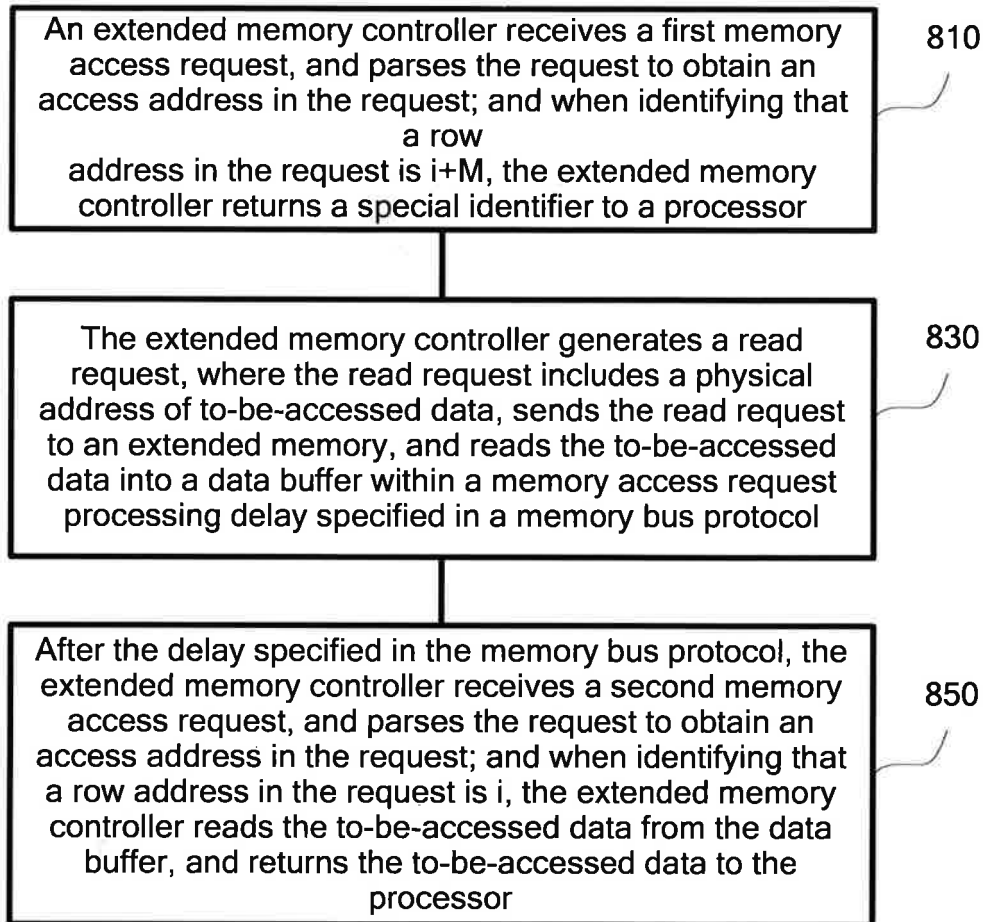


FIG. 8

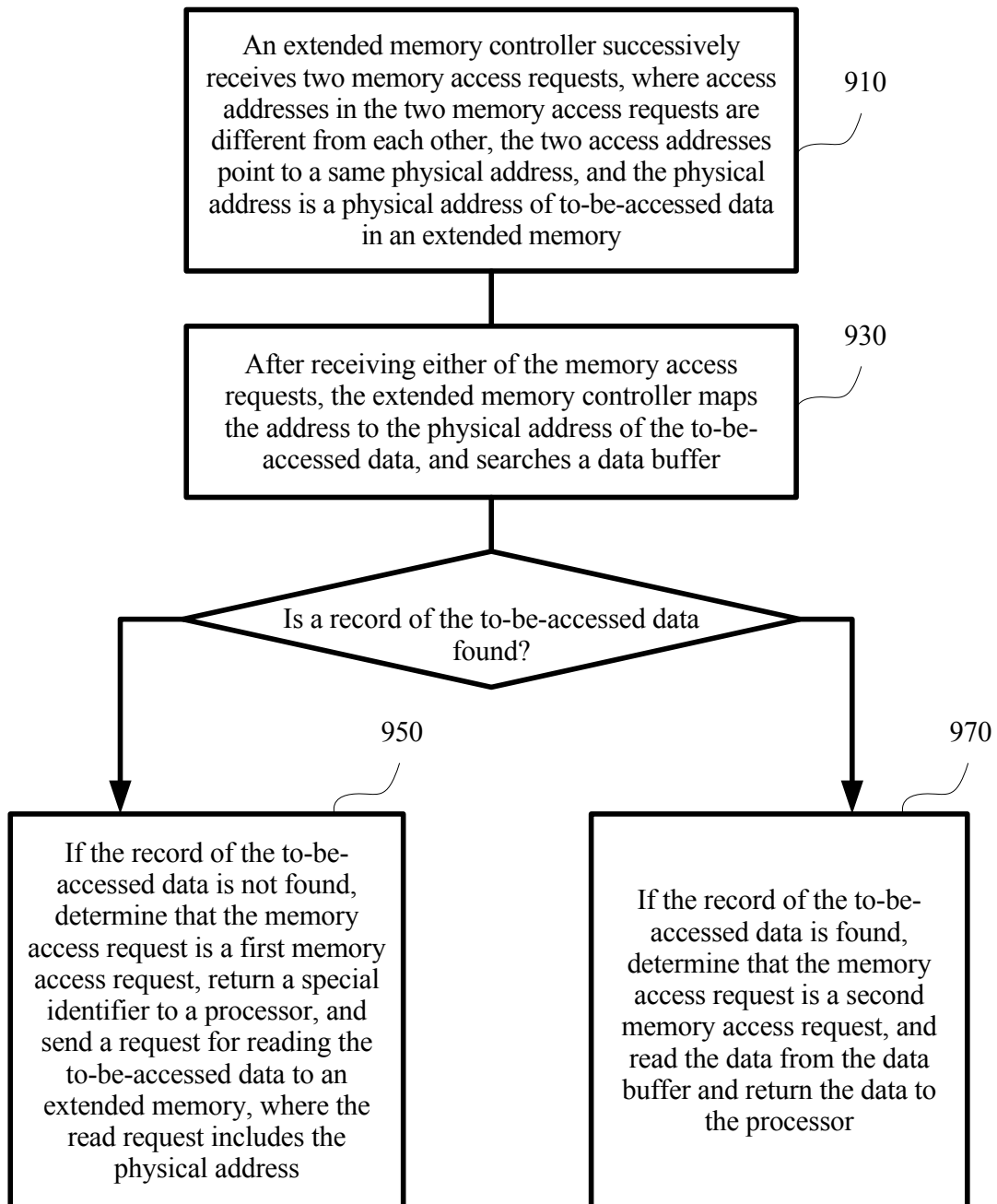


FIG. 9

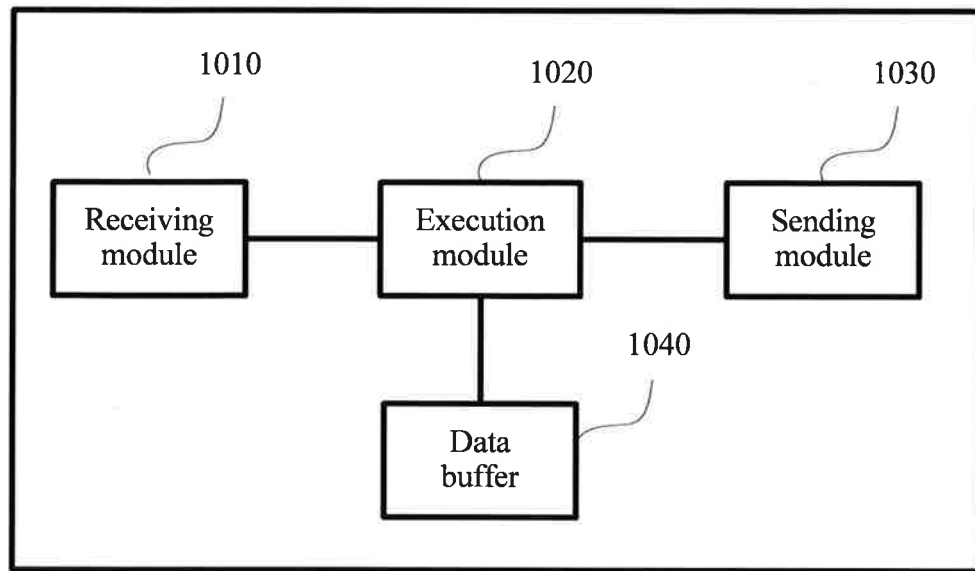


FIG. 10