DATA PROCESSING SYSTEM AND METHOD FOR ANTICIPATING INSTRUCTION EXECUTION

ABSTRACT

A data processing system (100) indicates that an instruction does not have available data because of a cache miss or because of a non-cache-miss delay. When the instruction is not able to access the available data and a cache miss results, instructions (230) which are dependent on the issued instruction are not issued. However, if the load execution is delayed because of a non-cache-miss delay, then the instructions which are dependent on the issued instruction are also issued in anticipation of a successful load instruction execution in a next timing cycle. Through the use of this issuing mechanism (274), the efficiency of the data processing system is increased as an execution unit is better able to utilize its pipeline.

Figure 1.