ABSTRACT

EXCEPTION HANDLING IN A PROCESSOR THAT PERFORMS SPECULATIVE OUT-OF-ORDER INSTRUCTION EXECUTION

A method and circuitry for coordinating exceptions in a processor. The processor generates a result data value and an exception data value for each instruction wherein the exception data value specifies whether the corresponding instruction causes an exception. The processor commits the result data values to an architectural state of the processor in the sequential program order, and fetches an exception handler to processes the exception if the exception is indicated by one of the exception data values. The processor fetches an asynchronous event handler to processes an asynchronous event if the asynchronous event is detected while the result data values are committed to the architectural state of the processor.

(Figure 2)