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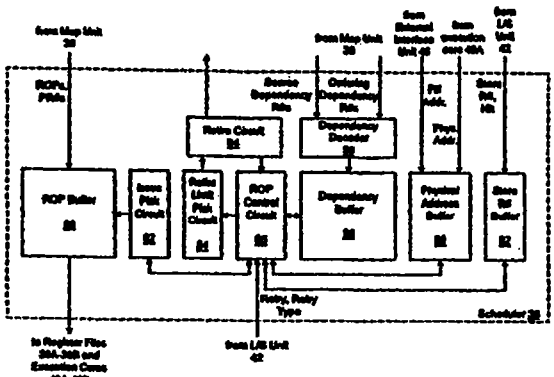
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(54) Title: SCHEDULER CAPABLE OF ISSUING AND REISSUING DEPENDENCY CHAINS





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(57) Abstract: A scheduler issues instruction operations for execution, but also retains the instruction operations. If a particular instruction operation is subsequently found to be required to execute non-speculatively, the particular instruction operation is still stored in the scheduler. Subsequent to determining that the particular instruction operation has become non-speculative (through the issuance and execution of instruction operations prior to the particular instruction operation), the particular instruction operation may be reissued from the scheduler. The penalty for incorrect scheduling of instruction operations which are to execute non-speculatively may be reduced as compared to purging the particular instruction operation and younger instruction operations from the pipeline and refetching the particular instruction operation. Additionally, the scheduler may maintain the dependency indications for each instruction operation which has been issued. If the particular instruction operation is reissued, the instruction operations which are dependent on the particular instruction operation (directly or indirectly) may be identified via the dependency indications. The scheduler reissues the dependent instruction operations as well. Instruction operations which are subsequent to the particular instruction operation in program order but which are not dependent on the particular instruction operation are not reissued. Accordingly, the penalty for incorrect scheduling of instruction operations which are to be executed non-speculatively may be further decreased over the purging of the particular instruction and all younger instruction operations and refetching the particular instruction operation.

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