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*[Continued on next page]*

(54) **Title**: APPARATUS, METHOD, AND SYSTEM FOR PROVIDING A DECISION MECHANISM FOR CONDITIONAL COMMITS IN AN ATOMIC REGION

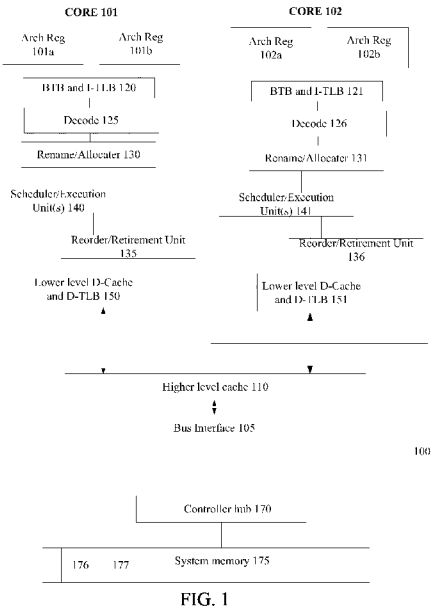


FIG. 1

(57) **Abstract**: An apparatus and method is described herein for conditionally committing /andor speculative checkpointing transactions, which potentially results in dynamic resizing of transactions. During dynamic optimization of binary code, transactions are inserted to provide memory ordering safeguards, which enables a dynamic optimizer to more aggressively optimize code. And the conditional commit enables efficient execution of the dynamic optimization code, while attempting to prevent transactions from running out of hardware resources. While the speculative checkpoints enable quick and efficient recovery upon abort of a transaction. Processor hardware is adapted to support dynamic resizing of the transactions, such as including decoders that recognize a conditional commit instruction, a speculative checkpoint instruction, or both. And processor hardware is further adapted to perform operations to support conditional commit or speculative checkpointing in response to decoding such instructions.

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