AUTONOMOUS MEMORY BLOCK FOR RECONFIGURABLE COMPUTING

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ABSTRACT

Current FPGAs include large blocks of memory that require separate address generation circuits. This not only uses logic resources surrounding the memory blocks, but also results in unnecessary routing congestions. This paper proposes the integration of the address generation circuit into the block memory to form an Autonomous Memory Block (AMB). Quantitative comparison between using AMB and conventional FPGA block memory architectures demonstrates that this approach is promising.