

Petri net-based system modelling for performance analysis of reconfigurable soft-core processor using fpga

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Abstrak

In any heterogeneous system, porting reconfigurable computing is often a high performance platform for a broad range of computationally challenging issues. However, efficiently utilizing the maximum potential of these reconfigurable systems is a difficult job without understanding their performance characteristics. This work proposes an analytic performance model using Petri Nets (PN) for a Reconfigurable OR1200 (ROR1200) soft-core processor with model validation and verifications. By modeling the ROR1200 system using Petri Nets, both behavioral and structural properties existing in parallel systems were analyzed. The Bound Level Analysis with respect to the dependency level of data is also performed on Soft Core Processors (SCP) like the ROR1200, the OR1200 and the MicroBlaze.