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Modelling and Design of Control Systems Based on Petri Nets Models

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Abstract

This paper describes a structured and flexible method for control system design based on Petri nets models. A proposed CAD tool allows control system specification, modeling, validation and synthesis using Petri nets. The control system synthesis is based on Hardware Petri nets that are composed of two kinds of processing elements (Places and Transitions) and data flow path between them. The use of Hardware Petri nets in CAD tools allows the automation of the reconfigurable architectures (embedded systems) implementation process and substantially reduces the design time and cost. A design example illustrates the proposed method.