A COLORED PETRI NET MODEL OF INTELLIGENT NODES*

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ABSTRACT

Distributed Intelligence Systems (DIS) consist of interconnected intelligent nodes that carry out tasks in coordination. The intelligence in the nodes may be due to humans, to machines, or to a combination of human and machine, such as a human with a workstation. An earlier model of an intelligent node was based on ordinary Petri Nets with switches and led to several approaches for the design of DIS with fixed structures. That the model has been extended to accommodate the execution of multiple roles by the same intelligent node; this leads to architectures with variable structures. The Colored Petri Net formalism is used to develop a compact representation of this model.

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