Verification of BPEL specifications using coloured Petri nets

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Abstract

Developed by IBM and Microsoft, BPEL is poised to become a widely used language for specifying business processes. Current methods for verification of business processes discount data and timing, which, though making verification more feasible, is a very radical abstraction. Sometimes it even makes verification impossible: for example, a process might well deadlock with one set of data, and function well with another.

In this article, we use coloured Petri nets (CPNs) for verification of BPEL specifications. We outline a method to translate BPEL specifications into CPNs, and to translate requirements for BPEL specifications into properties for CPNs. We illustrate our method by means of a running example.