Abstract

Service oriented architecture (SOA) is an emergent paradigm that aims at building applications and components by assembling existing ones. Several works on composition aspects have been proposed by researchers and industrial practitioners. The overall observation about these works is that they only provide means for service composition and invocation; but, they offer little support for analysis, and formal checking of composite Web services.

In this work, we exploit rewriting logic as a unique semantic formalism for well describing and checking Web services composition. Thanks to this formalization we lean on the category model to give precise and sufficient semantics to Web service behavior. Besides, this high level specification constitutes an executable one, it allows formal analysis using a particular
well-founded language Maude having a proof and prototyping environment.

Reference

- Assaf, A. Web Service Choreography Interface (WSCI) 1.0. In http://www.w3.org/TR/wsci/.

**Index Terms**

Computer Science  
Software Testing

**Key words**

Web Services  
Rewriting Logic  
Behavioral Checking