



An Agent Oriented Markov Model Framework for Service Composition

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Abstract

Service Composition Framework is becoming more and more important within the area of service management. Web service composition is to arrange multiple services into workflows supplying complex user needs. IT services and the related information from different sources are characterized as diverse, incomplete, heterogeneous, and geographically distributed. It is hard to consume these complicated services without knowledge assistant. Bayesian network is a graphical model that encodes probabilistic relationships among variables of interest, used to learn causal relationships, and hence can be used to gain understanding about a problem domain and to predict the consequences of intervention. By using Bayesian network, the composition methods require more time to integrate the services in a complex service directory. To address this problem, a systematic way is proposed to handle the challenges of acquisition, structuring, and refinement of structured services, so an optimistic method like Markov Model is preferred along with an Agent to overcome this problem, and to ensure efficiency in service composition by providing accurate services in a less amount of time than the previous framework

Keywords— Service composition; Markov model; knowledge engineering; problem determination; structured services

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