
A semantic QoS-aware web services composition framework

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Abstract: Composition of web services has received much interest to support business-to-business or enterprise application integration. However, for this composition to be effective, web services should be semantically described and developed tools must enable to select appropriate services based on functional requirements that deal with the desired functionality of the composite service, and non-functional concerns that relate to issues like performance and availability. This presents a challenging task due to the increasing number of available web services with their descriptions remaining in the syntactic level. In this paper, we propose a semantic QoS-aware web services composition framework. This framework considers a two-stage composition process. An abstract composition stage consists in semantically constructing a composition of available services that provides the desired functionality. Then, a concrete composition stage turns the abstract plan into an executable composition by selecting the appropriate web service instances based on QoS parameters.

Keywords: web services composition; ontologies; QoS; user requirements; service type; service instances.

Reference to this paper should be made as follows: Rouached, M. and Sallay, H. (2014) 'A semantic QoS-aware web services composition framework', *Int. J. Business Information Systems*, Vol. 17, No. 1, pp.94–111.

Biographical notes: Mohsen Rouached is currently acting as an Assistant Professor in the College of Computers and Information Technology at the Taif University. He received his MS and PhD in Computer Science from Nancy University in 2005 and 2008 respectively. His research interests span over several areas related to service oriented computing, business processes, security, privacy, and forensics management, services semantics, and wireless sensors networks. He has published over 40 research papers in these domains. He serves as program committee member and reviewer at many international journals and conferences and has been participating in several research projects.