

Towards Constructive Evidence of Data Flow-Oriented Web Service Composition

Reference:

F. Lecue, "Towards Constructive Evidence of Data Flow-Oriented Web Service Composition," in Proceedings of the 12th International Semantic Web Conference (ISWC 2013), Sydney, Australia, 2013.

Abstract:

Automation of service composition is one of the most interesting challenges facing the Semantic Web and the Web of services today. Despite approaches, which are able to infer a partial order of services, its data flow remains implicit and difficult to be automatically generated. Enhanced with formal representations, the semantic links between output and input parameters of services can be then exploited to infer their data flow. This work addresses the problem of effectively inferring data flow between services based on their representations. To this end, we introduce the non standard Description Logic reasoning join, aiming to provide a "constructive evidence" of why services can be connected and how non trivial links (many to many parameters) can be inferred in data flow. The preliminary evaluation provides evidence in favour of our approach regarding the completeness of data flow.