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Requirements driven dynamic services composition for web services and grid solutions.
(English) [Zbl 1063.68018](#)
J. Grid Comput. 2, No. 2, 121-140 (2005).

Summary: In this paper, we present the Web Services Outsourcing Manager framework via a mathematical model for dynamic business processes configuration using existing Web Services to meet customers' requirements. An XML-based annotation document is proposed to capture the business requirements and used to dynamically generate search scripts for an advanced Web services discovery engine to find Web services from both UDDI registries and Web Services Inspection Language documents. A list of available Web services are returned for further composition and optimization to produce the final business process. This paper proposes a novel mechanism to map a service selection problem into a solution space $\{0, 1\}$ to utilize global optimization algorithms such as genetic algorithms. A working research prototype has been implemented to demonstrate the feasibility of the on-demand Web services flow composition for e-business and Grid solutions.

MSC:

[68M10](#) Network design and communication in computer systems

Cited in 1 Document

Keywords:

Business process composer; Business requirements annotation; Genetic algorithm; Grid computing; Service composition; Service selection; Web services cluster; Web services outsourcing manager framework

Software:

[SWORD](#)

Full Text: [DOI](#)

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