AIMO: An Effective Approach to Support Semantic Web Service Discovery and Composition

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Abstract. Web services are the preferred standards-based way to realize Service Oriented Architecture (SOA) computing. A problem that has become as one of the recent critical issues is automated discovery and composition of Web services. A number of approaches have been presented to solve the problem. However, most of these approaches neglect consideration of both discovery and composition of Web services. In this article, an effective approach with the name of AIMO, based on AI-planning and Web Service Modeling Ontology (WSMO), has been proposed to tackle that problem. Moreover a translator for interaction between WSMO and AI-planning is proposed. AIMO continues to support loose coupling paradigm of SOA by separating the discovery from the composition of Web services. Some parts of AIMO architecture have been tested on a case study, and the preliminary results demonstrate that AIMO provides an applicable solution.

Keywords: semantic Web services, AI-planning, WSMO, Web service discovery, Web service composition.