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Service Discovery and Composition in Multagent Systems

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Abstract. This paper reviews the existing techniques used in the discovery and composition of services. The best of selecting an adequate service can only be foreseen if all services that are listed under a certain topic have to be compared exactly for the final selection and what means, the final decision does not only depend on service parameters, but also on the need of the service user. This implies that the matching of service and user requirements is the key to the selection of the most adequate services. In this paper, an approach is described that allows the matching of services and users to be performed with the objective of improving the service discovery and composition process.

1. Introduction

The growth in the number of services in Internet provides a great amount of opportunities for companies. Conversely, there is a great potential for the creation of solutions to these services through architectures that incorporate cooperation, negotiation, delegation of tasks or location of services, for all of them. It is necessary, then, to locate the entities which provide the expected service and the services which serve some points in common.

The services provide the interaction between applications. Services are a methodology/paradigm that was processes in a document WS-I, that enables the definition of specifications for the transport protocols. More and more, organizations that implementing standard protocols and nowadays web services are based on XML (Extensible Markup Language), SOAP, WSDL and UDDI. Thanks to these standards, it is possible to have a variety of interoperable and composition of web services, web services can be used as the most fundamental elements for the development of complex service systems. Nevertheless, one of the requirements for the feasibility of these web services is the ability to find the correct service or set of services that meets user requirements. Software of web agents which is used for locating agents with specific characteristics is very important. In open systems, agents can dynamically appear and disappear. Hence, the agents do not know always the names and