Business Oriented Web Service Processing and Discovery Framework

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Abstract. Information Technology business needs are refining virtually for meeting Client’s requirement, since the beginning of the computer age. Importance of asking for service and time to get serviced is same. Most credible is how fast and accurate service reaches to Client. In order to provide fast and reliable service to the Client Service Discovery need to be superlative. Various researches are made using different computing methods and algorithms for discovering the required Service from the repository. In customary scenario, Client tries to search the repository of Web Service based on the keyword matching but the problem arises when no such service is available. With this proposed work, we introduce Business Oriented Web Service Processing and Discovery Framework to deal with the problem of undefined Web Service. As a start, request from Client is semantically analyzed and modeled to follow Hierarchical Task Network (HTN) ontology for such request is generated and if no match is found, relevant services are fetched based on relevance ranking and resulted to Client.

Keywords: Web Services, Web Service Discovery, Hierarchical Task Network, Ontology, Semantic Analysis.

1 Introduction

Concepts of interoperability and distributed technologies rule the world as best innovations till date in the field of Web Computing. Web service is introduced as the refinement of knowledge and after understanding human perceptions to search for his requirement. Orientation of Web Services, presented as reusable components has become relatively a great support to IT Market. Client’s requirement and to-the-date fulfillment of requirement by Providers is what gets important and also Mainer approaches have been introduced to deal with it. Providing Service, as what actually present with Service Agents is their task, but dealing with what does not exist and providing relatively best match becomes superior these days. Effectively, Web-services allow businesses to share the information they master in and also the ones stored in their computer applications with other applications in the company or with those run by clients, providers and partners. By linking these intermediaries online,
Organization can significantly increase the efficiency—and thus recommends lower cost and enterprise benefits. Applications can be Software applications, which are web services that can be invoked remotely by users or programs, or Programs and scientific computations which are important resources in the context of emerging collaborative business processes, eventually even more vital than data.

Business oriented Analyzing and specifying Client’s requirement of a Web Service, processing it, ranking and finally servicing with most appropriate outcome, is need of business oriented ontology. Dealing with technically complex business needs is vitally tuff and leads to online concept to fail sometimes. Business oriented ontology, is the derivation of business requirement, from the user’s specified requirement to build Semantic tree formation, where business required Web Services lies on leaf node, which is then relatively matched and ranked for terming the output well. Web Services are available as reusable components, with in Service Registry, sometimes when well matched, they are provided as the ones.

Services can be defined as a technology for offering software services or general-purpose architecture that will trigger an essential shift in the way that all distributed systems are created. Services provides strong interface for collection of operations being accessed on network [1].

![Fig. 1. Web Service Framework](image)

Semantics of any language can be defined as the meaning of each included word or symbols in sentence an also the relation that exist between those. Semantics play an important role in the complete lifecycle of Web services as it is able to help service development, improve service reuse and discovery, significantly facilitate composition of Web services and enable integration of legacy applications as part of automatic business process integration [2]. Hierarchical Task Networks (HTN) deals with planning to perform tasks rather than to attain results. It acts as a helping mechanism to build a modeled way to provide good and accurate service to the client. HTN gives detailed understanding of the existing relationships among the lower decomposed matches.