A Concrete Solution for Web Services Adaptability Using Policies and Aspects

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ABSTRACT

Traditional middleware is usually developed on monolithic and non-evolving entities, resulting in a lack of flexibility and interoperability. Among current architectures, Service Oriented Architectures aim to easily develop more adaptable Information Systems. Most often, Web Service is the fitted technical solution which provides the required loose coupling to achieve such architectures. However there is still much to be done in order to obtain a genuinely flawless Web Service, and current market implementations still do not provide adaptable Web Service behavior depending on the service contract. Therefore, our approach considers Aspect Oriented Programming (AOP) as a new design solution for Web Services. Based on both WSDL and Policies contracts, this solution aims to allow better flexibility on both the client and server side. In this paper we expose our technical and concrete solution using Axis as the SOAP Engine, WSS4J as the WS-Security handler, and Javassist to weave some non-functional security aspects depending on the policies requirements.