

Supporting Dynamic Changes in Web Service Environments

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Abstract. The Web has become the universal medium for publishing and using of Web accessible services called *Web services*. The widespread adoption of XML standards including WSDL, SOAP, and UDDI has spurred an intense research activity to deal with issues related to Web services. One of the most important issues is the management of changes that occur in Web service environments. Web services operate in a highly dynamic environment where changes can be initiated to adapt to evolving business climates. All changes performed to Web services must be efficiently propagated to ensure global consistency. In this paper, we combine *Web services*, *ontologies*, and *agents* to cater for the management of changes in Web services. We address the challenging issues of *detection*, *propagation*, and *reaction* to both *internal* and *external* changes to Web services.