

Dependable Web Service Compositions using a Semantic Replication Scheme

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Abstract. *The broad acceptance of a Web service standard has led enterprises worldwide to publish their services and make businesses via the Web on the Internet. Consequently, dependable Web service executions are a new challenge. Although existing work proposes to extending the Web service structure with fault tolerant features that support such applications, most of them meet only the reliability and availability requirements of single Web service executions, not properly addressing the problem of dependable Web service compositions. This paper overviews existing work on available Web service compositions and proposes a new approach to create highly available compositions based on a semantic replication scheme. A prototype of the proposed approach was evaluated in a series of experiments where Web service failures are considered and the related performance data are presented.*