



## TRANSACTION SCHEDULING FOR WEB SERVICES COMPUTING APPLICATIONS

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**ABSTRACT**—Web services technology provides a new computing model, which greatly accelerates application processes and responds to changing business needs within and across enterprises. Increasingly, web services transactions are key additions to business processes that access multiple web services and need to string them together. However, many of the previous approaches for scheduling transactions considered a single class of transactions with real-time constraints, whereas in practice not all transactions in web services computing applications have real-time requirements. This work studies the problem of scheduling web services transactions to deal with both real-time and non-real-time constraints existing simultaneously. We present an efficient transaction scheduling policy named the dynamic allocation policy for web services computing (DAP-WS), which aims at minimizing the number of missed real-time web services transactions and maximizing the throughput of non-real-time web services transactions. The presented simulation results demonstrate that the DAP-WS delivers good performance in the web services computing environment.

**Key Words:** Scheduling Policy, Web Services Computing, Transaction Management