Abstract

Service oriented architecture (SOA) is one of the latest software architectures. This architecture is created in direction of the business requirements and for removing the gap between softwares and businesses. The software testing is rising cost of activities in development software. SOA has different specifications and features proportion of the other software architectures. According to these features of the system, we cannot apply all approaches and methodologies of testing in the typical software systems for testing in the SOA systems, and there are need to specific procedures for testing the service oriented systems and/or change in the testing approaches. This document presents an approach for test cases generation automatically at the SOA system. First, this approach creates a control flow graph of BPEL file in the system and services related of the main service, WSIG file is used to create subgraphs of the related services. Then, the test cases create randomly of the primary test for graph in the generated system. Final, it tries to create test cases require to cover of the system graph through randomly generation and the genetic algorithms. This algorithm will compare with standard genetic algorithm and we will show the algorithm has performance better than the other algorithm.
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**Index Terms**

Computer Science
Software Engineering

**Keywords**

Service Oriented Architecture  Software testing  automatic test case generation
SOA Testing