

DYNAMIC WEB SERVICE INVOCATION

By

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With the relentless growth in Internet functionality, distributed computing systems have attracted more and more attention in the Information Technology world. This has resulted in recent standardization effort of distributed computing architecture, which is known as Service Oriented Architecture (SOA). The Web Service is the centerpiece of this architecture. Some of the key challenges in implementing the SOA architecture are maintainability, reliability, and security.

In this thesis, we propose to use dynamic Web service invocation method to address maintainability and reliability issues without sacrificing the overall system performance. To achieve our goals, we proposed and implemented a Dynamic Web Service Invocation Framework (DWSIF). The dynamic invocation of Web services allows both service providers and service consumers to remain autonomous and maintain the loosely coupled relationship without scarifying the performance.

Through a series of experiments and objective evaluations, we have shown that the dynamic web service invocation can serve its client better than static invocation, particularly in maintainability and reliability.