

## **Employing performance counters and software wrapper for measuring QoS attributes of web services**

### **ABSTRACT**

Web services have got popular for developing Service-Oriented Architectures recently. As several web services are available to execute the same function, Quality of Service (QoS) turns into a discriminative factor which is significantly considered in service selection and service composition approaches. In different approaches, monitoring of services is used for evaluating QoS attributes. Custom Windows Performance Counters (CWPC) is one of the approaches for monitoring performance of services at server-side. However, it has some limitations and it needs to access and change a service implementation which is not always possible in practice. In this paper, CWPC along with software wrapper is employed for measuring different QoS attributes such as response time, throughput and reliability in order to overcome current limitations. Additionally, it discusses how the proposed monitoring mechanism can be employed to optimize the service provider performance. The results show that the proposed monitoring approach is accurate in measuring QoS attributes.

**Keyword:** SOA; Web service; Monitoring; Quality of Service; QoS measurement; Performance counter; Software wrapper