Abstract

Wireless sensor networks (WSN) present a challenging programming environment because of their limited resources, heterogeneity and highly dynamic nature. Service oriented computing (SOC) can simplify application development by hiding platform-specific capabilities behind services. Their services are dynamically discovered and used at run time, enabling application to be platform independent and adapt to network dynamics. While service-oriented computing is widely used on the internet, adapting it to WSNs is non-trivial due to the extremely limited resource available. The selection of which service provider to use and how to adapt as provider change significantly impacts application and network performance. In this paper, we present a global QoS optimizing and multiobjective service composition algorithm based on the construction of convex hull. Simulation experiments were conducted to show the efficiency of the proposed algorithm.

Reference


Index Terms

Computer Science

Networks

Key words

WSN

SOC

QoS

service composition