

Clustering Strategies for Sharing Web Services in Mobile P2P Networks

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Abstract

Web Services and Peer to Peer (P2P) technologies both aim at providing a platform for publishing and discovery across networks. It is sensible to adopt Web services to P2P networks. But due to the network bandwidth and computing capability of mobile devices, it is a challenge to effectively and efficiently deploy Web services to mobile P2P networks. In this paper, we propose clustering strategies for sharing Web services in mobile P2P networks. We first present a mechanism based on P2P agent-based architecture in which a relay node bridges between mobile nodes in wireless links and an agent node in wired links. Then a number of clustering strategies are investigated. The functionality of relay nodes is discussed and the performance of the mechanism with different clustering strategies is analyzed. The results show the mechanism is feasible and effective.

Keyword : Clustering, P2P, service-oriented architecture (SOA), Mobile Web services