

A Smart Vertical Handoff Decision Algorithm Based on Queuing Theory

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Abstract—Vertical handoff is crucial to future wireless communication and keeps challenging. In this paper, a smart vertical handoff decision algorithm based on queuing theory is proposed. This algorithm formulates the whole heterogeneous wireless area and handoff procedure using queuing theory and proposes a new network selection index called new handoff blocking probability to evaluate the network performance. We also regulate the network architecture to manage the wireless resource effectively. The experimental results show that the proposed algorithm outperforms the traditional algorithm with low handoff blocking probability and a better load balance of the whole wireless environment.

Keywords—Wireless resource management, Vertical handoff, Network selection, Queuing theory, Heterogeneous wireless networks



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