Abstract

The fast and seamless vertical handoff (VHO) is the one of the major requirements for moving mobile terminal (MT) among heterogeneous networks. The vertical handoff decision should be carefully executed if there is a network preferred; it is based on many factors such as the wireless channel state, network layer characteristics and QoS requirements. In this paper, the performance of the vertical handoff algorithm was evaluated under two different consideration approaches for handoff process; one approach for MT's moving from Wireless Local Area Network (WLAN) to Cellular Network (CN), and inversely form MS's moving from CN to WLAN. In this work, a new hybrid algorithm is proposed to evaluate the performance of VHO process. This work is done by combining two previous algorithms with some modifications taking into account the effect of an Application Signal Strength Threshold (ASST) on an adaptive preferred network. This hybrid algorithm showed that the number of handoff will be reduced as compared with the traditional handoff algorithm. The decreasing percentage was about (62-37) %. This reducing behavior is seen when the velocity of MS becomes low. This result is satisfactory and can be used in low user mobile for more attention and increasing the dependency on the WLAN given to provide the optimal system resource utilization.
A New Approach of Vertical Handoff in the Heterogeneous Wireless Networks


Index Terms

Computer Science

Wireless

Keywords
Heterogeneous Wireless Networks (HWN)  Vertical Handoff (VHO)  Horizontal Handoff (HHO) and Signal Strength Threshold (SST)