Abstract

UMTS networks promise to offer always on, ubiquitous connectivity with relatively low data rates for moderate to high mobility users in macro cell environments. On the other hand, IEEE 802.11 (WLAN) offers much higher data rates, comparable to 3G and other wireless local area networks, to users with low mobility characteristics in smaller cell environments. Where UMTS/WLAN networks overlap, a dual-mode UMTS/WLAN terminal could access high bandwidth data services where WLAN coverage is offered and use UMTS services elsewhere. This leads to fundamental questions on how UMTS and WLAN can be integrated. It were build two different scenarios, one for loose coupling scheme and the other one for open coupling scheme. In loose coupling scheme both billing and authentication is common for UMTS and WLAN networks while in case of open coupling scheme only billing is common for WLAN and UMTS where as they use there own separate authentication servers. The OPNET simulated results reveal that the loose coupling architecture performance is better than the open coupling architecture for all the applied applications and measurement parameters during the Mobility between WLAN and UMTS.
Performance Analysis of Ubiquitous Wireless Connectivity in a 3G/IEEE 802.11 Integrated Network

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**Index Terms**

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**Keywords**

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