

Performance Evaluation of Vertical Handover on Silom Line BTS

Authors : Silumpa Suboonsan, Suwat Pattaramalai

Abstract : In this paper, the performance of internet usage by using Vertical Handover (VHO) between cellular network and wireless local area network (WLAN) on Silom line Bangkok Mass Transit System (BTS) is evaluated. In the evaluation model, there is the WLAN on every BTS station and there are cellular base stations along the BTS path. The maximum data rates for cellular network are 7.2, 14.4, 42, and 100Mbps and for WLAN are 54, 150, and 300Mbps. The simulation are based on users using internet, watching VDOs and browsing web pages, on the BTS train from first station to the last station (full time usage) and on the BTS train for traveling some number of stations (random time). The results shows that VHO system has throughput a lot more than using only cellular network when the data rate of WLAN is more than one of cellular network. Lastly, the number of watching HD VDO and Full HD VDO is higher on VHO system on both regular time and rush hour of BTS travelling.

Keywords : vertical handover, WLAN, cellular, silom line BTS

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