PERFORMANCE INVESTIGATION OF AUTOMATIC MULTIPLE SIM CARD CELL PHONES

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Abstract

Existing methods of network switching in mobile phone networks do not provide satisfactory service(s) to the subscribers. Currently, most cellular telephone users own single SIM card cell phones and if they wish to switch networks they have to do so by manually opening up their phones and replacing SIM cards. The few who have multiple SIM card cell phones have to perform some useful functions to switch networks for example; switching the phone off and on and selecting the networks they wish to use by entering different access codes or manually selecting the network they wish to use whenever they wish to receive or make a call without having to switch the phone off and on since both networks are active. These approaches are time consuming, require the user to make decisions on which network to be on and could lead to the damage of the handsets or the SIM cards. In this research, we propose enhancement of Quality of Service (QoS) through the use of multiple SIM card cell phone handsets that can automatically switch networks for the subscribers with the aim of minimizing cost and maximizing service quality in terms of network coverage. The research also justifies that enabling cellular handsets to automatically switch networks is beneficial to the Mobile Telephone Service Providers (MTSPs) and the subscribers.

We demonstrate our idea through a simulation of automatic switching among the three mobile phone service providers in Uganda, namely: - Celtel Uganda, Uganda Telecom Limited (UTL) and Mobile Telecommunications Networks (MTN).