

A Taxonomy on Vertical Handover for Telecommunications Systems

Obumneme Obiajulu Umeonwuka¹, Franklin Njoku², Abdoulie M. S. Tekanyi³, Aliyu Danjuma Usman³, and Abdulmalik Shehu Yaro³

¹University of Johannesburg

²Air Force Institute of Technology

³Ahmadu Bello University

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Abstract

Wireless networks have become increasingly popular in recent decades for both residential and commercial networking. Currently, people use smart mobile devices that are fitted with a range of wireless networking interfaces to conduct short-term or long-term business, connect, socialize, and browse the Internet. Because wireless technologies and mobile devices have made amazing advancements, users need smooth, continuous, and faultless services with Quality of Service (QoS) from every origin to device at any given time while on the go or stationary. In order to accommodate the increasing traffic demands and service requirements, the next generation of wireless infrastructures (5G) paradigm will feature a high deployment of base stations and a variety of RATs, including Wireless Local, Metropolitan and Wide Area Networks (WLAN, WMAN, WWAN), Long Term Evolution (LTE), and Wireless Broadband (WiBro). However, no single RAT can simultaneously provide mobile users with high bandwidth, low latency, widespread coverage, and high QoS levels. Hence, this book chapter seeks to elucidate the varying kinds of vertical handover techniques that could be adopted to meet the demands of mobile users based on QoS and QoE.

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