Abstract

The expected growth in radio access technologies (RAT's) such as wireless
technologies (802.11a, 802.11b, 802.15, 802.16, etc.) and cellular networks (GPRS, UMTS,
HSDPA, LTE, etc.) requires efficient vertical handoff algorithm. Variety of vertical handoff
algorithms (VHA) have been proposed to help the user to select dynamically the best access
network (BAN) in terms of quality of service. The objective of this paper is to provide an
optimized network selection decision that allow mobile users to choose the BAN with seamless
manner and to exploit a minimum of criteria for all traffic classes namely: background
conversational, interactive and streaming. Our optimized algorithm combines two multi
attribute decision making (MADM) methods such as analytic network process (ANP) method to
weigh the criteria, and the novel method based on mahalanobis distance (NMMD) to rank the
alternatives.
- Escobar, L, et al; Performance evaluation of Vertical Handoff Algorithms,
New Optimized Network Selection Decision in Heterogeneous Wireless Networks

- "3GPP, QoS Concepts and Architecture; 2005, tS 22. 107 (v 6. 3. 0).

**Index Terms**

Computer Science Wireless Communications

**Keywords**

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Criticality Analysis