New Optimized Network Selection Decision in Heterogeneous Wireless Networks

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Abstract

The expected growth in radio access technologies (RATs) 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 allows 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.
- J. Fu, J. Wu, J. Zhang, L. Ping, and Z. Li; Novel AHP and GRA Based Handover Decision Mechanism in Heterogeneous Wireless Networks; in Proc. CICLing (2), pp. 213-220, 2010.
- Escobar, L., et al; Performance evaluation of Vertical Handoff Algorithms;
New Optimized Network Selection Decision in Heterogeneous Wireless Networks


Index Terms

Computer Science Wireless Communications

Keywords

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