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Improved handover decision algorithm using multiple criteria (Conference Paper) (Open Access)

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Abstract

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The transfer of massive data between varied network positions links of network relies on data rate, as well as the traffic capacity of the network. Conventionally, a device that is mobile can be used to attain vertical handover functional by weighing in only an aspect, which refers to Received Signal Strength (RSS). The application of this particular criterion could lead to interruption in services, ineffective vertical handover, and a network load that is not balanced. Hence, this paper proposes an improvised vertical handover decision algorithm by integrating multi-criteria within a wireless network that is heterogeneous. The proposed algorithm comprised of three vertical handover decision algorithms, namely: mobile weight, network weight, and equal weight. Additionally, three technology interfaces were embedded in this study including Worldwide interoperability for Microwave Access (WiMAX), Wireless Local Area Network (WLAN), and Long-Term Evolution (LTE). As a result, the simulation outcomes demonstrated that the handover decision algorithm for network weight generated exceptional outputs, in comparison to mobile and equal weights, as well as the conventional network decision algorithm from the aspects of handover failure and handover number probabilities. © 2018 The Authors. Published by Elsevier Ltd.

SciVal Topic Prominence

Topic: Heterogeneous networks | Wireless networks | vertical handoff

Prominence percentile: 92.484 ⓘ

Author keywords

Handover operation Mobility management PMIPv6 Wireless sensor network

Indexed keywords

Engineering controlled terms: Distributed computer systems Interoperability Long Term Evolution (LTE) Mobile telecommunication systems Wimax Wireless local area networks (WLAN) Wireless sensor networks

Engineering uncontrolled terms: Decision algorithms Handover Mobility management Multiple criteria PMIPv6 Received signal strength Vertical handover decisions Vertical handovers

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