Abstract

Handover decision algorithms are essential components for the successful implementation of mobility which is the basic concept of mobile communication. These algorithms need to be designed to provide the required Quality of Service (QoS) to a wide range of applications while allowing seamless roaming among a multitude of access network technologies. Wrong decision
probability is a performance metric which is used to measure the efficiency of handover algorithms in providing such seamless service. In this work, handover algorithms for the three network models are designed and compared with the two network models. The wrong decision probability model is used to predict the probabilities of missing handovers and unnecessary handovers. The traffic load of each network is varied based on the maximum bandwidth, number of neighboring networks and the advantage of having a dynamic decision time for handover has been studied. Analytical and simulation results are presented to validate the vertical handover for three network model.

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Index Terms

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**Key words**

Wrong Decision Probability (WDP)  
Missing handovers  
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Vertical handover (VHO)