Abstract

Next generation wireless networks are expected to exhibit heterogeneity in terms of wireless access technologies, services and application requirements. These heterogeneous wireless access networks consist of the integration of various wireless networks especially Wi-Fi (WLAN), Wi-Max and 3G/B3G cellular networks. One of the challenging problems is to choose...
the optimal network depending upon the type of the demanding application. Vertical handoff occurs when a mobile terminal decides to switch to the selected network from the current network. This paper mainly deals with a network selection algorithm based on Fuzzy Multiple Attribute Decision Making. The algorithm considers the factors of Received Signal Strength (RSS), Monetary cost (C), Band Width (BW), Velocity (V) and user preference (P). It finds the Network selection function (NSF) that measures the efficiency in utilizing radio resources by handing off to a particular network. The network that provides highest NSF is selected as the best network to hand off from the current access network.

Reference

- Vivek Gupta, “Mobility Using IEEE 802.21 in a Heterogeneous IEEE 802.16/802.11 Based IMT Advanced 4G network; IEEE Wireless Communications, April 2008.

Index Terms

Computer Science  Wireless
Network Selection in Heterogeneous Wireless Networks based on Fuzzy Multiple Criteria Decision Making

Key words

Vertical handoff  MADM  RSS

Cost

Bandwidth

Velocity

User Preference

NSF