

Energy Efficiency Network Selection Method

Seong Gon Choi *, Yong-Woon KIM**

**College of Electrical & Computer Engineering, Chungbuk National University, South Korea*

sgchoi@cbnu.ac.kr

***Electronics and Telecommunications Research Institute, South Korea*

gkim@etri.re.kr

Abstract— We propose an energy efficiency network selection method in coexistence with various wireless networks, such as 3G, WiFi and WiMAX. The network selection method considers the parameters of throughput (T), cost (C) and power consumption (P). First, a fuzzy measure for each parameter is determined. And the network is estimated for the evaluation value of each parameter using the fuzzy integrals. Finally, the most appropriate network can be selected, by comparing the assessment results of various wireless networks. Mobile terminal usage time can be extended, by considering the power consumption of the terminal for the selection of a network. And the proposed method can select the optimal network by considering throughput of each network.

Keyword—energy efficiency, wireless, network selection



Yong-Woon Kim was born in Korea. He received B.S. degree Electrical Engineering, Dong-A University, Korea in 1990. And M.S degree from Pohang University of Science and Technology, Korea in 1995. He is currently a principal research engineer in Electronics and Telecommunications Research Institute. His research interests include RFID/USN, IoT, M2M and Green ICT.



Seong Gon Choi was born in Daegu, Korea in 1967. He received B.S. degree in Electronics Engineering from Kyeongbuk National University in 1990, and M.S. and Ph.D degree from Information Communications University, Korea in 1999 and 2004, respectively. He is currently an assistant professor in School of Electrical & Computer Engineering, Chungbuk National University. His research interests include mobile communication, high-speed network architecture and protocol, NGN and Energy-saving network