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Investigation of gateway placement optimization approaches in wireless mesh networks using genetic algorithms (Conference Paper)

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Abstract

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Recently wireless mesh networks (WMNs) gained significant roles in the current communication technologies and have been used in numerous applications such as transportation systems, rescue systems, Surveillance systems, community and neighborhood networking and etc. Therefore, many researchers pay their attention to the wireless mesh network issues especially the gateway placement optimization problems. In this paper, we study and investigate the efforts of many researchers that dealt with the gateway placement optimization problem based on combinatorial optimization concepts in comparison with other conventional algorithms as well as comparing the combinatorial based algorithms with each other. The investigation result shows that the genetic algorithms based approaches on solving gateway optimization problem relatively outperform many other approaches in addition to that the strength of the genetic algorithm depends on the fitness function which is used in measuring the quality of the individuals (fitness value). © 2014 IEEE.

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