

Abstract

This paper simulates the ad-hoc mesh network in rural areas, where such networks receive great attention due to their cost, since installing the infrastructure for regular networks in these areas is not possible due to the high cost. The distance between the communicating nodes is the most obstacles that the ad-hoc mesh network will face. For example, in Terranet technology, two nodes can communicate if they are only one kilometer far from each other. However, if the distance between them is more than one kilometer, then each node in the ad-hoc mesh networks has to act as a router that forwards the data it receives to other nodes. In this paper, we try to find the critical number of nodes which makes the network fully connected in a particular area, and then propose a method to enhance the intermediate node to accept to be a router to forward the data from the sender to the receiver. Much work was done on technological changes on peer to peer networks, but the focus of this paper will be on another feature which is to find the minimum number of nodes needed for a particular area to be fully connected and then to enhance the users to switch on their phones and accept to work as a router for other nodes. Our method raises the successful calls to 81.5% out of 100% attempt calls.

