Abstract

In this paper we propose a method to enhance the life time as well as improve the performance of the mobile ad hoc networks (MANET). Since MANET consists of devices that run on batteries, having limited amount of energy and due to the self-configuring and dynamic change of topology, all operations are performed by the node itself. More ever if any new technology and advancement are introduced in the MANET then the overhead of computation will also be performed by the individual nodes. All these computation will consume a lot of battery energy during the process of communication between sources to destination. In such scenario, we have considered DSR routing protocol as our base protocol and we attempt to make some modification on it which acts into an efficient energy saving and survival DSR (ESSDSR). We have considered DSR because it is one of the protocol which does not take energy into account and once the dedicated path is established between source to destination then it will keep sending through that path until the link is broken due to any of the intermediate node dies out of energy or mobility of the node away from its neighbor nodes and so it is considered as one of the unconventional routing protocol. Whereas ESSDSR acts not only as an energy efficient routing protocol but also shows an energy survival instinct. It establishes a path from source to destination where packet transmission can be sent for a longer period of time through the nodes having high level of residual battery power. It also informs the source node if any node has
low battery energy, so that a new path can be discovered for the same destination prior the path get disconnected and data transmission get affected. And so the number of packet drops and retransmission can be reduced. Hence we can conclude that our proposed method enhances the performance of the networks as well as enhances the network life time. We have implemented our proposed protocol in ns-2.34 and evaluated the life time of the networks as well as the node’s life time has been improved as compare to traditional DSR with a higher ratio.

References

Energy Saving and Survival Routing Protocol for Mobile Ad Hoc Networks

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Index Terms

Computer Science
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Keywords
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