Adaptive-Transmission-Power Ad Hoc On-Demand Distance Vector Routing Protocol for Mobile Ad hoc Network

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Abstract

The conventional routing protocols in mobile ad hoc network (MANET) using conventionally a common transmission power for both transmission and overheads to transfer the data packet from the source to the destination node have been revisited. Hence, an technique was developed to establish an algorithm (Adaptive-Transmission-Power Ad Hoc On-Demand Distance Vector (ATP-ADOV) routing protocol - to control the transmission of power dynamically and overheads in MANET. The proposed ATP-ADOV reduced the energy consumption in the networks and improved the lifetime of the participating mobile nodes as well as that of the lifespan of the networks.

References

2. M. Bouallegu, K. Raoof, M. Ben Zid, and R. Bouallegue, “Impact of variable transmission
power on routing protocols in wireless sensor networks Wireless Communications,” 10th
2014, pp. 496 – 499.
Protocols for Mobile Ad hoc Networks” International Journal of Computer Science and Network
4. S. Narayanaswamy, V. Kawadia, R. S. Sreenivas, and P. R. Kumar, “The COMPOW
protocol for power control in ad hoc networks: theory, architecture, algorithm, Implementation
Location Aided Routing,” ICICT-2014, Shivamogga, pp. 296-301.
7. Charles E Perkins, Elizabeth M Royer, The Ad Hoc On-Demand Distance-Vector
8. C. Siva Ram Murthy and B. S. Manoj, Routing Protocols for Ad Hoc Wireless Networks,
Ad Hoc Wireless Networks – Architectures and Protocols, Prentice Hall Communications
Inc. 2004, pp. 299-359
9. The ns Manual (formerly ns Notes and Documentation), The VINT Project A Collaboration
between researchers at UC Berkeley, LBL, USC/ISI, and Xerox PARC, November 5, 2011.
10. Francisco J. Rojo Pedro M. Ruiz, A manual on Implementing a New Manet Unicast
Routing Protocol in NS2, Dept. of Information and Communications Engineering University of
Murcia, December, 2004
comparison of multi-hop wireless ad hoc network routing protocols, in Proceedings of the Fourth
Annual ACM/IEEE International Conference on Mobile Computing and Networking, ACM,
October 1998.
12. L. Breslav, D. Estrin, K. Fall, S. Floyd, J. Heidemann, A. Helmy, P. Huang, S. McCanne,
13. P. Johansson, T. Larsson, N. Hedman, B. Mielczarek, and M. Degermark,
Scenario-based performance analysis of routing protocols for mobile ad-hoc networks, in
195-206.
Waypoint Mobility Model, in ACM/Kluwer Wireless Networks, Special Issue on Modeling and
15. S. Narayan, V. Kavadia R. Srinivas, and P Kumar,"Power Control in Ad hoc Networks:
Theory, Architecture, Algorithm and Implementation of COMPOW algorithm", in proceeding of
European wireless conference: Next Generation Wireless Technologies, Protocols, Services
Protocol for wireless ad hoc Networks”, ACM SIGMOBILE, Mobile Computing and
Index Terms

Computer Science  Wireless

Keywords

MANET, Routing protocol, Network simulator, Transmission range, Throughput, Delay, Packet delivery ratio, Energy consumption, efficiency and lifetime