MANET (Mobile Ad hoc Network) is a wireless self-organized distributed network. This paper gives a general survey of research on local repair of link, if it is broken during communication for MANET and proposes a new local repair scheme in order to make up the deficiency of the existing local repair schemes. The improved local repair scheme concerns about the over head
On Demand Local Link Repair Algorithm for AODV Protocol

requirement and end to end delay in transmission. Nodes are required to keep the next
two-hop node address for each route entry in routing table. During local repair, the repairing
node use Ant algorithm for finding new route for next to next node in the link considering that
other part of the link is already in existence. Reduced size of F-ANT and B-ANT will give
significant reduction in overhead. In this case repairing node not only tries to discover the route
to the destination node of data packet, but also attempts to establish the route to its
downstream node (i.e. the next hop node). The proposed algorithm will be highly adaptive,
scalable and efficient and mainly reduces end-to-end delay in high mobility cases.

References

- Er J.-N. LIU and Imrich Chlamtac “Mobile ad hoc networking with a view of 4G wireless:
  Imperatives and Challenges”
- Srdjan Krco and Marina Dupcinov, “Improved Neighbor Detection Algorithm for AODV
  Routing Protocol” IEEE Communications letters, Vol. 7, No. 12, December 2003
- Ionut D. Aron and Sandeep K.S. Gupta, “Analytical Comparison of local and End-to-End
  Error Recovery in Reactive Routing Protocols for Mobile Ad Hoc Networks,” Proceedings of the
  3rd ACM Int. Workshop on Modeling, Analysis and Simulation of Wireless and Mobile Systems
- Sergio Crisstomo, Susana Sargento, edro Brandgo’, Rui Prior’ “Improving AODV with
  Preemptive Local Route Repair” International Workshop on Wireless Ad-Hoc Networks 2004
- XIAO Bai-Long, GUO Wei, LIU Jun, ZHU Si-Lu, “An Improvement for Local Route Repair
  in Mobile Ad Hoc Networks,” 6th International Conference on ITS Telecommunications
- Ammar Zahary and Aladdin Ayesh , “On-demand Multiple Route Maintenance in AODV
- Nadilma Cintra Valença Nunes Pereira and Renato Mariz de Moraes , “ A Comparative
  Analysis of AODV Route Recovery Mechanisms in Wireless Ad Hoc Networks” IEEE
  transaction 2009
- Saaidal R. Azzuhri, Marius Portmann, Wee Lum Tan, “Evaluation of Parameterised
  Route Repair in AODV” IEEE 2010.
- S. H. Shah and K. Nahrsledt.. “Predictive location-based QoS routing in mobile ad hoc
  networks,” in in Pruc. of IEEE Internarional Conferenceon Coimiunicarions (ICC 20021, New
  York, NZ April - May 2002
- Fei Jiang, JianJun Hao, “Simulation of An Improved AODV Algorithm for Ad Hoc
  Network” vol1 IEEE conference ICACT 2010 ,
- M.Dorigo, LM. Gambardella, “Ant colony system: a cooperative learning approach to the
  traveling salesman problem”, IEEE Transactions on Evolutionary Computation, Vol.1, No.1,
- Ruud Schoonderwoerd, Owen Holland, Janet Bruten, and L.Rothkrantz, "Ant-Based

Index Terms

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