Greenlee 560 Summary 3

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Ad-Hoc On-Demand Distance Vector Routing

1 Problems

What problems does this paper try to solve? Why are such problems important?

Mobile networks provide new routing challenges. Interest in this field has grown recently due to the new availability of laptops to communicate through license free wireless devices. This paper provides a routing algorithm for ad-hoc dynamic self starting mobile networks. This has applications ranging from including emergency services, conferencing, battlefield communications, and community based networking.

2 Assumptions

What are assumptions made by this paper? Are they verifiable? Are there logical holes in such assumptions?

The designers made the assumption that node movement will be constant throughout. For all systems this assumption is not good, but because this is a fundamental design component for the systems they are targeting, it seems like they are fully aware that their solution is the best only under these conditions. Even the simulation makes this assumption.

3 Solutions

What are the major solutions of this paper? Do you think the solutions in this paper will work for the problem? Do you think the paper evaluates the solutions in a convincing manner? List two limitations of the solutions proposed in this paper, and outline your method to fix them.

This paper has created a pure on demand route acquisition system. Nodes not on active paths store no routing information except for a list of surrounding nodes. Nodes participate in no periodic routing table exchanges. Based on their principle design assumption of mobile nodes, this solution is excellent. The

simulations for testing and stressing their system provide convincing evidence of their success.

3.1 Limitations

If active route timeout time is slightly less than a periodic task that requires a route to a destination, then nodes will constantly have to re-find paths. It would be better to weigh the cost of re-finding a node against the memory cost of storing, based on how often that route comes up. However, given that is on demand routing is for mobile communication, this problem may only come up rarely.

The paper mentions using a backbone in future work, but often a network that is mobile is interacting with a network that is stable. Design considerations should observe this and plan on some degree of stability. Networks should be able to find such a stable backbone, or networks should be started from that base when available.