Abstract

Mobile Ad-Hoc Networks (MANETS)[7] are an emerging technology that allows establishing instant communication infrastructures for civilian and military applications. An Intermittently Connected Mobile Ad hoc Networks (IC-MANET)[4] operates in environments where the nodes do not form a completely connected network. Existing geographical routing protocol like location-aware routing for delay-tolerant networks (LAROD)[1,3] enhanced with a location service has shown to work well in IC-MANET. But the challenge here is to design a routing protocol to handle intermittently connectivity and dense/sparse topologies and also the performance of this geographical routing protocol degrades with varying network node densities such as sparse and dense topologies. For sparse systems, distribution of location information will probably be very slow. For dense systems, the transfer of location data may start to consume too much bandwidth locally at the dense areas. In this work, we propose a density based geographical routing algorithm called density based location-aware routing for delay tolerant networks (D-LAROD). D-LAROD calculates the density of the network based on location of the neighboring nodes information that counter for every route update that is
performed at the time of route discovery process. The D-LAROD scheme is compared with the existing LAROD protocol[1] and is shown to have a competitive edge, both in terms of delivery ratio and overhead.

References


Index Terms

Computer Science Networks

Keywords
Node Density, Intermittent connectivity, Location aware routing protocol, Ad-Hoc on demand routing protocol (AODV)