Abstract

This paper presents a novel routing protocol for Disruption Tolerant Networks (DTNs) called Efficient DTN Routing Protocol (EDRP). EDRP smartly integrates the forwarding and buffer management policies into an adaptive protocol that includes a local network parameters estimation mechanism. It dynamically adjusts the delivery probability for messages according to a new metric. Meanwhile, EDRP arranges the forwarding sequence and the dropping priority based on their assigned weight. The weight is determined by the Replication Density (RD), the Message Length (ML), and Message Remaining Life Time (MRLT). An extensive simulation of EDRP was carried out and its performance was compared to well known DTN routing protocols: PRoPHET, and Epidemic Routing protocols. Simulation results show that the proposed routing protocol outperforms them in terms of packet delivery ratio, delivery delay and message overhead.

References

Efficient DTN Routing Protocol

- Ari Keronen, and Jurg Ott, "The One simulator for DTN protocol evaluation," in SIMUTOOLS 2009, Rom, Italy.

Index Terms

Computer Science

Networks
Keywords

DTN  Adaptive Routing  Weight Estimation  Drop Policy.