

Towards designing a routing protocol for opportunistic networks

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Abstract

Intermittently connected opportunistic networks experience frequent disconnections and shorter contact durations. Therefore routing of messages towards their destinations needs to be handled from various points of view. Predictability and connectedness are two information which can be determined by participating mobile nodes of an opportunistic content distribution network using their past contacts. Epidemic or probabilistic routing protocols do not fully utilize these information to route messages towards their destinations. In this paper we describe the routing algorithm, implementation details, experiment design and the performance validation of a new, adaptive routing protocol which utilizes the predictability and connectedness information to route messages efficiently. Simulation based comparative studies show that the proposed routing protocol outperforms existing Epidemic and probabilistic routing protocols in delivering messages.