



ADAPTIVE SPRAY ROUTING FOR OPPORTUNISTIC NETWORKS

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Submitted: Aug. 02, 2012

Accepted: Jan. 5, 2013

Published: Feb. 20, 2013

Abstract- opportunistic networks are sparse wireless networks where most of the time there is no complete path from the source to the destination. Many applications require delay constrained routing mechanism which can provide acceptable and resilient service in the face of challenged environments. A class of adaptive spray mechanisms which aims to achieve the delay constraint with low cost in dynamic circumstances was proposed in this paper. Adaptive spray mechanisms use relay nodes to make spray decisions in order to apperceive the change of network conditions exquisitely. These protocols are least-cost delay-bounded routing protocols under specific spray mechanisms. Theoretic analyses of adaptive spray routings at aspects of routing cost, copy

redundancy and expected delay were also given in this paper. Simulation results have shown that adaptive spray mechanisms exhibit prominent superiority in routing cost, adaptability and scalability. Adaptive spray mechanisms are a class of correct and efficient delay-bounded routings for opportunistic networks.

Index terms: opportunistic networks, spray routing, delay constraint; adaptive