A Survey of Multipath Load Balancing Based on Network Stochastic Model in MANET

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Abstract—**Mobile Ad Hoc Network (MANET) is a special kind of network that differs from traditional communication network. It consists of multiple wireless nodes within an area, with each device assuming responsibility for assisting in forwarding packets and being free to move around the area to change the wireless connection at any time. The network's wireless topology may change rapidly and unpredictably, and MANET has no centralized control for distribution of load properly, so load balancing becomes one of the most important issue in MANET. When a network transmits a large number of packets, if there is no load balancing, the network's life and performance will be affected due to congestion, high latency and data loss caused by overloading the network. Load balancing can improve network life and performance by distributing the load on a per-node basis. With development of the research, multi-path routing protocols are more popular than single-path routing protocols, and multi-path routing protocols have shown superiority in their ability to improve packet rates, increase transmission reliability, and handle network congestion and busy traffic on time. This paper examines some multi-path load-balanced routing schemes in MANET networks and provides the relative advantages and disadvantages of the protocols so that we can identify future directions for research.**

Keyword—**MANET, Multi-path, Single-path, Load balancing, Routing protocol**

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