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**Link Availability Based Routing Protocol for Mobile Ad-Hoc Networks Based on Link Life Time Prediction**

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**Abstract**

A self-configured MANET has a set of wireless devices. With no prior administration, the Mobile Nodes (MNs) communicate via the wireless links. The limited bandwidth, transmission errors, dynamic topology, energy constraints, and link stability fluctuations lead to node mobility. The links between nodes are unreliable and might break on account of such node mobility. Link breakage leads to the rerouting process at the sender node (where the link breakage occurs) or Source Node (SN). This work proposed Link availability based routing protocol (LBRP) for MANET to attain load balancing via the Multi-Path (MP) communication. The traffic data could completely pass through parallel multiple paths, which enhances the protocol efficiency. On weighing against the existing routing protocols (RPs), the LBRP chiefly considers frequent link failures and unpredictable change in topology. The simulation outcomes validate the proposed LBRP. The LBRP performs well when contrasted to the DSR, ZRP, and AODV in all the experiments. This work would serve as the groundwork for examining and optimizing certain network protocols, and could help in designing algorithms for transport control and medium access.

**Keywords:**

Link quality, Link availability table, Link lifetime, Path availability.

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