Hybrid MANET DSR-DTN routing protocol

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Abstract:

The article analyzes reactive and hybrid routing protocols for MANET networks and opportunistic networks (DTN delay tolerant network). It analyzes their usage, functionality, their advantages and disadvantages and also differences between them. It is about questions and problems which arise in disconnected MANET networks. In this article is presented our proposal of hybrid DSR-DTN routing protocol which is based on existing DSR and content oriented opportunistic routing protocols. This new routing protocol expands functionality of DSR routing protocol which includes DTN routing. Its purpose is delivering messages in MANET networks also in the case when the height speed mobility of nodes causes that MANET network is fragmented to networks islands with zero connectivity between them. Because of the mobility a lot of new opportunistic connections between nodes are created. Designed routing protocol was processed in simulation software Matlab and its functionality was confirmed with many simulations in Matlab. The results were compared and assessed with DSR routing algorithm which was the basis of hybrid DTN – DSR routing protocol.