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RESEARCH ARTICLE



GEOGRAPHIC ROUTING SCHEME BASED ON DYNAMIC LOCATION UPDATE AND LOAD BALANCING MECHANISM

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Abstract— Data transmission and beacon transmission is based on the location information of each and every node which is connected in the network, in the geographic routing. Hence the beacon packets are transmitted by the neighbor node to the requested node by using APU (Adaptive Position Update) scheme. APU scheme incorporates two rules such as Mobility Prediction (MP) Rule and On-Demand Learning (ODL) rule. APU dynamically adjust the beacon update interval based on the movement of the node. To reduce the updating cost and also to improve the performance of the network, ODL rule is used. ODL creates the topology for the active nodes i.e., forwarding node while transferring the data. But MP rule is not able to handle the link failure while transferring the data. In order to overcome that failure, the Extended Adaptive Position Update (EAPU) scheme has been proposed. It has two ways to overcome the link failure, inaccuracy of the topology and performance degradation as 1) Request for new neighbor node's neighbor list. 2) Verification of acknowledgement, Transmission and path. To achieve the later, the system with TCP protocol instead of using UDP for trustworthy connection has been proposed. Also, load at the time of transmission of data packets in the forwarding node get reduced since TCP protocol is an End-to-End Packet delivery. Thus the system is enhanced with the benefits of EAPU along with TCP for routing purpose as well as trustworthy logical connection.

Keywords: Beacon Transmission by EAPU, Optimal routing, Load Balancing, Packet Delivery Ratio

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