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Performance Analysis of Gateway Discovery Techniques: IPv6-Based Wireless Sensor Networks

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ABSTRACT

The paper is devoted to logical implication of MANet's protocols for gateway discovery in IPv6 Wireless Sensor Networks (IPv6-WSN). We implement three approaches in NS-2 simulator and evaluate its performance under the specified field of the networks of gateway discovery. The performance results present the packet delivery ratio and delay of end to end communication networks. The AODV protocol is used to modify and implement an IPv6-WSN. We use three types of configuration phase for gateway discovery, proactive, reactive, and hybrid gateway discovery. We discuss the mechanisms of this gateway method and packet formats. The IPv6-WSN network is used for transmission of IPv6 packets. It is based on the combinations of IEEE802.15.4 and IPv6. The IPv6-WSN is based on a 6 lowpan (IPv6 over low power wireless personal area network) stack specified into the rfc's and drafts of IETF working group.

ADDITIONAL INFORMATION

Index Terms:

Internet, IPv6-WSN, MANet, 6lowpan, AODV

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