Abstract

A mobile ad hoc network is a temporary network based on movable nodes within a specific range. Due to this motion the information related to nodes is continually changes likewise the addition of new node and its deletion from network is required. Due to this the authenticity of node must be justify to participate in data transmission. In the absence of this verification process some of the unidentified nodes may does malicious act. This type of activity is done by node known as blackhole/grayhole attack. A black hole node is a malicious node which sends the fake reply for route requests and drops the packets. In this work, a novel approach is proposed to detect blackhole nodes for AODV protocol of MANET. Our solutions find out the safe route between sending node and receiving node through some routing decision which is calculated through proposed Trust Certificate Sequence Exchange (TCSE) mechanism. In this mechanism the trust of each node in a network is calculated on the basis of behavior analysis of nodes & issues a certificate. The trust value is measure as a parameter of reliability & analyses delivery ratio, overhead & delays. This value is stored in a specific certificate & regularly shared with every neighbor. The work also introduces a control node named as watcher node which will monitors the behavior & trust of every other node within its neighbours. Initial results shows that the mechanism proposed will provide an effective solution to the mentioned problem of cooperative blackhole detection & prevention.
References

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Index Terms

Computer Science
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Keywords
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