Abstract

In this paper, we propose an algorithm to detect a chain of cooperative malicious node in ad-hoc network that disrupts transmission of data by feeding wrong routing information along with the detection algorithm. We also propose a mechanism to detect and remove the black and gray hole attacks. Our technique is based on sending data in terms of equal but small sized blocks instead of sending whole of data in one continuous stream. The flow of message is monitored independently at the neighborhood of both source and destination. The result of monitoring is gathered by a backbone network of trusted nodes. Our algorithm takes $O(n)$ time on average to find the chain of malicious nodes which is better than earlier $O(n^2)$ time bound for detecting a single black hole network.

Reference


Advanced Algorithm for Detection and Prevention of Cooperative Black and Gray Hole Attacks in Mobile Ad Hoc Networks


**Index Terms**

Computer Science

Network Security

**Key words**

Packet forwarding misbehavior

Mobile ad-hoc network

Gray hole attack

Black hole attack