Now a day, security in Mobile Ad hoc Network (MANET) is very important issue. Due to dynamic topology and mobility of nodes, Mobile Ad hoc Networks are more vulnerable to security attacks than conventional wired and wireless network. Nodes of Mobile Ad hoc Network communicate directly without any central base station. That means in ad hoc network,
Design Enhancements in ZRP for Detecting Multiple Black Hole Nodes in Mobile Ad Hoc Networks

infrastructure is not required for establishing communication. Mobile ad hoc Network (MANET) is different than wireless sensor network (WSN). Mobile ad hoc network is more vulnerable than WSN. Therefore attacks in MANETs are very frequent than other networks. In this research paper we are describing black hole attacks which are easy to launch in wireless ad hoc network. Black hole attack is referred to as a node dropping all packets and sending forged routing packets to route packets over itself. In this paper, we are considering a zone with multiple black hole nodes that can work co-operatively and we are implementing Secure-ZRP protocol which can be used to prevent black hole attack in MANETs. We evaluated performance in Qualnet simulator. Our analysis indicates that S-ZRP is very suitable & efficient protocol to stop this attack.

Reference

- Yasser Gadallah and Hadeel El-Kassabi, “A WSN/MANET Hybrid Protocol for Routing Data in Heterogeneous Wireless Sensor Networks”, study supported under the UAE University
Design Enhancements in ZRP for Detecting Multiple Black Hole Nodes in Mobile Ad Hoc Networks

individual research grant number 01-03-9-11/07, 2008.

Index Terms
Computer Science Wireless

Key words
ZRP Secure ZRP protocol