Abstract

Wireless networks are gaining popularity to its peak today, as the user's wants wireless connectivity irrespective of their geographic position. There is an increasing threat of attacks on the Mobile Ad-hoc Networks (MANET). The attacks studied in this paper are against the routing protocols in Mobile ad hoc network. We have used AODV for simulating this attacks using NS3. Black hole attack is one of the security threat in which the traffic is redirected to such a node that drops all the packets or the node actually does not exist in the network. Black holes refer to
places in the network where incoming traffic is silently discarded or dropped. Jellyfish (JF) attack is a type of selective black hole attack. When JF node gets hold of forwarding packet it starts delaying/dropping data packets for certain amount of time before forwarding normally. Since packet loss is common in mobile wireless networks, the attacker can exploit this fact by hiding its malicious intents using compliant packet losses that appear to be caused by environmental reasons.

\textbf{References}

- A. Babakhousy, Y. Challal, and A. Bouabdellah, "A Simulation Analysis of Routing Misbehaviour in Mobile Ad Hoc Networks", in Proc. of the Second International Conference on Next Generation Mobile Applications, Services, and Technologies, September 2008
- V. Gupta, S. Krishnamurthy, and M. Faloutsos, "Denial of Service Attacks at the MAC Layer in Wireless Ad Hoc Networks", in Proc. of IEEE MILCOM ’02, 2002
- NS -3 manual (Release ns-3.11)
- Irshad Ullah and Shoaib ur Rehman, “ Analysis of Black Hole attack On MANETs Using different MANET Routing Protocols”
- Satyanarayana Vuppala, Alokaparna Bandyopadhyay, Prasenjit Choudhury and Tanmay
De, “A Simulation Analysis of Node Selfishness in MANET using NS-3”
- Fei Xing Wenye Wang, “Understanding Dynamic Denial of Service Attacks in Mobile Ad Hoc Networks”
- Imad Aad, y Jean Pierre, Hubaux, y and Edward W. Knightly, “Denial of Service Resilience in Ad Hoc Networks”
- RFC 3561: Ad hoc on demand Routing protocol

Index Terms

Computer Science Wireless Communication and Mobile Networks

Keywords

AODV protocol  Black hole & Jellyfish attack  Mobile ad hoc networks (MANETs)  Network Simulator-3