Abstract

Wireless networks are playing very important role in the present world. Mobile Ad hoc Networks (MANET) are the extension of the wireless networks. These networks are playing crucial role in the each and every field of the human life. They are used in those places where a simple wireless network cannot use. They play a significant role in real tile applications such as military applications, home applications wireless sensor applications etc. Due to their adaptive nature they are threatened by number of attacks such as Modification, Black Hole attack, Wormhole attack etc. Wormhole attack is one of the dangerous active attacks in the mobile Ad hoc Networks (MANET). In this paper a secure and efficient approach for the detection of the wormhole attack in the Mobile Ad Hoc Networks (MANET) is described. The proposed algorithm is implemented on a very popular on Adhoc On Demand Distance Vector known as AODV routing protocol. The beauty of this proposed algorithm is that it not only identifies the wormhole attacker node but also confirm it as well. To simulate the effect of the proposed work the popular NS 2(Network Simulator 2) is used.
An Approach to Detect Wormhole Attack in AODV based MANET

- Kuldeep Sharma, Dr. G. Mahadevan, "Advance Hop-Count Analysis Scheme for Avoiding Wormhole Attacks in MANET"; Int. J. on Recent Trends in Engineering & Technology, Vol. 05, No. 01, Mar 2010
- Khalil, "WAP: Wormhole Attack Prevention Algorithm in Mobile AD-HOC network"; Sensor network, Ubiquitous and Trustworthy Computing 2010
- A. A. Pirzada and C. McDonald, "Detecting and evading wormholes in mobile ad-hoc wireless networks"; International Journal of Network Security, 3(2):191C202,
- P. Hubaux, and L. Buttyan, "Mobility helps security in ad hoc networks"; Proceedings of MobiHoc, 2011
- S. Capkun, M. Cagalj, and M. Srivastava, "Secure localization with hidden and mobile base stations"; Proceedings of the 25th IEEE International Conference on Computer Communications Societies (INFOCOM &apos;06), Barcelona, Spain, April 2011

- Dr. A. Francis Saviour Devaraj, Vandana C. P, "MLDW- A MultiLayered Detection mechanism for Wormhole attack in AODV based MANET"; Scholar, Department of Information Science Engineering Oxford College of Engineering, Bangalore, India International
An Approach to Detect Wormhole Attack in AODV based MANET

Journal of Security, Privacy and Trust Management (IJSPTM) Vol 2, No 3, June 2013


Index Terms

Computer Science

Security

Keywords

MANET; AODV; RREP; RREQ; Wormhole