Abstract

Wireless network is a growing field of latest technology because of its increased popularities over the rural and urban areas. Such network provides the mobility based service usage and hence removes the location dependencies for the users of mobile devices such as laptops, cell phones, Tablets and PDA's. These networks are categorized on the basis of their infrastructural usage and range of transmissions. Mobile ad-hoc network is one of its types having infrastructure less environment performing short range communications. In this the overall responsibility of communication is shifted from networked components to mobile node itself working as a router. As the facility is increased some relaxation is also made available for malicious users and hence it is more susceptible to network attack due to its open environment and dynamically changing nature. Flooding is used for the most performed network attack aims at degrading the network performance by inserting the several dummy RREQ packets in the network. These packets are large in quantity and hence consume lots of network resources such as, bandwidth and nodes battery power. Over the last few years various approaches is been suggested to overcome flooding related issues. Even after these traditional flooding attacks solutions, there are some problems which remain unsolved like: isolation of fake RREQ from actual packets, maliciousness percentage based on nodes behaviour and previous participation, probability of malicious flooded packet detections. Thus this paper proposes a
novel CARF-F based flooding attack detection and removal mechanism for AODV protocol. At
the initial level of analytical results the approach is proving its strong presence in near future.

References

- D. Karun K Reddy, K. Sandhya R Kundra, M. Ratnakar Babu, Dr. L. Prassana Kumar,
Prevention of Routing Attack in Mobile Ad-Hoc Networks: A comparative study, in
International Journal of Research in Computer and Communication technology, IJRCCT, ISSN
- Sudhir Agrawal, Sanjeev Jain, Sanjeev Sharma, A Survey of Routing Attacks and
Security Measures in Mobile Ad-Hoc Networks;, in Journal of Computing, ISSN
- Jaydip Sen, M. Girish Chandra, P. Balamuralidhar, Harihara S. G. and Harish Reddy,
A Distributed Protocol for Detection of Packet Dropping Attack in Mobile Ad Hoc
Networks;, by Embedded Systems Research Group, Tata Consultancy Services,
Bangalore-560066, India.
- Isa Maleki1, Ramin Habibpour, Majid Ahadi and Amin Kamalinia, Security in
4, August 2013.
- Bing Wu, Jianmin Chen, Jie Wu, Mihaela Cardei, A Survey on Attacks and
Countermeasures in Mobile Ad Hoc Networks;, in Wireless Mobile Network Security,
- Ms. Neetu Singh Chouhan and Ms. Shweta Yadav, Flooding Attacks Prevention
in MANET;, in International Journal of Computer Technology and Electronics Engineering
- Jian-Hua Song1, 2, Fan Hong1, Yu Zhang, Effective Filtering Scheme against
RREQ Flooding Attack in Mobile Ad Hoc Networks;, in IEEE Computer Society,
ISSN:0-7695-2736-1/06, 2006.
- Venkatesan Balakrishnan, Vijay Varadharajan and Udaya Kiran Tupakula,
Fellowship: Defense against Flooding and Packet Drop Attacks in MANET;, in INSS
Research Group, Department of Computing, Macquarie University, North Ryde, Sydney, NSW
Australia 2109
- Shishir K. Shandilya and Sunita Sahu, A Trust Based Security Scheme for RREQ
Flooding Attack in MANET;, in International Journal of Computer Application, ISSN: 0975
– 888, Vol. 5– No. 12, August 2010.
- Ujwala D. Khartad & R. K. Krishna, Route Request Flooding Attack Using Trust
based Security Scheme in Manet;, in International Journal of Smart Sensors and Ad Hoc
Networks (IJSSAN) ISSN No. 2248?9738 Volume 1, Issue 4, 2012.
- Neha Singh, Sumit Chaudhary, Kapil Kumar Verma and A. K. Vatsa, Explicit
Query based Detection and Prevention Techniques for DDOS in MANET;, in International
- Meghna Chhabra and B. B. Gupta, An Efficient Scheme to Prevent DDoS
Flooding Attacks in Mobile Ad-Hoc Network (MANET);, in Research Journal of Applied
Index Terms

Computer Science       Communications

Keywords
Wireless network     MANET (Mobile Ad-Hoc Network)     AODV     Network Attacks
Flooding Attack
Rate Threshold Limit

CARF-F (Conditional Active RREQ Flooding-Filter).