A HMM improved Neighbor Node Analysis Approach in Mobile Network

Abstract

Security is one of the challenging issue for Mobile network because of its public access nature. Blackhole is the common threat in this network that capture the communication between nodes and disturb the communication network. In this work, a blackhole preventive routing scheme is presented. The work as defined a two layered analysis to identify the blackhole node and to generate the effective path. In first layer, the long term statistical information is analyzed to identify the trustfulness of node. Once the information is collected, the HMM approach is applied to identify the effective neighbor. The work in implemented in NS2 environment. The results shows that the work has improved the network throughput and decreased the communication loss and delay.

References

- Ying Li, "Component-Based Track Inspection Using Machine-Vision Technology", ICMR'11, April 17-20, 2011, Trento, Italy ACM 978-1-4503-0336-1/11/04
- Bogdan Carbunar, "JANUS: Towards Robust and Malicious Resilient Routing in
A HMM improved Neighbor Node Analysis Approach in Mobile Network

Hybrid Wireless Networks

- Johann Schlamp; How to Prevent AS Hijacking Attacks; CoNEXT Student; December 10, 2012, Nice, France. ACM 978-1-4503-1779-5/12/12
- Joshua Goodman; Stopping Outgoing Spam; EC; May 17–20, 2004, New York, New York, USA. ACM 1-58113-711-0/04/0005
- Danny Dhillon; Implementation & Evaluation of an IDS to Safeguard OLSR Integrity in MANETs; IWCMC; July 3–6, 2006, Vancouver, British Columbia, Canada. ACM 1-59593-306-9/06/0007
- Ahmed Khurshid; VeriFlow: Verifying Network-Wide Invariants in Real Time; HotSDN; August 13, 2012, Helsinki, Finland. ACM 978-1-4503-1477-0/12/08
- Evan Cooke; Toward Understanding Distributed Blackhole Placement; WORM; October 29, 2004, Washington, DC, USA. ACM 1-58113-970-5/04/0010
- Umair Sadiq; CRISP: Collusion–Resistant Incentive–Compatible Routing and Forwarding in Opportunistic Networks; MSWiM; October 21–25, 2012, Paphos, Cyprus. ACM 978-1-4503-1628-6/12/10
- Mauro Conti; A Randomized, Efficient, and Distributed Protocol for the Detection of Node Replication Attacks in Wireless Sensor Networks; MobiHoc; September 9-14, 2007, Montréal, Québec, Canada. ACM 978-1-59593-684-4/07/0009
- Garima Gupta; Reference based approach to Mitigate Blackhole Attacks in Delay Tolerant Networks; Q2SWinet; October 24–25, 2012, Paphos, Cyprus. ACM 978-1-4503-1619-4/12/10
- Abhijit Das; Energy Aware Topology Security Scheme for Mobile Ad Hoc Network; ICCCS; February 12–14, 2011, Rourkela, Odisha, India. ACM 978-1-4503-0464-1/11/02
- Peter J. J. McNerney; A 2-Dimensional Approach to QoS Provisioning in Adversarial Mobile Ad Hoc Network Environments; MSWiM; October 21–25, 2012, Paphos, Cyprus. ACM 978-1-4503-1628-6/12/10

Index Terms

Computer Science
Networks

Keywords
HMM Blackhole Layered Statistical