Analysis of Security Issues in Vehicular Ad-Hoc Network (VANET)

By

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Thesis submitted in partial fulfillment of the requirement for M. Phil in Computer Science

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This thesis has been read by me and has been found to be satisfactory regarding content, English usage, format, citation, bibliographic style, and consistency, and thus fulfils the qualitative requirements of this study. It is ready for submission to the department of Computer Science & Information Technology for internal and external evaluation.

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Date

Acknowledgement

With the name of Allah the most beneficent the most merciful. I am very much grateful to my thesis supervisor Mr Waseem Iqbal for his support and for being ever patient with me while directing me through the new and complicated process of researching, analyzing and writing my thesis. I would like to thank Miss Maryam Butt (HOD) and all of the respected teachers for agreeing to assist me in this endeavor and for their guidance.

I would like to express my special gratitude to my loveliest parents, friends and family members for their sincere prayers.

I express my deepest affection towards my friends Mr Khalid Hamid and Mr Sheraz Tarik whose support and consistent encouragement gives me motivation to attain this goal. I would also appreciate my sweet brother Rafey Saeed whose patience and love enables me to fulfill this challenging task.

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Abstract

Mobile Ad-Hoc network (MANET) is a dynamic wireless network that does not require any fixed Infrastructure, in which nodes are portable devices which communicates data wirelessly. Vehicular Ad-Hoc network (VANET) is developed from MANET. It is well known and modern type of network. It is widely used in vehicles to form intelligent transport system (ITS). VANET is a heterogeneous hybrid network of internet service providers and cellular network in which vehicles frequently change their position. It provides the information regarding road situation, traffic condition, and location by using global positioning system. VANET security is very important to provide efficient and secure data communication between vehicles. This thesis provides comprehensive analysis of VANET security issues and monitors the behavior of DSDV, DSR and ZRP routing protocols. In order to assess and monitor the performance of VANET i.e. when it is under attack of Black Hole Attack which is major cause of denial of services, NCTUns 6.0 simulator used to measure the parameters such that throughput, network load and packet delivery ratio.