

**INVESTIGATION OF THROUGHPUT AND PACKET DROP ON
VANET USING NCTUNS SIMULATION SOFTWARE**

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ABSTRACT

Vehicular Ad-hoc Network (VANET) is a technology that uses moving car as a node in a network to form a mobile network. The purpose of this project is to run VANET using National Chiao Tung University network simulator (NCTUns) to obtain throughput and packet dropped at each node at different speed. Simulation takes into account of the Manhattan mobility environment, using two ray ground reflections as the propagation model. The investigation of throughput and packet drop was done from 5 up to 25 VANET nodes using Ad-hoc On-demand Distance Vector (AODV) protocol to evaluate the performance of the nodes.

Keywords- Ad Hoc Network, Simulation, Throughput, Packet dropped

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CHAPTER 1

INTRODUCTION

1.2 OVERVIEW

Ad-hoc network refers to a communication that can be established without using a proper planning or impromptu. Vehicular ad-hoc network (VANET) is one of mobile ad-hoc network subset. VANET can operate without any infrastructure or centralize management, so that the network organization is carried out by the nodes themselves. VANET nodes moves without boundaries and varied in speed to create a concept of vehicular motion that continuously varied. Nodes in VANET can moves very fast, thus produces frequent changes in network. A real time environment tests done to evaluate how VANET nodes are performed.

Modeling of VANET in this project is done in a kernel based Linux simulation package called National Chiao Tung University network simulator (NCTUns)[1]. This free software with open source codes facilitates the creation of a new application.