

**COMPARATIVE STUDY ON THE PERFORMANCE OF TCP-FREEZE  
AND TCP-NEWRENO OVER DIVERT FAILURE ROUTING PROTOCOL**

**BY**

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**UNIVERSITY UTARA MALAYSIA  
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**COMPARATIVE STUDY ON THE PERFORMANCE OF TCP-FREEZE  
AND TCP-NEWRENO OVER DIVERT FAILURE ROUTING PROTOCOL**

**A project submitted to Dean of Awang Had Salleh Graduate School in  
Partial Fulfilment of the requirement for the degree  
Master of Science of Information Technology  
University Utara Malaysia**

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## ***Abstract***

*Many enhancements have been proposed to address TCP throughput issues over wireless links. In this project, we will study the performance of the standard TCP over TCP Freeze with Divert Route Failure Protocol as the routing mechanism. This study is aimed for the purpose of further improvement in related services provided by TCP over the wireless links. Such enhancements are needed due to the high transmission error rates in wireless links.*

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# CHAPTER ONE

## INTRODUCTION

There are many TCP versions developed to tackle different network issues and in order to optimize certain network objectives (Alnuem et al., 2009), (Obata et al., 2005), (Bohacek et al., 2006). In this research, we are focusing on the enhancement of TCP in wireless links. This focus is directed towards the need to allow TCP to distinguish between congestion in the network and packet corruption due to lossy wireless links.

### 1.1. Introduction

TCP/IP protocol's applications and services cover a very large share of the total volume of the traffic in the network today. The original TCP mechanism was built to accommodate high bandwidth, minimal delays and congestion limited networks. This is obviously is not suitable for the wireless networks as wireless networks has the characteristics of having great number of losses due to the higher delays and very limited bandwidth. The next section will presents the related issues of TCP over wireless links.

### 1.2. TCP Issues over Wireless Links

This section presents a brief overview of the basic factors that affect the TCP characteristics in wireless systems.

The contents of  
the thesis is for  
internal user  
only

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