TCP Versus UDP Performance In Term Of Bandwidth Usage

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By
Mostfa M. Kaytan

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ABSTRACT

This project is mainly about how to establish User Datagram Protocol (UDP) and Transmission Control Protocol (TCP) connection in the same network simulation. For that, we will be using four types of TCP which are TCP Tahoe, TCP Reno, TCP NewReno and TCP Vegas. From there, we are going to differentiate them in term bandwidth usage and define how it works and describes several effect that occurred when its work together. In order to create the topology and run the protocols, we use Network Simulator 2 (NS2) to create and run the coding. To run the codes, we use command which use a few code in running the coding. Then we will get a topology, which is the flow of the packet within the source and destination, base on the coding. A graph also appears after the command.

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In the name of Allah, Allah says:

((Work; so Allah will see your work and (so will) His Messenger and the believers ;))

(Al-Quran: Tawba-105)

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Contents

LIST OF FIGURE

ABBREVIATIONS

TCP	Transport Control Protocol
UDP	User Datagram Protocol
FTP	File Transfer Protocol
CBR	Constant Bit Rate
NS	Network Simulation
NAM	Network Animator
TCL	Tool Command Language
OTCL	Object extension of TCL
HTTP	Hypertext Transfer Protocol
POP	Post Office Protocol
SMTP	Simple Mail Transfer Protocol
ATM	Asynchronous Transfer Mode
DSSS	Direct-Sequence Spread Spectrum.

CHAPTER ONE

INTRODUCTION

1.1 Introduction

Transmission Control Protocol/Internet Protocol (TCP/IP), the most common of all network protocol suites, used for communication on the Internet. TCP/IP is a hierarchical protocol made up of interactive layers (as shown in Figure I) each layer has a specific functionality. (Ross, 2008)

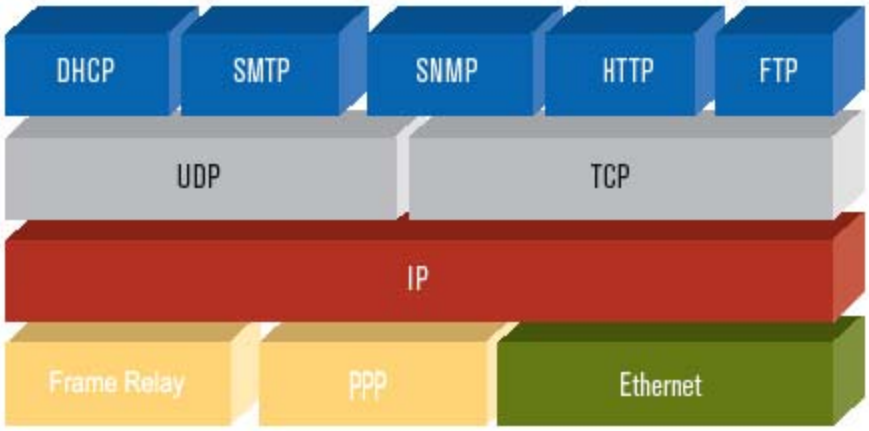

Figure 1.1 TCPIIP Protocol Suite

According to (Ross,2008) application layer are placed at the top of TCP / IP stack, it defines protocols such as (FTP, HTTP, Telnet and so on) for application communication. These protocols are acting as interface for the actual application program. The transport layer follows the application layer. TCP/IP makes available two distinct transport layer protocols to the application layer: Transmission Control Protocol (TCP) and User Datagram Protocol (UDP). The transport layer follows the application

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