

**ASYNCHRONOUS TRANSFER MODE (ATM) LAN
SIMULATION AND ANALYSIS**

**This is presented in partial fulfillment for the award of
Bachelor of Engineering (Hons.) in Electrical
MARA UNIVERSITY OF TECHNOLOGY**



**MOHD NIZAM BIN MOHD SALLEH
Faculty of Electrical Engineering
UNIVERSITI TEKNOLOGI MARA
40450 SHAH ALAM, SELANGOR**

ACKNOWLEDGEMENT

In the name of Allah, the Most Beneficent and the Most Merciful. It is with the deepest sense of gratitude to the Almighty Allah swt who gives me the strength and ability to complete this project.

The author wishes to express his sincere gratitude to his supervisor, Pn Norasimah Khadri for her guidance, ideas and support.

Recognition is given to various members of the academic and technical staff of Faculty of Electrical Engineering, MARA University of Technology. Finally, special thanks to both of my parents, family and my friends for their understanding and support throughout the years.

ABSTRACT

This project paper deals with the concept of ATM technology and its implementation for the present LAN networks. ATM offers greatest advantages to fulfill today's continuing increase in network and bandwidth that are unable for existing network to handle. ATM is the technology for data communication that provides high-speed transmission, greater capabilities, more flexible access to the network, more efficient and better economical aspects. The simulation model was designed using the COMNET 111 Release 1.1 software. This simulation software is used to investigate LAN and ATM LAN performance and allowing the users to design the network, make changes and measured the performance of the network. The variables measured in this project are the average transmission delay time, frames delivered and the utilization of the network.

TABLE OF CONTENTS

CHAPTER	DESCRIPTION	PAGE
	DECLARATION	i
	DEDICATION	ii
	ACKNOWLEDGEMENT	iii
	ABSTRACT	iv
	LIST OF FIGURES	viii
	LIST OF TABLES	ix
	LIST OF ABBREVIATIONS	x
1	INTRODUCTION	
	1.1 Introduction	1
	1.2 Scope of the Project	2
2	ATM TECHNOLOGY	
	2.1 Introduction	4
	2.2 Definitions of ATM	5
	2.3 ATM Networking	5
	2.4 The ATM Protocol Reference Model	6
	2.4.1 The ATM Adaptation Layer	6
	2.4.2 The ATM Layer	7
	2.4.3 The Physical Layer	7
	2.5 The ATM Layer and ATM Cell	8
	2.6 ATM as an “Asynchronous” Technology	9