Universiti Teknologi MARA

The Implementation of Internet Protocol Virtual Private Network (IPVPN) in Telekom Malaysia

Azlinda Hameed Sultan (Bachelor of Science in Computer Science, UTM)

Independent Study submitted in partial fulfilment of the requirements for the degree of

Master of Science in Information Technology
Faculty of Information Technology & Quantitative
Sciences

September 2004

ACKNOWLEDGEMENT

I would like to express my sincere gratitude and thanks to my project supervisor, Prof. Dr. Mat Ikram Yusof for his invaluable advice, guidance and supervision that enabled me to successfully complete this independent study. My heartsfelt appreciation goes to all that have directly or indirectly helped me in completing my project especially to my fellow friends. To all of them. May Allah bless them always.

TABLE OF CONTENT

		Page
TITLE PAGE		j
ACKNOWLEDGEMENTS		ii
TABLE OF CONTENT		iii
LIST OF TABLES		vi
LIST OF FIGURES		vii
ABBREVIATIONS		viii
ABSTRACT		x
CHAPTER I INT	RODUCTION	
1.1	Introduction	1
1.2	Objective	2
1.3	Scope	3
1.4	Problem Statement	3
1.5	Study Significance	4
1.6	Organization of the Paper	4

CHAPTER 2 LITERATURE REVIEW

2.1	Introduction	5	
2.2	Network Generation	6	
2.3	Different Types of VPN	11	
2.4	What is IPVPN	13	
	2.4.1 Different Types of IPVPN	15	
2.5	IPVPN Security	18	
2.6	IPVPN Quality of Service (QoS)	26	
2.7	Benefits of IPVPN	31	
2.8	The Future of IPVPN	35	
CHAPTER 3 ME	THODOLOGY		
3.1	Introduction	38	
3.2	Methodology	38	
CHAPTER 4 ANALYSIS AND DISCUSSION			
4.1	Introduction	40	
4.2	The Implementation of Global IPVPN in	41	
	Telekom Malaysia		

ABSTRACT

The Internet has changed and will continue to change the way businesses operate. The rise of Internet as a business platform has resulted enterprises seek to leverage the benefits of Internet-based solution, and the industry has seen the establishment and increasing acceptance of Internet Protocol Virtual Private Network or in short IPVPN. Typically, IPVPN uses the Internet as the transport backbone to establish secure links with business partners, extend communications to regional and isolated offices and significantly decrease the cost of communications for an increasingly mobile workforce. As a result of that, Telekom Malaysia as the leading telecommunication company in Malaysia has taken forward step in implementing IPVPN as its aims in providing world class services to its customers.

The scope of this study concentrates on the analysis of the implementation of Global Internet Protocol Virtual Private Network in Telekom Malaysia perspective. Various important information on the definition, distinguish between Virtual Private Network (VPN) and IPVPN, the technology architecture that is available in the market today and benefits to enterprise and service providers of IPVPN were gathered and discussed in the literature review. Furthermore the two main challenges associated with the implementation of IPVPN which is the security aspect and the Quality of Service (QoS) were focused in depth.