

VOIP AND ITS IMPLEMENTATION IN TELEKOM MALAYSIA

by

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**An Independent Study Report is submitted in a partial fulfillment of the
requirement for the degree of Master of Science in Information
Technology**

**FACULTY OF INFORMATION TECHNOLOGY AND QUANTITATIVE
SCIENCES**

UNIVERSITI TEKNOLOGI MARA

OCTOBER 2002

ACKNOWLEDGEMENT

Al Hamdullilah, Praise be to ALLAH, the Almighty for giving me the strength and guidance in completing this project report.

I would like to express my deepest appreciation to my supervisor, Associate Professor Dr Kaharudin Dimyati from the Faculty of Engineering, University of Malaya for his continuous guidance, support, encouragement and invaluable advice throughout this study.

I also would like to express my thanks to Associate Professor Dr Haji Mohd Isa Samat, the Programme Coordinator of Master of Science in Information Technology, who is directly guided and advised through the Professional Awareness and Research Skills (PARS) class to complete this study report writing.

Not forgetting to express my thanks to all lecturers and friends from the Master of Science in Information Technology programme, who have given thoughts and ideas, cooperation, continuous support and help throughout the semesters.

Thank you for the cooperation from En Azwan Mahmud, Network Technology, and Cik Roshidah Said, Switching Management Telekom Malaysia.

I hope that this study will be a beneficial step to realise the VoIP in Malaysia in big scale and become a guideline to the network provider and application service provider.

ABSTRACT

Voice over Internet Protocol (VoIP) is a breakthrough in the telecommunication world. VoIP is the term used in IP telephony for a set of facilities for managing the delivery of voice information using the Internet Protocol (IP). In general, this means sending voice information in digital form in discrete packets rather than in the traditional circuit-committed protocols of the public switched telephone network (PSTN). A major advantage of VoIP is, it avoids the tolls charged by ordinary telephone service.

The sources of this study are mainly from the journal, white paper, magazine, article and Telekom Malaysia Bhd (TMB). The scope of this study revolves around several aspects of VoIP technologies. There are several aspects that are examined in this study: VoIP basic concept, structure, architecture, and network configuration and the analysis of the VoIP set up in TMB. Since, the VoIP technology is so new, so far there is no standard that governs the structure and application of VoIP in Malaysia specifically. Furthermore, there is no implementation of VoIP in a big scale and nationwide in Malaysia by the telecommunication provider or application service provider.

The study analysed the existing PSTN and packet infrastructures available in TMB. Then the proposed VoIP structure and interconnection of VoIP and PSTN is laid/presented in the study. The use of existing infrastructure is mainly due to the cost factor involved. Hopefully, this documentation will become an important reference and guidelines for telecommunication companies in Malaysia in general and specifically to TMB. Therefore, the implementation of VoIP in Malaysia generally, will not only provide better telecommunication services to subscribers and return of investment to the company, indirectly this will also contribute to the development of telecommunication industry in Malaysia and support the country's economic growth.

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CHAPTER 1

INTRODUCTION

An IP Telephone is a telephone device that transports voice over a network using data packets instead of circuit switched connections over voice only networks. IP Telephony refers to the transfer of voice over the Internet Protocol (IP) of the TCP/IP protocol suite. Voice over Packet (VoP) standards exist for Frame Relay and ATM networks but many people use the terms Voice over IP (VoIP) or "IP Telephony" to represent voice over any packet network.

The development of Voice of Internet Protocol (VoIP) in Malaysia is still immature. Telecommunication operators such as Telekom Malaysia still in the deployment process deployment of VoIP in big scale. The commercialisation of VoIP in Malaysia by Telekom Malaysia Bhd (TMB) as VoIP Network Provider and Application Service provider will be a great success to TMB and will benefit most to the consumer.

VoIP is expected change the conventional PSTN network and thus, the convergence of voice and data in a single platform is inevitable. But along with the initial excitement, customers are worried over possible degradation in voice quality when voice is carried over these packet networks. Whether these concerns are based on experience with the early Internet telephony applications, or whether they are based on understanding the nature of packet networks, voice quality is a critical parameter in the acceptance of