Implementation of Voice over Internet Protocol (VoIP) in UUM Campus

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Implementation of Voice over Internet Protocol (VoIP) in UUM Campus

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ABSTRACT

Currently, users (student, staff and lecturer) at UUM still using traditional mechanism to contact with each other using phone call and messenger contact. In this case, the uses need to have an Internet access in order to communicate with the other side. In both cases, using phone call or Internet has some limitations in terms of cost. This paper proposes the Voice over Internet Protocol (VoIP) system that can help users at UUM campus to freely communicate by using this VoIP technique. In the other side, this proposed system also helps to increase the effectiveness of using the Internet bandwidth; since the users can communicate with each other without the need to have an Internet access. Instead, they can contact with each other using the current Local Area Network (LAN) at UUM. Thus, this system can let the users to contact the destination user anywhere anytime in the coverage area of UUM.

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LIST OF APPREVIATION

VoIP	Voice over IP
LAN	Local Area Network
WLA	Wireless Local Area Network
PSTN	Public Switched Telephone Network
IP	Internet Protocol
TCP	Transmission Control Protocol
UDP	User Datagram Protocol
RTP	Real Time Transport Protocol
RTCP	Real Time Transport Control Protocol
IP PBXs	IP Private Branch Exchange
ACD	Automatic Call Distribution
IVR	Interactive Voice Response
SIP	Session Initiation Protocol
PBX	Private Branch Exchange
MGCP	Media Gateway Control Protocol
ITU	International Telecommunication Union

CHAPTER ONE

INTRODUCTION

1.0. Background

Nowadays, in light of current developments in the field of communication networks and due to the urgent need to send data in the shortest time and the lowest possible cost, the VoIP technology has been found. According to (Zhang, Hillenbrand, Müller, 2005), VoIP is a technology to transport voice communication over IP network such as Internet. This technology provides the capability of making phone calls over the packet switched networks instead of traditional circuit switched networks. With the development of the Internet, VoIP over a Wireless Local Area Network (WLAN) is expected to become an important Internet application. In addition, this technology is becoming a popular service on the Internet platform and many VoIP protocols have been proposed since it was first developed, (Wang, Liew & Fellow, 2005).

VoIP can greatly reduce the telephone call costs comparing with the traditional Public Switched Telephone Network (PSTN) system, due to the low cost features of the Internet usage, so it is expected that the VoIP may completely replace the circuit switched PSTN system in the future. Therefore, VoIP is attracting more users from the traditional telephone communication area, and more companies try to invest in the development and usage of the VoIP systems (Zhang, Hillenbrand, Müller, 2005). Moreover, VoIP is one of the fastest growing Internet applications at this time. It has two fundamental advantages compared with voice over traditional telephone networks. First, by using advanced voice-compression techniques and bandwidth

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