EVALUATING THE PERFORMANCE OF VOIP OVER DIFFERENT WIRELESS ENVIRONMENT

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EVALUATING THE PERFORMANCE OF VOIP OVER DIFFERENT WIRELESS ENVIRONMENT

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ABSTRACT

WiFi and WiMAX are the most technologies for broadband wireless access are used nowadays. The excessive demand for providing mobile users with broadband wireless access has attracted tremendous investment from the telecommunications industry in the development and deployment of WiMAX and WiFi networks. Voice over IP (VoIP) over these technologies will be one of the killer applications for rapid deployment of WiMAX and WiFi networks. The legal desire for bundling voice and data will increase the portion of voice traffic in these networks. Therefore, VoIP, as the current technology for making voice calls through packet switch networks, will be a key application in WiMAX and WiFi networks. The increase of Voice over IP (VoIP) applications such as Skype, Google Talk, and MSN Messenger along with emerging deployment of WiMAX networks is making VoIP over WiMAX an attractive market and a driving force for both carriers and equipment suppliers in capturing and spurring the next wave of telecommunications innovation, though challenges remain. However, the enhancement on the hardware and application sides only seems inadequate. The chosen of proper network environment is also crucial in order to deliver the voice communication and multimedia session over the Internet. Optimization of the VoIP call capacity over WiMAX and WiFi networks is one such crucial challenge and remains an open research issue. Hence, in this project, we present the performance evaluation of VoIP in two wireless network protocols, WiMAX and WiFi as a baseline to evaluate the VoIP performance.

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CHAPTER ONE

INTRODUCTION

VoIP has gained significant popularity over the years. Organizations and individuals are starting to migrate to its services due to its great advantage in terms of cost. VoIP is a highly intolerant and need a high priority transmission. This chapter will provide a brief introduction on voice over IP and will also presents the problem statement, objectives, significant of the research, scope and research questions. The final part of this chapter will present the overall organization of the report.

1.1. VOICE OVER Internet Protocol

Voice over Internet Protocol (VoIP) is one of the fastest growing Internet applications today. It has two fundamental benefits compared with voice over traditional telephone networks. First, by exploiting advanced voice- compression techniques and bandwidth sharing in packet-switched networks, VoIP can dramatically improve bandwidth efficiency. Second, it facilitates the creation of new services that combine voice communication with other media and data applications such as video, white boarding, and file sharing.

At the same time, driven by huge demands for portable access, the wireless local area network (WLAN) market is taking off quickly. Due to its convenience, mobility, and high-speed access, WLAN represents an important future trend for “last-mile” Internet access.

Thanks to the convergence of these two trends, we believe VoIP over WLAN is poised to become an important Internet application. Before that can happen, however, two technical

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