PERFORMANCE ANALYSIS OF VIDEO CALL SIP AND SIP-TLS IN DIFFERENT LAN ENVIRONTMENTS

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ABSTRACT

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Key Word: H.264, QoS, Security, Network Environment

The commercial deployment of VoIP necessitates the employment of security mechanisms that can ensure availability, reliability, confidentiality and integrity. The Session Initiation Protocol (SIP) is considered as the dominant signaling protocol for calls over the Internet. SIP, like other Internet protocols, is vulnerable to known Internet attacks, while at the same time it introduces new security problems in the VoIP system. This paper will describe SIP video call to a level that allows discussion of security issues and concerns. The increasing of high speed network development make VoIP implement growth in the internet telephony bringing connectivity to portable, instant on devices. Nowadays business really concerns implements VoIP, component of VoIP system, and relevant security issues in VoIP. So this project will concern not only the analysis on how to secure SIP video call but also the effect on quality of services (QoS). This paper studies transmission SIP video call using a specific software client installed in the Laptop. The software clients will connect to our development secure SIP server. This research also conducts an analysis of SIP video for the quality performance using the Laptop over wireless and wired. This research also makes comparison between implementation SIP video call over secure channel and none secure channel networks. A simulation of small VoIP environment was created to analyze the SIP video call performance.

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CHAPTER 1

INTRODUCTION

1.0 INTRODUCTION

VoIP telephony or IP telephony is the transportation of voice and video traffic over the Internet Protocol (IP). The VoIP technology was presented since the middle of 90's. On behalf of the technology born many researchers were interested in exploring the technology and trying to increase the usage of this technology. After that the availability of Voice over Internet Protocol equipment continues to increase, due to many advantages that this technology offers. But there are still some disadvantages in VoIP telephony.

A major issue in VoIP is security. Voice over Internet Protocol (VoIP) has been widely deployed since the integration of the voice and data networks reduces management effort and cost. Many of them deploy VoIP without considering the security problem. Since VoIP shares the same infrastructure with traditional data network, it inherits all security problems from data network (Jianqiang Xin, 2007).

As a result, the VoIP becomes the next step which is now available to carry SIP Video Call over TLS channel. The newest video protocol that can be used is H.264. SIP Video Call can be implemented both on wireless and wired networks. SIP Video Call is an emerging technology that enables video packets to be sent over an 802.11 wireless LAN and wired medium. For video traffic to be carried over an IP network, there are many video call control protocols, H.261, H.263, H.263+ and H.264.

The software integrates VoIP telephony on a Microsoft XP install on laptop, providing anytime, anywhere access to both data and voice connections.