Universidad de La Laguna
Departamento de Filología Inglesa y Alemana

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VoIP Meets WiFi
An Introduction to VoIP, WiFi and VoWiFi

Introduction to Internet Telephony and VoIP

Internet telephony is a combination of hardware and software that enables people to use the Internet as the transmission medium for telephone calls. For users who have free, or fixed-price Internet access, an Internet telephony software package provides free telephone calls anywhere in the world. Some Internet telephony software like CoolTalk and NetMeeting, come bundled with popular Web browsers. Others are stand-alone products. Internet telephony products are sometimes called IP telephony, Voice over the Internet (VOI) or Voice over IP (VoIP) products.

VoIP hardware and software work together to use the Internet to transmit telephone calls by sending voice data in packets using IP rather than by traditional circuit transmissions, called PSTN (Public Switched Telephone Network). The voice traffic is converted into data packets then routed over the Internet, or any IP network as normal data packets would be transmitted. When the data packets reach their destination, they are converted back to voice data again for the recipient.

In its simplest form, PC to PC Internet telephony can be as easy as hooking up a microphone to your computer and sending your voice through a cable modem to a person anywhere in the world. This works so long as you are communicating with someone who has an Internet connection and Internet telephony software that is compatible with yours. This type of communication requires only a small one-time purchases outside of your normal Internet connection bill from your ISP. For PC to PC telephony you need a microphone for talking into and a sound card and speakers so you can hear the person on the other end of the call. You will also need to purchase (or download and install shareware versions) of an Internet telephony software package such as NetMeeting, CU-SeeMe, or MediaRing Talk to name just a few.

This basic form of Internet telephony is not without its problems, however. Connecting in this way is slower than using a traditional telephone for communication, and the quality of the voice transmissions is also not near the quality one would get when placing a regular phone call. The benefit is that you can talk up a storm with family and friends without incurring long distance charges on your telephone bill! This can be an ideal solution for home users.

Hardware-based VoIP Solutions

VoIP solutions for small business and large corporations are not free, but do offer a substantial savings over using traditional telephone carriers. In recent years, we have seen many changes in this area of technology. With a phone adapter that connects your telephone to your high-speed Internet connection, you can pick up the phone as you normally would and place a telephone call. Despite the fact that you are

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communicating via the Internet with a telephone, the technology still works in the same way it does with PC to PC calling. VoIP changes the voice data from your telephone into a digital signal that travels over the Internet then converts it back at the other end, but in this case you can communicate with anyone who has a regular phone number.

The flow of VoIP in a hardware-based solution is your telephone is connected to a VoIP phone adapter (considered the hardware aspect). This adapter is connected to your broadband Internet connection. The call is routed through the Internet to a regular phone jack, which is connected to the receiver's phone. Special hardware (the phone adapter) is required only for the sender — it is not required on the receiving end.

Much like finding an Internet service provider (ISP) for your Internet connection, you will need to use a VoIP provider. Some service providers may offer plans that include free calls to other subscribers on their network and charge flat rates for other VoIP calls based on a fixed number of calling minutes. You most likely will pay additional fees when you call long distance using VoIP. While this sounds a lot like regular telephone service, in the long run it is found to be a much cheaper way to voice communicate overall, starting with the fact that you will no longer need to pay for extras on your monthly phone bill. This is especially apparent in a business setting where you can avoid paying for multiple business telephone lines and services as you can essentially pay for one line in (this line is needed for your broadband connection if you're using DSL or a T1), and the VoIP provides the service for the actual calls, voice messaging, and the additional features you may require for your business. Your choice of plan with a VoIP provider is going to determine your overall fees for using a VoIP service as opposed to using a PSTN.

VoIP Meets WiFi

The advances of VoIP and Internet telephony in general have come a long way since their inception. Most recently, the "next big thing" has been to merge Wi-Fi with VoIP, producing one of the oddest acronyms you'll ever see. VoWiFi. VoWiFi, or Voice over Wireless Fidelity, simply means a Wi-Fi based VoIP service — or in even more general terms, a wireless based VoIP system.

Where VoIP consists of the hardware and software that enables people to use the Internet as the transmission medium for telephone calls, VoWiFi is the wireless version of this technology that is designed to work on wireless devices such as a laptop or PDA. Some may wonder why a person or organization wouldn't simply use a cell phone for mobile communications, but again business and organizations can take advantage of a decreased communications cost while having a mobile system that offers more reliable coverage indoors and higher voice quality than traditional cellular service with VoWiFi.

Along with added benefits to business and those with a need for wireless communications, VoWiFi also opens up the door for a whole new market of

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consumer products such as a standalone VoWiFi handheld. Many cellular phone companies such as Nokia and Motorola have already announced dual-mode cellular phones that will support seamless roaming from WiFi to cellular networks when WiFi is unavailable to a caller. That is one of the biggest challenges facing VoWiFi — roaming access. A WiFi access point offers a communication range of up to 90 meters (commonly called a hotspot), and continuous conversations would mean that the caller must stay within an area of overlapping hotspots, or as already suggested, have a VoWiFi dual-mode phone that would switch to a regular cellular phone transmission when the caller moves out of a hot spot range.

Communicating using VoIP over Wi-Fi is something many people are paying close attention to. Cellular companies aren't feeling too threatened yet due to some of the more serious problems facing VoWiFi; like roaming access and security. These issues may take years to iron out, if they ever are. It can be said that not many people really expected to see the cellular phone industry take off like it did, and only time will tell if VoWiFi is truly the next big thing in wireless communications or if it's just the next great idea that consumers didn't quite get.

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Writer, www.Webopedia.com Last updated: February 7, 2005
http://www.webopedia.com/DidYouKnow/Internet/2005/voIP_WiFi.asp

TASKS

1. What is the main gist of the text? Does it comply with the IMRAD pattern? Give reasons.

2. Abstracts may be classified in three broad groups: Informative, Descriptive and Evaluative. Briefly define each of them.

3. Read the abstract of «Multiple Mice for Computers in Education in Developing Countries» (http://tier.cs.berkeley.edu/docs/ict4d06/multiple_mice-jp.pdf). Does it comply with the IMRAD pattern? What kind of abstract is? (Informative, Descriptive, Evaluative).

4. What is the purpose of «Key Words» (also known as «Index Words»)?

5. Watch the following You Tube video clips, and then answer the questions:

    5.1   «Madtv–Apple I-rack»

           (http://www.youtube.com/watch?v=rw2nkoGLhrE)

        5.1.1   How many Apple products are presented? List them (tell the real ones from the fakes)

        5.1.2   What's the name of the newest product? Do you think is there any kind of pun (play on words)?

    5.2   «VoIP Security Threats»

           (http://www.youtube.com/watch?v=UA1quyLOTdg)

        5.2.1   What is IP PBX used for?

        5.2.2   Why no In-bound or Out-bound calls can be made?

6. Your glossary should be enlarged by 50 words. By this week, you should have around 250-300 entries.