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AN OVER VIEW OF WIRELESS IP TELEPHONY

N.Sasikiran[1], G.Sathya Narayana Rao[2], T.Chanakya[3]

[1]*Electronics and Communication engineering, Scsvmv University, sasikirannallapaneni21@gmail.com*
[2]*Electronics and Communication engineering, R.M.K.Engineering College, satya.gorantla@gmail.com*
[3]*Electronics and Communication engineering, Vasireddy venkatadri institute of technology, chanu.thota@gmail.com*

Abstract: *The merging of traditional telecommunications and the Internet is creating new network-based service delivery opportunities for telecommunications companies haulers, service Providers, and network equipment providers. Voice over Wireless IP is one of greatest exciting new developments emerging within the telephony market. It is set to transform. The delivery of mobile voice Services and provide exciting new opportunities for operators and service providers alike. This Survey confers principal of Wireless IP Telephony.*

Keywords- *IP telephony; Merging; Wireless; Internet; Wi-Fi;*

I. INTRODUCTION

"IP will eat everything" meaning all systems and networks Will eventually use Internet-based protocols. Merging of Communications and applications will become a reality-networks will be the computer. There is a huge processing power sitting on company networks. Wireless Internet will be giant and will drive mobility. Wireless VoIP utilizes wireless LAN technology, the same wireless infrastructure used for your corporate network, in order to communicate. Just as you use PDAs and laptops to gain access to information within this wireless infrastructure, now you can use wireless IP phones to access your corporate telephony system as this technology combines the telephony function directly into an already existing data network infrastructure. One of the major benefits of the wireless IP phone is that it allows you to carry your office extension with you inside a wireless networked environment. Unlike your cell phone, the wireless IP phone is part of your corporate phone system, and carries your personal extension and the same features that your office phone system has. IP telephony offers many benefits to users in both large and small organizations, but the main advantage will be in productivity. By extending mobile communications throughout the enterprise, wireless IP telephony helps users increase their productivity when they are not working at their desk. By assisting users to answer critical business calls anywhere anytime within a wireless campus environment, improved business response results. Cost savings are also realized with a wireless IP phone system because it offers easy mobility for organizations where employee offices change often. Industries that are ripe for this technology include healthcare, manufacturing, transportation, and education -- any industry where people need highly mobile, feature rich communications capabilities in a campus like environment. As this technology becomes more available, you'll see it everywhere. Eventually you may be able to walk into a coffee shop, a Starbucks for example that's wired with this technology, and use your IP phone. Pay a small subscription fee and upon entering the coffee shop your phone activates itself, connects back to your corporate network, and gives you access to your office

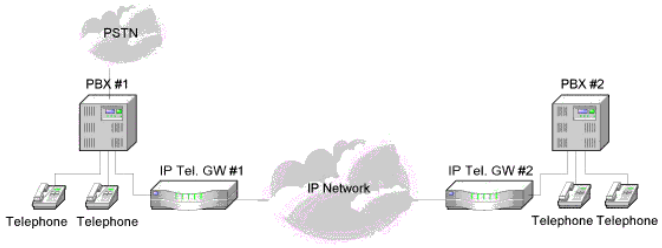

Fig1.IP-Telephony Gateway

II. WIRELESS INTERNET TELEPHONY

Now, providers are offering wireless Internet telephony, which adds accessibility by letting users make Internet calls from their mobile phones via IEEE 802.11 wireless LAN and third generation (3G) cellular technologies. As is the case with its wired Internet telephony, wireless Internet telephony is less luxurious than regular mobile telephony because carriers can use the existing Internet, rather than build a new organization, to route calls. In addition, Internet telephony is not subject to the regulation and fees that governments impose on traditional telephony. Internet telephony faces several important firms, particularly power usage, security, and quality of service (QoS). In many ways, wireless Internet telephony is a version of traditional wire line IP telephony, as the ―Internet Telephony 101 sidebar explains. Wireless IP telephony works mostly with Wi-Fi, which it uses to access the Internet. However, many Internet calls do not travel only over Wi-Fi networks. For example, a call from a user on a Wi-Fi network to someone using a traditional wire line or mobile phone at some point will be routed over the outdated wired or cellular phone network. Some systems offer wireless service only via Wi-Fi. For example, Spectra Link's system connects its Master Control Unit to Wi-Fi base stations on one end and to a traditional analog or digital PBX on the other, thereby eradicating the need for cellular facility.

A. Wi-Fi:

In Wi-Fi Internet telephony, peddlers equip a mobile handset with an IEEE 802.11 radio. The phones, when within choice of a Wi-Fi access point, use IEEE 802.11 to linkage to the Internet, over which they can then communicate voice traffic. There are several Wi-Fi standards. IEEE 802.11b, the first popular Wi-Fi standard, has a theoretical maximum data rate of 11 Mbits per by the 2.4-GHz frequency band. IEEE 802.11a has a hypothetical maximum rate of 54 Mbps using the 5-GHz band. IEEE 802.11g offers a faster speed and compatibility with the large installed base of IEEE 802.11b systems because it also habits the 2.4-GHz band. Wi-Fi works with telephony by providing a wireless channel to the Internet. Wi-Fi alters voice and other data into radio signals that can be transmitted wirelessly. Internet-connected receivers then alter the radio signals in to conventional data traffic that can be transmitted via the Internet or another network. Originally, Wi-Fi worked only within a wireless LAN. In recent years though, entities and companies have established Wi-Fi hot spots, which are nodes that provide laptops, cellular phones, and other mobile devices within the technology range of 100 meters indoors and 400 meters outdoors with Internet connections. Many hot spots are closed one another, which gives cellular phone users common Internet access.

B. Internet Telephony Concerns:

Despite its promise, wireless Internet telephony raises several important disquiets. For example, the relatively new Wi-Fi Internet phones can be fairly expensive. However, Nogee renowned, prices are reducing. Also, Wi-Fi Internet phones use considerable power for their radio transmissions. This entails bigger phones to provide accommodations more or larger batteries at a time when the demand is for smaller phones. Internet phones are

C.Security:

As with any wireless technology, Internet telephony increases security concerns. For example, verification approaches, which determine whether people trying to access a system are who they say they are, must be improved and consistent, said Nogee. Without calibration, competing technologies from hawkers could cause system irreconcilabilities. Meanwhile, wireless security itself is only now overcoming some early problems. Many users complained that the Wired Equal Secrecy Protocol, used in early Wi-Fi applications, was not strong enough. The industry has since evolved to Wi-Fi Protected Access and currently WPA2, based on the IEEE 802.11 wireless-security stock, which uses the new advanced Encryption Standard. Nonetheless, wireless Internet telephony security will require the exchange of additional information between senders and receivers and thus slow data broadcasts, which will distress voice quality, explained ON World's Halter.

D. Quality of service:

QoS is a key issue for Internet telephony. IP networks must select telephony traffic because, unlike other data circulation with which it shares the Internet, voice data must be conveyed in real time. If not, voice quality degrades and potential becomes a problem. Currently, several tactics, mostly exclusive, provide some QoS for Internet telephony. According to Nogee, the advised IEEE 802.11e standard would provide a system to address Wi-Fi-established QoS. The standard, currently under consideration, would achieve this by arranging packets based on traffic type, allowing access points to schedule resources based on transmission rates and potentials. It improves the bandwidth efficiency.

III. SIMPLE IDEA, COMPLEX EXECUTION

The technology behind voice over wireless — varyingly referred to as wireless IP telephony, wireless VoIP, and Wi-Fi telephony — is straightforward. Mobile handsets connect to the network over wireless access points, routing the voice traffic to the telephony server or digital PBX in the same way that VoIP handsets connect to the network over Ethernet cables, routing their voice traffic to the telephony server or digital PBX. That specious simplicity is why many enterprises consider implementing voice over wireless when they implement a VoIP system. Chances are they're also organizing wireless access points for data usage, so they believe that most of the infrastructure required to make VoIP mobile is already in place. Point placement to reduce conflict for the access point's bandwidth and require deployment in areas like hallways, elevator shafts, and facilities service areas in which data usage would not ensue. That means superior hardware and installation costs. Limited to anywhere from four to two dozen, depending on the wireless LAN's implementation and architecture, as well as actual usage.

1V. ADVANTAGES

A. Operations Simplified

1. One of the greatest advantages of the integrated voice and data system is the ease of intelligent integration with existing applications. End users can use their Web browsers to define graphically a personal rules engine that can filter incoming calls, scan and unify voice mail, create personal phone configurations such as speed dial, and shape a void service that scans a personal calendar to intelligently route calls.
2. A single mailbox can now hold voice messages, e-mail, fax, and video clips. Another benefit is that luxurious PBX equipment can be eliminated.
3. Traditional PBX calls routing and embedded features are based on patented applications that are specific to that particular arrangement. Traditional PBXs are like an island, liberated of all the other applications running on the corporate network.
4. In the new system, IP PBX, voice mail, and e-mail are all the part of same presentation that runs in a distributed fashion across the entire corporate network.

B. Competitive Advantage

1. The Internet has created the capability for almost any computer system to communicate with any new. Internet business solutions, companies can redefine how they share applicable information with the key ingredients in their business, not just their inside practical groups, but also customers, partners and suppliers.
2. This abundant connectivity created by Internet business solutions creates fitted relationships across the company's protracted enterprise, and can be as much of a modest advantage for the company as its core products and services.

V. DISAVANTAGES OF IP TELEPHONY

1. Despite their relatively young age VoIP technologies have already started to replace outdated phone systems. The number of customers that prefer IP telephony to other means of telecommunications grows rapidly that may lead to a complete domination of IP telephony in the telecommunication market.
2. Eventually phone companies and businesses are likely to switch to VoIP services completely.
3. However VoIP technologies as any other emerging technologies have a lot to think about a modernized.
4. VoIP providers can't satisfy all the customers' requirements yet as IP technologies still have drawbacks. The disadvantages of VoIP services: VoIP phones depend on fence power. Whether you use VoIP software installed on your PC or VoIP phones you are reliant on power while your conventional phone trusts on the power supplied by a separate line from central office. If your rule goes off you still can use your ordinary phone but not the VoIP phone (unless it is powered by batteries).
5. Many other systems you may use in your home are integrated with predictable phone lines – digital video recorders, payment TV services, home safety systems and others still can't integrated with VoIP.

V1. CONCLUSION

VoIP is really —Everything over IP. VoIP and 802.11 technologies are moderately young; many businesses are Unwilling to commit a critical communications infrastructure to them until they have proven themselves. Many businesses are moving to wireless VoIP. They tend to be in highly mobile industries. Major regulatory issues raised by VoIP. The biggest challenge towards quicker and larger scale uptake of IP telephony is the issue of legacy equipment. Concerns relating to VoIP really relate to convergence generally.

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