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Agenda

- IP Telephony & VoIP.
 - VoIP definition.
 - Advantages and disadvantages of VoIP.
 - IP telephony definition.
 - Evolution of IP telephony.
 - The differences between VoIP and IP telephony.
 - Is IP telephony and risk for international call ?
- Evolution of Voice Telephony.
- Where is the risk ?
- Conclusions

IP-Telephony & VOIP



VOIP Definitions

■ Voice over Internet Protocol (VoIP)

Is a technology used for sending voice information in digital discrete packets using Internet Protocol rather than in the traditional circuit protocol. It is not dependent on an internet connection as it can be used on any network.

The fundamentals:

- Convert Analog (voice) Data to Digital Data using a standard compression algorithm.
- Packetize Digital Data using Internet Protocol (IP).
- Send the packets over a network to a terminating IP address.
- Uncompress the Digitized data & convert it back to Analog data.



Advantages & disadvantages of VOIP

- As for international carrier point to point IP connection for voice transmission is cost effective , and faster to deploy.
- With VoIP the circuit is better utilized as it does not require end to end circuit for the duration of the call.
- The disadvantages of VoIP compression is it does not cope with high volume of traffic and quality of service can degrade if it used more than 70% of it total capacity.



IP-Telephony Definition

- Is a category of hardware and software that enable people to use the global internet as transmission medium for telephone calls.
- IP telephony uses standard IP protocol to transmit the voice in real time **over global Internet connection**.
- Example of IP telephony Skype , Vonage, Net2phone .. Etc
- IP telephony or Internet Telephony **quality is not guaranteed**, however over a broadband connection quality of speech is not noticeable.

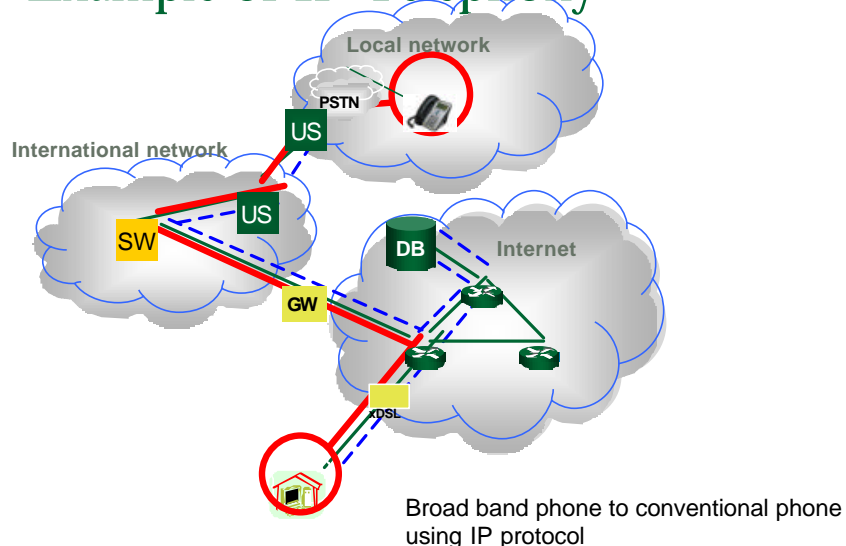


Evolution stages in IP Telephony

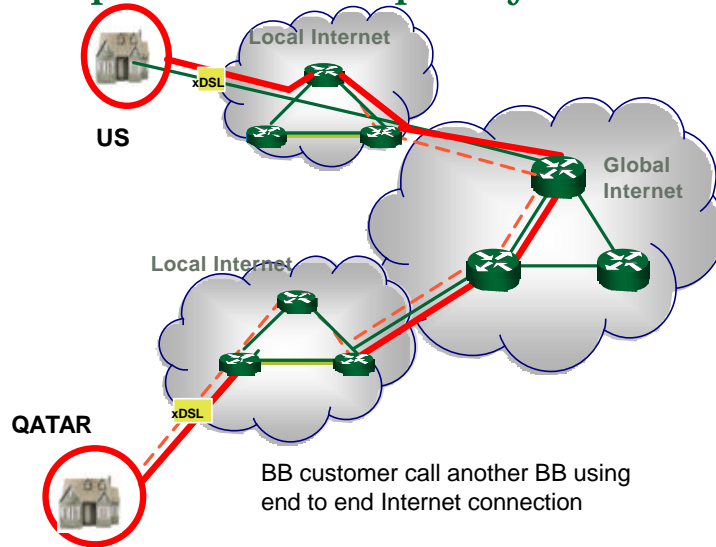
- **PC – to – PC**
 - Requires Internet connection in both end as well the same type of software, widely used , and the voice communication is totally free for those how have unlimited broadband connection or free internet access.
- **PC – to – Phone**
 - Requires Internet connection in one end and a pre paid subscription to the IP telephony service provider (e.g. Net2Phone) , the call is charged per minute bases and it is only one way calling.
- **Phone – to Phone**
 - Requires IP phones device connected to broad band internet connection and a pre paid subscription to the service provider. The calls are charged per minutes use.
- **Both way IP soft phones**
 - Requires broad band connection and a software IP phone plus virtual international number(can be any where in the world) , and a subscription to the service provider (e.g. Skype) , outgoing calls are charged per minute and incoming calls from PSTN/Mobile are received free of charge. Normally requires monthly/annual subscription to register for a phone number.



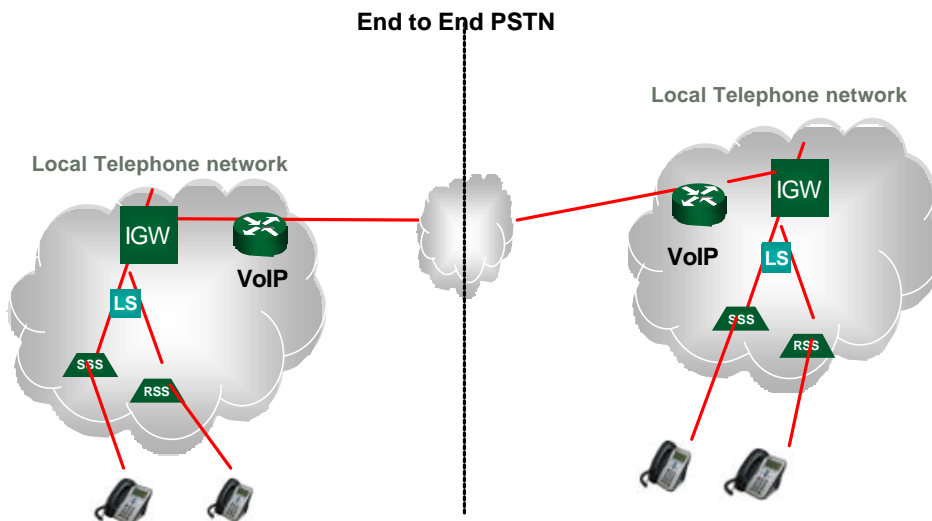
Example of IP-Telephony



Example of IP-Telephony



Example of VoIP connection



The differences of VOIP & IP-Telephony

- VoIP “ Voice over IP” can be in private network, managed IP-based network , in addition to the public Internet, and it is widely used for International call transmission as it is cheaper and faster to deploy.
- IP- Telephony is a service that use VoIP technology over **public Internet** to offer cheaper call rate plan to consumer as the cost structure of the call is much cheaper than traditional PSTN call.

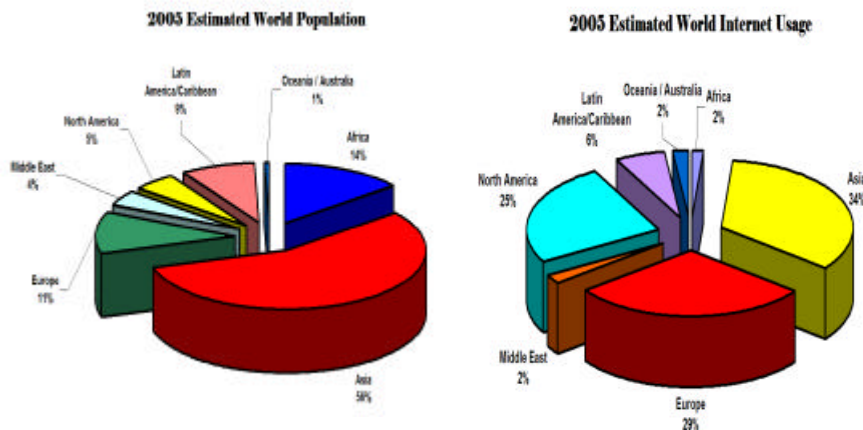


How big is the IP Telephony market?

- Statistics shows that the IP telephony market is growing and some research companies estimate by year 2007 more than 60% of International call will be IP, however in QATAR IP telephony use does not exceed 2 %.
- IP telephony mostly attract price sensitive customer and not all of them has Internet connection and not all educated on the use of IP-telephony.
- Alternative services based on IP are emerging such as CALLBACK and customer find it more convenient and easier to use.



How big the Internet World ?



Source : <http://www.internetworldstats.com>

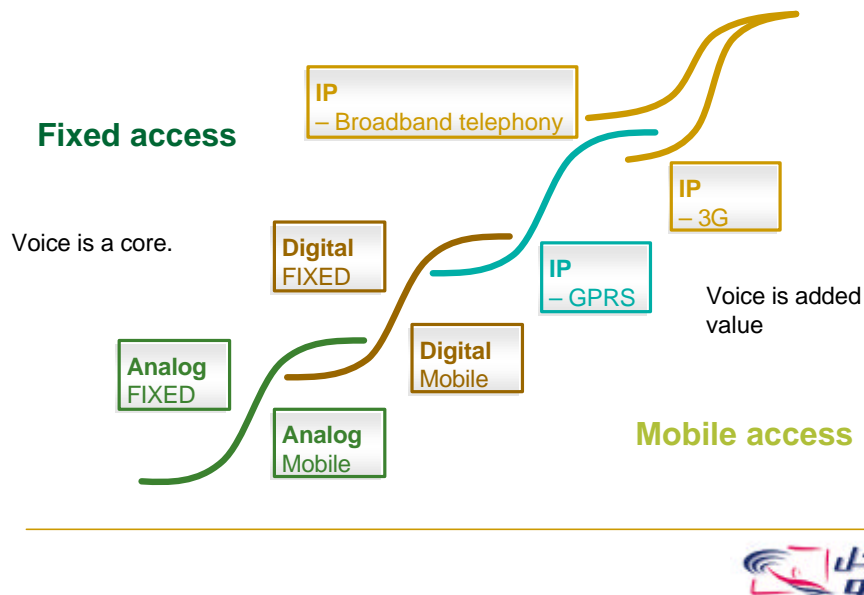


Is IP-Telephony a risk for international call ?

- NO ! as it can be provided as alternative calling plan for price sensitive customers.
- In monopoly countries service provider can stop or degrade the service quality.
- No escape the world moving IP so it is just another opportunity !!



Evolution of voice telephony.



So Where is the risk ?

- **CALLBACK is the risk !**
- Call charges now getting lower or similar to IP-telephony because the call is not routed through the local phone companies in foreign countries.
- Customer can use the service from PSTN or MOBILE , and does not require internet connection.
- It is difficult to control or block the call, and the quality is same as traditional call.

How does CALLBACK work ?

- Customer dial an international number and hang after the first ring.
- Customer receives a ring back with a dial tone.
- Customer dial his international number and get connected.
- Call Back service can be activated by SMS , and e-mail.



Conclusions

- VoIP and IP-telephony are just alternative technology and it has no big risk for international carriers.
- VoIP technology can be used to cut the cost of transmission and offer cheaper calling plan to customer.
- IP based network is the future and it will facilitate new ways of communication.
- CALLBACK is the risk but the question **how it can be stopped ?**





Thank you

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