

Voice Over Ip Telephony Comes of Age

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With the advent of widespread broadband Internet connections, consumers are discovering what businesses have known for a while. Voice over IP telephony, or VoIP as it is known, can be a viable and cost effective alternative to the Plain Old Telephone System (POTS). As VoIP upstarts are popping up everywhere, most notably Vonage, Packet8 and Skype, even the big Internet Service Providers are offering voice over IP packages to their residential subscribers

Such features as caller ID, call forwarding, automatic redial, and even 3-way calling are standard on most VoIP packages, whereas many phone companies consider them add on's and will charge you extra. But the real kicker is, if it is right for you and you pick the right Voice over IP solution, you should be able to reduce your phone bill by half or more.

How Does Voice over IP Work?

IP Telephony is a packet switching technology, as opposed to circuit switching as used by the PSTN (Public Switched Telephone Network). The PSTN method uses copper wires to physically connect one caller to another through a series of circuit switches, as illustrated by the switchboard operators of old.

In voice over IP, the analog voice is converted into digital packets that are routed through the internet, and in the case of one of the parties being on a PSTN connection, the packets are routed to the nearest local switching station and placed back on the PSTN. If both persons are using VoIP, then there is no reason to use the PSTN, and the entire conversation takes place over the Internet.

Needless to say, this is much more cost effective than using land lines for the entire distance. If a caller in New York uses VoIP to call a PSTN number in Seattle, the call doesn't leave the internet until it reaches the switching station in Seattle, making it for all practical purposes, a local call.

The Drawbacks of Voice over IP Telephony

There are some points that one should seriously consider when thinking about dumping the POTS. VoIP generally requires a Broadband Internet connection, which in turn requires power. If a power outage should occur, you have no telephone service. Battery backups could solve this problem, but not on a long term basis. Internet Service Providers (ISP's) also have a tendency to go down occasionally, though they are getting better all the time. Calls can be forwarded to your cell phone if your power is out, but in real disaster situation, even cell phones are not a perfect backup, as seen by Hurricane Katrina. Faxing over an IP network has proven to be problematic. Fax machines scan a document and convert the data into sounds, which don't travel well over the internet. In IP telephony, much progress has been made on a standard called T.38, whose mission is to convert the fax sound into sendable data. Another option is iFax, the T.37 standard that sends faxes as an email attachment or a remote printout using the Internet Printing Protocol. Today, separate Fax lines can be added by most VoIP providers for an extra charge.

Emergency services such as 911 are also an issue with IP telephony. It is the nature of the Internet that tying a particular node to a geographic location is quite difficult, and street addresses are not easily routed to a nearby call

center. In the U.S., the FCC has mandated that VoIP providers implement Enhanced 911 (E911). Providers are making progress by encouraging their customers to register a street address to their phone number, enabling them to route emergency calls to a nearby call center.

Voice over IP and Broadband Connections

While a broadband connection is not absolutely necessary, it is what makes VoIP shine. Many households are turning to DSL or cable modems for their internet connections, and wireless broadband WiFi hotspots are popping up everywhere.

The problem with DSL is that it is provided by telephone companies which for the most part require you to have a landline, pretty much defeating the purpose. Some regional Telco's are starting to unbundle their DSL services by offering "naked DSL", an Internet connection without the analog line on the local loop. When you think about it, there really doesn't seem to be much motivation for the Telco's to promote VoIP, as it would effectively be like cutting their revenues in half.

If your household has cable television, you more than likely can get broadband access through a cable modem. Most cable providers charge around \$50 a month for broadband internet access, and for those who utilize the Internet often, a high speed internet connection is well worth the price. Some cable ISPs offer residential Voice over IP for \$40-\$50 a month. Through the pure play VoIP companies like Vonage or Packet8, you can get VoIP for around \$15-\$25 a month, potentially eliminating the need for a land line at all.

Wireless networks also work great for VoIP, and are especially convenient if you travel a lot. Hotspots all over the world allow you to call anywhere using a WiFi VoIP phone. Internet phones come in all shapes and sizes with all kinds of bells and whistles. From a full business desk phone from Cisco, to phones indistinguishable from cell phones, even regular cell phones that are VoIP capable new products and technologies are coming out every day to get you better connected for less.

Voice over IP telephony has come of age. If you have access to a broadband Internet connection, you could conceivably cut your phone bill by half or more, never pay long distance charges in the U.S. and Canada, and pay way less for International calls as low as 3 cents per minute. Sound quality is usually as good as a cell phone connection. To test your current broadband connection, visit <http://www.TestYourVoip.com> and download the java applet. In about 20 seconds they will show you in detail how your VoIP phone call would fare to and from national and international destinations. Once you know if your connection can sustain the extra traffic, it's just a matter of finding a reliable Voice over IP telephony service provider.