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You NEED to know about VOIP

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By William Vanderbok <wvanderbok@gmail.com>

Just exactly why do I “need to know” about this? Three reasons. First, it will save you a bundle on your telephone bill. Second, the feature set will blow you away. Third, an Internet telephony, a.k.a. VOIP, wave is about to wash over the nation, sweeping away conventional phone service as currently constituted. Three million Americans have adopted VOIP, so far. Twenty-seven million are expected to have it within three years. VOIP will dramatically redefine what you expect from your phone carrier.

What is it?

Voice Over Internet Protocol is a standard that takes audio, digitizes it, assembles it into packets and sends it over the Internet where the process is reversed. From the user’s perspective this is a yawn. Does it work? A few years ago there were problems: dropped packets, echoes, latency as the packets wandered through cyberspace. A couple months ago I switched from my POTS (plain old telephone service) provider to AT&T’s CallVantage, a VOIP telephone service. If anything, the service is clearer, no echoes, and no latency.

How does it work?

For VOIP you must have a high speed Internet connection. The physical hardware sequence is cable or DSL modem, then the VOIP Telephone Adapter (TA). The TA uses 90 kpbs of bandwidth per phone number, hence the need for a high-speed connection. Most TAs on the market can only handle one phone number but it is possible to get a TA that can handle two or more different numbers. The standard TA has three jacks, two RJ45s and an RJ11. One RJ45 links to your cable/DSL modem; the other leads to your router or PC. RJ11 is a standard telephone jack.

The very first time you power up the TA you must go through a software based install procedure. The TA interrogates the modem for its IP address, and then links to your service provider’s network to register itself. The Provider associates your TA’s serial number/MAC
address and IP address with your phone number. The TA continually interrogates the modem for its IP address and automatically updates the Provider’s lookup table should there be a change. On an outgoing call you dial a number. Some providers, such as AT&T, require you to dial all 10 numbers, — area code, prefix, and suffix – while others, such as RoadRunner, work conventionally, requiring a 1 plus area code for long distance calls. Either way, your Provider sees the number, goes to the correct exchange and dials the number. On an incoming call your local phone switch routes the call to your Provider who performs a table look up, associates your phone number with your IP address and routes the call to your TA, which rings your phone.

This is where the rubber meets the road, literally, and provides the first huge advantage over conventional phone service. A conventional phone is tied to a physical location. A mobile phone links to a cell tower and is subject to roaming charges when you travel. The TA and its handset function in cyberspace. This means that should you travel, say to Tokyo, you can slip that TA and handset in your suitcase and take it with you. In Tokyo you connect to the high-speed Internet connection in your hotel, university, etc. The TA sees a new IP address, updates the Provider’s lookup table and proceeds to work as if it is still at the Berglund Center back there in Pacific Grove, Oregon. You have a fully functioning US telephone, people calling you dial the same phone number they always have and there are no toll charges whatsoever. You can also relocate anywhere in the US and keep your old phone number.

**Is it hard to install?**

It’s easy to install. Disconnect at the point where your existing POTS service enters your house. You then have two choices. One is to run an RJ11 extension from the TA to the entry point. Your existing wiring should then work as before. The other choice is to chuck all that copper. I plugged a Uniden PowerMax 5.8 GHZ cordless system into the TA. This provides a couple advantages. First, operating at 5.8 GHz, there is no interference with wireless Ethernet networks, which operate at 2.4 GHz. Second, it can handle up to 10 handsets, so that it is easy to sprinkle them all around the house. (Also, COSTCO had it on sale).

**What does it cost?**

Depending on the level of service you want, VOIP costs from $10 to $80 a month. Most providers charge $20-$30 a month for unlimited calling throughout the US and Canada. My CallVantage service costs $29.95 a month, which nets out to about $35 a month after governmental fees and surcharges. Overseas calls generally are handled at greatly reduced rates.

**Who provides the service?**

There are a couple dozen VOIP service providers with more entering the field every month. [http://www.packetizer.com/voip/sp/](http://www.packetizer.com/voip/sp/) is a convenient place to find providers. Prominent providers include AT&T CallVantage, Vonage, Lingo, Time Warner Cable, Packet 8, and Skype.
Lingo is one of the early entrants in the field with an interesting set of services. Its $19.95 base offering not only includes unlimited calling within the US and Canada but adds 16 countries in Western Europe. Another package includes the US, Canada and several countries in Asia. They can also provide you with local phone service in such places at Japan, Taiwan, Hong Kong, UK, Mexico, etc. with the handset on your desk in the US.

For $4.95 a month AT&T CallVantage will add a second phone number (not line) with an area code anywhere in the US or Canada that will ring at your TA. So, if you grew up in Illinois and moved away you can have phone number back there. Friends and family can call you without a toll charge. Since it is not really a second line, just a table look up on the part of your Provider, there is no additional bandwidth requirement placed on your high speed Internet connection.

Skype is unique among providers. It is PC based, not handset based, and so does not use a telephone adapter. Like instant messengers, when the software is loaded, it registers itself with a Skype server. Free phone calls are then possible between Skype users. It also supports huge file transfers. You need a sound card in your PC with microphone and speakers, or, better still, an integrated microphone-headset or USB telephone available from the Skype store that does not use a sound card, leaving it free to work with other applications. I recently added a Plantronics DSP 400 headset with microphone. Sound quality is excellent. An added service, SkypeOut, allows you to dial conventional telephones anywhere in the world, very inexpensively, e.g., Japan 2.57¢ a minute, Thailand 12.5¢, Netherlands 2.3¢. Accounts are purchased in 10 Euro increments. A recent half-hour call to the UK cost me 60¢ with no latency or echo, and sound quality comparable a conventional landline. A new service, still in beta, is SkypeOut. For 10 Euro a quarter, 30 Euro a year, you can purchase a phone number in any city of your choice in an expanding list of countries – currently USA, UK, Denmark, Finland, France, Hong Kong, Poland, Sweden – so that people there can call you without incurring long distance charges. Skype also offers an inexpensive voice mail service that not only records incoming messages but also allows you to send voice messages to offline Skype users. Skype estimates that it has 2,000,000 users at any given moment. Skype does not offer emergency 911 service and so it may not be appropriate as your only phone service. However, it is definitely worth looking into for overseas and domestic long distance calling. You should also check out net2phone.com, which offers a variety of competitive standard VIOP, free PC to PC and fee based PC to worldwide calling services.

What about service features?

Because it is Internet based, feature sets are rich and varied. Voice mail, caller ID with name, call waiting, call forwarding, 911 service, call filtering, phone book and do not disturb services are standard with most plans. 3-way calling is common. Call logs can be viewed on line.

CallVantage can forward a voice mail message as an attachment to e-mail as soon it comes in. It allows you to organize conference calls with up to 10 participants for 35 cents a minute.

What should I look out for?
Not all providers are capable of supporting conventional fax machines. If you send and receive faxes, be certain your provider can support it. An alternate solution is to send faxes via computer/scanner and receive them via a free service such as j2 - http://www.j2.com. j2 will give you a free fax number, receive your faxes and e-mail you an image file. For a fee you can also send faxes through them.

Conventional phone service uses its own power. When there is an electrical outage the phone continues to work. DSL, working over conventional phone lines, is also free of the electrical grid. Likewise, many cable providers have standby power. You should consider a quality UPS at your end to feed the modem and TA in the event of a power failure. Actually, if you have a PC, you should have a UPS already.

Some providers supply the TA, usually a VOIP gateway manufactured either by D-Link or Linksys. After a year or so you wind up with ownership of the TA. Early cancellation of the service requires you to purchase the TA at full retail. Providers such as Lingo have you purchase a TA kit at a retail outlet such as CompUSA. The difference in first year cost between providers is often the price of the TA.

Federal regulations require phone companies to let you keep your phone number. The purpose was to allow consumers to switch from one cellular provider to another and keep their number. To date phone companies have not been very cooperative about giving up conventional phone numbers. There are stories of people waiting up to six months to get their old number released to their new carrier. While illegal, it happens and is one of the major reasons I went with AT&T CallVantage. While I was on the phone signing up for CallVantage AT&T secured a release date for my phone number. A week later I installed the TA and switched over with no loss of service. If you don’t need to carry an existing number with you, any of the VOIP providers can secure a new number on the spot.

911 service is a critical issue because the TA floats in cyberspace. When you first install your phone you tell your Provider where you are located. That way they can route 911 emergency calls appropriately. Whenever you move the TA to a new location, you need to enter your Provider’s setup menu and update your 911 information.

Finally, look before you leap. There is a wealth of VOIP information on provider websites and user blogs. Let Google “do the walking” through the forest of VOIP URLs.

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After looking over a few of the articles on your blog, I honestly like your technique of blogging.

I bookmarked it to my bookmark website list and will be checking back soon. Take a look at my web site as well and let me know your opinion.

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plotka  
on February 1, 2014 at 1:49 AM said:

Great blog right here! Additionally your internet site loads up quite fast! What host are you the usage of? Can I get your associate link on your host? I wish my site loaded up as effortlessly as yours lol

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wiadomosci w Internecie  
on February 1, 2014 at 2:17 AM said:

What a funny blog! I really enjoyed watching this comic video with my household along with including my mates.

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lose weight xls  
on February 2, 2014 at 8:42 PM said:

What’s up it’s me, I am also visiting this web site daily, this web site is actually fastidious and the visitors are genuinely sharing pleasant thoughts.

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cash passport  
on February 2, 2014 at 10:43 PM said:
First of all I want to say wonderful blog!
I had a quick question in which I’d like to ask if you do not mind. I was interested to find out how you center yourself and clear your thoughts before writing. I’ve had a hard time clearing my thoughts in getting my ideas out.

I truly do enjoy writing however it just seems like the first 10 to 15 minutes are usually wasted just trying to figure out how to begin.

Any ideas or tips? Appreciate it!

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naija
on February 3, 2014 at 1:34 AM said:

This is my first time pay a visit at here and i am truly impressed to read everthing at alone place.

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plotki
on February 3, 2014 at 1:56 AM said:

your attendees and take in pictures.

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money k camp
on February 3, 2014 at 2:48 PM said:

Quality articles is the key to be a focus for the viewers to pay a visit the web site, that’s what this web site is providing.
Hello There. I found your blog the use of msn. That is a very smartly written article.

I will be sure to bookmark it and return to learn extra of your useful information. Thanks for the post. I’ll definitely return.

Wow! After all I got a webpage from where I can genuinely take helpful facts regarding my study and knowledge.

Attractive section of content. I just stumbled upon your weblog and in accession capital to assert that I obtain in reality enjoyed account your blog posts. Any way I will be subscribing for the augment and even I achievement you access consistently quickly.

Hey very cool internet site!! Guy .. Beautiful .. Superb .. I am going to bookmark your blog and take the feeds also…I am satisfied to discover so numerous intriguing details the following from the post, we’d like develop additional techniques in this regard, thanks for sharing. . . . . .
Hi there, Sorry for your lengthy comment Thanks for sharing your article, following time can you write about wart removal products. Also is there any proven home cure for skin warts? Can you suggest me some? I live in Canada. Please dont forget that some stuff may perhaps not be offered in my area. That’s why suggest me general items which could be discovered everywhere. Also would you recommend buying wartrol online? is it not dangerous?

Brian
on February 5, 2014 at 2:01 AM said:

Thank you for any other wonderful post. Where else could anyone get that kind of info in such a perfect method of writing?
I’ve a presentation subsequent week, and I am at the search for such information.

Blaine
on February 5, 2014 at 6:37 AM said:

Excellent items from you, man. I’ve understand your stuff previous to and you’re simply too fantastic. I actually like what you’ve acquired here, certainly like what you are stating and the best way in which you assert it. You are making it entertaining and you continue to take care of to stay it smart.
I can’t wait to read much more from you. That is really a tremendous web site.

Man Corradino
on February 5, 2014 at 5:39 PM said:

Ich bin in keiner Weise darum geht, von der Spitze zu starten, aber ich möchte die Dinge Schritt für Schritt, wenn es Möglichkeiten zu einer besseren Förderung und auch eine Karriere genieße ich besser als ein normaler Bürojob vielleicht bedeutet. SO! meine wichtigste Frage ist – was ist der beste Weg, um an dieser aktuellen Phase beginnen, wenn ich mich auf eine Veränderung in meiner Karriere habe ich
Esteban Dewar

on February 6, 2014 at 1:35 PM said:

Hey amis! S'il vous plaît lire ces règles de plate-forme web avant de poster des commentaires!