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## Voice over IP - What is it? Why use it? Is it for my business?

Voice over IP - maybe you've seen the advertisements on TV for Vonage or AT&T's new CallVantage service. If you have you're on your way to becoming acquainted with new voice services based on - Voice over IP. But what is Voice over IP and why are companies like AT&T rushing to market with new services based on it? And, most importantly, are these services that may be beneficial to your home-based business?

### *Voice over IP - the "whats and whys"*

Simply put, Voice over IP is simply that - the transmission of voice over an IP-based network (like the Internet). What's so unique about that?

Voice services, have, until only recently, been provided via the PSTN (Public Switched Telephone Network). The PSTN is comprised of large capacity transmission lines and the lower speed copper that comes to your house along with "mainframe-like" equipment that takes your calls, gives you access to "extra" services like Caller ID, Call Waiting, 3-Way Conferencing, etc., and routes your voice call to its appropriate destination. Every call uses 64Kbps of transmission capacity across the PSTN and, you probably realize or know, that the equipment that is used in the PSTN (Class 4/5 switches), if they're "mainframe-like" are not cheap to purchase, maintain or manage.

By migrating voice to an IP-based data network (like the Internet), carriers, and you and your business, can reap some significant economic and business benefits. For carriers:

- They only have to run one network - not two or more as they currently do today (and pass those costs along to you as well!)
- IP transmission equipment costs significantly less purchase, maintain and manage
- Voice over IP calls can, using compression, use only 5.3 Kbps of bandwidth in comparison to 64Kbps for PSTN-based calls, a huge savings in network capacity
- Voice over IP equipment and standards tend to be more "open" than traditional PSTN offerings - allowing service providers, and you, to have more options in how they implement services and in the services they will offer you.

For you:

- It's obvious that if the service is much less expensive to deliver, that at least some of that economic benefit will get passed on to you - the customer. Vonage and AT&T's Voice over IP services are very good examples - with AT&T coming in at \$39.99 a month for a package of unlimited domestic local and long distance calling and Vonage at \$34.99 per month. International rates are significantly lower than traditional PSTN calls as

well.

- In the end, simplicity for you too. Just as with the carriers themselves, you'll have just a single line (your broadband Internet connection - DSL or Cable Modem) that will handle all of your voice and data transmission requirements. Complexity in the near term comes from the fact that you'll still need a broadband connection *and* a voice service that may come from two different vendors. We expect that to change very soon as carriers of all "stripes" switch to Voice over IP technologies to reap their economic benefits.
- Finally, Voice over IP promises to be the way to integrate all your business applications - voice and data. You'll be able to integrate your IP phone with your Outlook directory and dial from your PC. Video, instant messaging, voice, data - all combined, all working together to make the traditional divisions between voice and data disappear.

Can't wait to get started?

*Voice over IP Services - the current "big 4"*

Although we believe the number of choices will expand rapidly in the very near future as cable companies and local phone companies jump into the market "mix", there are currently four companies leading the Voice over IP service charge. In the tables below, we've briefly outlined their service offerings.

**Remember: you MUST have a broadband Internet connection (cable modem or DSL) to take advantage of these services (so factor that into the cost of your service as well!).**

	AT&T CallVantage
Price Per Month	\$19.99 first four months, \$39.99 per month thereafter
Minutes Included	Unlimited local and long distance calling
Features Included	Personal Conferencing, Do Not Disturb, Voice Mail, Call Lots, Feature Man-
Long Distance Op-	Unlimited domestic long distance calling from home
International Call- ing	Special CallVantage International Rates - savings up to 30% on international calls

	net2phone Voice-	net2phone Voice-	net2phone Voice-	net2phone VoiceLine
Price Per Month	\$34.99	\$14.99	\$9.99	\$25.00 to begin
Minutes Included	Unlimited minutes to U.S. and Canada	500 minutes to U.S. and Canada	300 minutes to U.S. and Canada	\$0.029/minute inbound and VoiceLine to VoiceLine, \$0.07 outbound
Features Included	None	None	None	None
International Calling	Not included - net2phone Global Minutes plan is \$24.95 per month for 1,000 minutes	Not included - net2phone Global Minutes plan is \$24.95 per month for 1,000 minutes	Not included - net2phone Global Minutes plan is \$24.95 per month for 1,000 minutes	Not included - net2phone Global Minutes plan is \$24.95 per month for 1,000 minutes

Viper Networks offering is different from the others in that they also offer a Vphone (\$54.99) that you plug into your laptop/desktop using a USB port. That means you can actually take your Voice over IP service on the road with you!

	Viper Networks
Price Per Month	Pay as You Go
Minutes Included	None
Features Included	None
Long Distance Options	\$0.01/minute Vphone to Vphone, \$0.29/minute USA
International Calling	"Significant" savings over traditional international long distance rates

	Vonage Premium Unlimited Plan	Vonage Unlimited Local Plan	Vonage Basic 500 Plan	Vonage Small Business Unlimited Plan	Vonage Small Business Basic Plan
<b>Price Per Month</b>	\$34.99, one time activation fee of \$29.99	\$24.99, one time activation fee of \$29.99	\$14.99 per month, one time activation fee of \$29.99	\$49.99, one time activation fee of \$29.99	\$39.99, one time activation fee of \$29.99
<b>Minutes Included</b>	Unlimited minutes to U.S. and Canada	Local Only	500 minutes to U.S. and Canada	Unlimited	1,500 local and long distance minutes, \$0.039 per minute after 1,500 minute limit
<b>Features Included</b>	Voice Mail, Caller ID with Name, Call Waiting, Call Forwarding, Call Transfer, Three-Way Calling, Free Calling to Vonage Customers	Voice Mail, Caller ID with Name, Call Waiting, Call Forwarding, Call Transfer, Three-Way Calling, Free Calling to Vonage Customers	Voice Mail, Caller ID with Name, Call Waiting, Call Forwarding, Call Transfer, Three-Way Calling, Free Calling to Vonage Customers	Fax Line, Call Waiting, Voice Mail, Call Forwarding, Repeat Dialing, Call Transfer, Caller ID, Caller ID Block	Fax Line, Call Waiting, Voice Mail, Call Forwarding, Repeat Dialing, Call Transfer, Caller ID, Caller ID Block
<b>International Calling</b>	Significant savings - beginning at \$0.02 per minute	Significant savings - beginning at \$0.02 per minute	Significant savings - beginning at \$0.02 per minute	Significant savings - beginning at \$0.02 per minute	Significant savings - beginning at \$0.02 per minute

As you can see, these services offer significant savings over traditional local and long distance services carried over the PSTN. However, before you rush to your computer or phone to order one of these new services, some things to remember.

1. You MUST have a broadband Internet connection in place (DSL or cable modem).
2. These services run over the Internet - which currently has NO quality of service. What does that mean? If the network becomes congested, there is a good chance your voice conversation could be subject to clips, burps, delays and other disruptions. Think of a REALLY bad wireless call and you'll understand what we're talking about.
3. Not all services are available in all geographies - check with the service provider for service

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availability.

4. You may, or MAY NOT be able to keep your current telephone number. Make sure that you're prepared for a transition with your customers, friends and family if decide to switch services - and telephone numbers.
5. Like any new service/technology, there will probably be problems. Are you prepared? Are you willing to work your way through them - and run your business? Is the cost savings worth your time?

We believe that Voice over IP will rapidly become the "norm" for voice services - if only because of the cost savings that carriers themselves will realize. If you like the technology and the price - and you're willing to deal with the idiosyncrasies of a new service offering - we encourage you to check out the capabilities and reap the economic rewards that Voice over IP can bring.