OPASTCO Advocate

Organization for the Promotion and Advancement of Small Telecommunications Companies

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opinion SECTION

The Freedom to Choose Any Telecom Provider

by Ken Pyle

Consumers are confused, and it is our duty to remove that confusion.

— Leif Street, Director of Sales and Marketing, Wood County Telephone

One of the powers of the free market is the myriad of choices that result from competition. Consumers are free to choose among various alternatives for all sorts of goods. The efficiencies of the market result in innovations not found in any other economic structure. These innovations lead to new products and entirely new product categories.

A variety of choices can sometimes lead to confusion and indecision by consumers. Thus, marketing is especially critical in free markets, as, ideally, good marketing serves as the mechanism to match consumers with the products they need or want. In this context, marketing is being used broadly to mean product definition, positioning, packaging, pricing and promotion.

From an independent telco perspective, the floodgates of the free market are opening, and the sea of competing products is crashing in at full speed. Evidence of this competition is seen every day, especially with the advent of voice over Internet Protocol [VoIP]. Over the past few months, I have been reviewing various VoIP solutions and have found that there are many from which consumers can choose.

As will be seen, these services are not yet perfect, but the services are good enough to begin siphoning customers from the independent telco and pose even a bigger future threat as the technology matures. This, however, is not an article about VoIP technology or even the new features enabled by VoIP. Instead it is about the role of marketing to help clear the confusion that engulfs so many of us consumers.

My Big Mistake

The genesis of this article was a link I had made to a rather interesting opinion/editorial piece by California Public Utilities Commissioner Susan Kennedy in the November 3, 2003, *San Jose Mercury News*. The upshot of her opinion piece was that she felt that regulators had to tread lightly with regards to the regulation of VoIP. After publishing the link to this article in my own newsletter, I received a surprising amount of feedback.

Some of the feedback was from a representative of a manufacturer/service provider who asked me to review their line of VoIP phones. Given the apparent interest in the topic from my readers and my interest in understanding how well the technology worked, I said yes to this request. After a testing period of several weeks, I was surprised to find the performance of the TalkPro phones surpassed my expectations.

My expectations were quite low, as I had personal experience with VoIP in 2001, as I had purchased a router with integrated VoIP capabilities. At that time, I found the quality of the service to be "cellular" in nature and not good

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Editor
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OPASTCO
21 Dupont Circle NW
Suite 700
Washington, DC 20036
202/659-5990
fax: 202/659-4619
http://www.OPASTCO.org
e-mail: advocate@opastco.org

enough for a landline. Those quality issues seem to be a thing of the past with the new phones I tested.

There were limitations, however, such as the difficulty in receiving incoming calls and the lack of number portability. Clearly these phones were still not regular replacements for traditional landline service for the majority of the populace. They did have some features, such as free calling to other phones and very low-cost international calling that could make them attractive to certain market segments.

Around the time I started the review, a friend and colleague, Roger Bindl, signed up for Vonage's service. He was quite pleased with the service, as he really enjoyed the unlimited long distance that was included in his account. In our conversations, I could never tell that he was using a VoIP phone over a cable modem. The quality seemed quite good.

I had been talking about signing up for Vonage service for about a year, but for some reason could never overcome the inertia to make the change. Then, one Saturday night with laptop firmly atop my outstretched legs on my easychair, my wife said just quit talking about it and sign up. Two minutes later, I had a virtual phone number (which I could immediately begin using for voicemail) and the promise of a terminal adaptor and a ported phone number within 15 to 20 days.

Around eight days later, I noticed that my phone had not rung for an entire day, which was very unusual. Around 3 PM, I got a call on my cell phone from a friend who suggested that my voicemail had changed. A quick call to my voicemail and I discovered that the number had been ported BEFORE I received my terminal adaptor. After about an hour of panic, I was relieved to see the delivery man with a brand new terminal adaptor.

Installation of the adaptor was fairly quick and painless. The quality on my first call seemed to be acceptable. Over the course of the next day, I started to notice various issues. The first issue was that my number did not seem to be completely ported. That was an annoyance that I figured would go away, but it was an opportunity to try Vonage's customer service. I electronically opened a trouble ticket with Vonage and immediately received an automated response.

The next issue that I noticed within the first day of having the service was inconsistent quality. The quality of the connection would deteriorate below cellular quality. The signal quality seemed to drop as traffic on the network increased. Reliability was suspect as well, as several times when I picked up the phone, I did not have dialtone, and I had to reboot the terminal adaptor. Surprisingly, after I wrote of this issue in my newsletter I had four or five people respond that they had seen similar quality and reliability problems.

The quality level of the service was unacceptable. It might have been acceptable if it had been for a residential application, but this was ultimately for business purposes. The poor quality coupled with the lack of customer support made me realize that this was not a long-term solution. Fortunately, Vonage provided a 15-day money-back guarantee. Unfortunately for Vonage, a live customer service person did not contact me until a little more than a week after my first trouble ticket and, by that time, I was in the process of returning the terminal adaptor.

Not knowing when to give up, however, I kept experimenting with voice over IP solutions. First, I purchased a VoIP phone card for long distance service. I found this card also to be of dubious quality. At times the quality was like that of a regular circuit-switched call but, at other times, it was reported that my voice was distorted.

I then tried a "traditional" VoIP solution that utilized a PC and a headset. I was shocked to find that the quality of the service was better than Vonage. At 2.9¢ a minute, the long-distance was affordable. So far, I have used it to make calls throughout the United States, along with international calls to the Netherlands and Canada. Several of these calls were conference calls and lasted for more than an hour. On a few of the calls, I did have a dropped connection, but the quality was generally acceptable.

Enough about My Personal Problems

Technology is great, but it doesn't retain customers.
— Leif Street, Director of Sales and Marketing, Wood County Telephone

Again, this article is not about my telecommunications travails or even about the evolution of voice over IP technology. It is clear, just in my few months of reviewing and experimenting, that the technology is rapidly evolving, and a phone company, no matter its size or geographic location, cannot afford to ignore the competitive threat from VoIP providers. Based on the current environment, an independent telco cannot rely on the regulatory bodies to protect it from a service that can replace a telephone, but is classified as an information service.

To fight this new competitor, an independent telco must lead the charge with a thorough marketing strategy. This strategy has to take into account the various market segments that a telco may have (e.g. business, education, residential) and what products need to be offered to those various constituencies. The products themselves might be very similar, but how they are packaged, priced and positioned could be very different depending upon the market segment.

Within a particular market segment, it might make sense to create different packages for particular sub-segments. For instance, the product that is offered for an early adopter would be much different than what is needed for a laggard. Determining whether something is a feature or a product unto itself is one of the biggest challenges of product marketing.

In my case, I probably fit in a segment that could be considered Small Office, Home Office. So, what caused me to change service? There was no single reason for my switch, but a series of features that put me over the edge. First and foremost, as depicted in the table below, I was dealing with three separate companies and three different products to create the cobbled together telecommunications system I had.

The features I have come to expect from the telephone network are hard attributes, like reliable service, but I have also come to expect "soft" attributes like robust signal quality, and reliability for both long distance and local service. I was willing to sacrifice a little convenience, however, to reduce my long distance charge through the use of a 2.9¢ calling card.

Note, that 911 service is not listed as a must-have attribute, as it was already covered from the other line I had for home service. Voicemail was another situation altogether. I always felt proud of the way I had cobbled together a voicemail solution that gave me a fax line and unified messaging all for about $6 per month less than the voicemail package I could have received from my local carrier.

Switching to Vonage promised to consolidate all of these services to one provider and one bill, while providing a savings of at least $15 per month. But I knew this for more than a year, as I had been tracking the service. So, what ultimately caused me to switch…

QUALITY and RELIABILITY

After reviewing various products, I felt that Vonage would meet my quality and reliability expectations. Interesting, but some of the things, like reliable POTS, which were "must-haves," were not as important with Vonage. Part of this has to do with the fact that the cellular phone

Core Product	Local Dialtone	Long Distance	Voicemail
Hard Attributes	Reliable POTS	Calling Card	Fax
			Unified Messaging
Soft Attributes	Quality	Quality	Ease of Use
	Reliability	Reliability	
	Ease of Use		
Cost	~$25/month	~$25/month	~$15/month

Core Product	Vonage Dialtone
Hard Attributes	POTS
	Long Distance
	Voicemail
	Unified Messaging
	Fax
Soft Attributes	Quality
	Reliability
	Ease of Use
Cost	~$50/month

offers a level of redundancy. Further, an inexpensive battery back-up could provide a low-cost, homemade solution to ensure both voice and Internet availability during a power outage.

In the end, the quality and reliability of the Vonage service were not acceptable, even though it had more features than I wanted at **pricing that was 38 percent less** than my cobbled together package.

Communicate, Communicate, Communicate

What retains customers is how you communicate with them – how you take care of them.

— Leif Street, Director of Sales and Marketing, Wood County Telephone

This opportunity to reflect on my experience with VoIP has reinforced several ideas that I have heard over the years. First, identifying market segments is the first step in the product definition process. The next critical step is to properly package the features into products for each of the given market segments.

Pricing is important. When combined with the various product attributes, it provides the measure of value. The lowest price does not mean the best value and does not mean the customer will select the given product. In my case, I was willing to pay a substantial amount more for a product that provided less "hard" attributes, but had the soft attributes of quality and reliability that I felt were "must-haves."

Of course, having the optimum product for a particular market segment is useless if there is not a good way of communicating that message to the customer. Communication about individual product features and their associated benefits is obviously necessary to convert prospects into customers.

Once a prospect is a customer, it is still important to communicate the features and benefits. An educated customer will be more likely to use the features. The more features they use more often, the harder it will be for a competitor to steal them away.

Customer education has to encompass more than just product information. Reinforcing the soft attributes that the company is known for – really branding – is something that must be continually communicated. When faced with a choice of two similar products with similar value propositions, a person will more likely choose to buy from the person or company that they know and trust.

Communicating to customers and prospects must be part of the fabric of the independent

telco, in order to reinforce and build the image and the reputation of the independent telco. The communication touch points include any customer contact by company employees (e.g., how customers or prospects are greeted), any print messaging opportunities (e.g. signage), and any Web or television advertising opportunities. Maybe if I had been a little more educated about the potential quality perils of moving from my established supplier, I would not have made the switch that has been a two-month-long nightmare.

Free to Choose, but Make it Simple

The increasing competition in the independent telco space, that is all but inevitable in the coming years is going to leave customers with many new choices. With competition, there will be pricing pressures, and the challenge will be to maintain margins and revenue levels. This will only be possible by packaging features that customers want, together with the quality, reliability and service they have come to expect from an independent telco, to create products that have greater value than the competition.

Communication will be required like never before, both for converting prospects into customers, as well as for retaining existing customers. Good communications will help customers cut through the clutter of their many choices and find the product that is right for them. Communications also will be critical to reminding customers of the value they are receiving and, just maybe, it will be the tie that stops them from switching to your competition. ■

The Primary Line Concept and The Carrier of Last Resort: A View from the Real World

by Mark Gailey

Recently, the Federal-State Joint Board recommended distributing federal universal service support to eligible carriers based on primary lines, instead of the currently support distributed on total lines (or the wireless equivalent). This proposal is problematic at best. It would harm business and economic development in rural America, and impose dilemmas and shortfalls in recovery of costs already incurred.

Providing telecommunication services in the Midwest, especially in the rural areas of the Midwest, is never easy. But when the possibility arises to provide a large commercial development with all the telecom services they require, you do everything possible to accommodate them. Unfortunately sometimes, everything is not quite as it seems.

History

The Universal Service Fund (USF) was established to ensure affordable phone service to all Americans, even those Americans that live in the less densely populated, and therefore more costly, rural areas. The cost recovery mechanism of the Universal Service Fund will continue to be crucial to the financial viability of rural incumbent carriers that have been providing service to rural customers for decades. However, the Fund has been stressed in recent years as wireless carriers wanting increased revenue in rural markets have qualified for USF support after being designated as competitive eligible telecommunications carriers (CETCs). For example, according to a Legg Mason report, in 1999, only $500,000 from the Fund was needed to support the two wireless carriers that were designated as CETCs. In 2003, Legg Mason estimates the USF provided $131.5 million to 109 wireless CETCs, and that amount could triple again in 2004.

On February 27, 2004, the Joint Board suggested the Fund be used to support only the "primary line" for each customer. The designation of "primary line" would come from each specific end-user customer, and depending on that designation, they would select the wireline or wireless carrier as being the provider of the primary line – and therefore the recipient of the USF cost recovery funding. To make matters worse, if wireless carriers' support is not based on the carrier's actual costs, there will be gaming and bidding wars for the primary line designation. Some carriers' support could exceed their total costs, enabling them to offer free service supported by other ratepayers.

Under a "primary line" system, rural wireline incumbents will suffer because they will not receive the level of support necessary for the recovery of the costs to provide additional voice, data, and fax lines as they do today. In

today's environment, the wireline carrier is still the designated carrier of last resort and has incurred the costs necessary to provide service to each and every one of its requesting end-user customers. The facilities were engineered, installed and implemented on the historic assurance and assumption that cost recovery, with assistance from the USF, would be provided. If cost recovery (partially from the USF) is not going to be provided, which would be the case with this "primary line" recommendation, the likely outcome is that the rates charged to customers for these additional lines will need to be increased substantially. The harmful effects on rural businesses and economic development are obvious.

In the Meantime

Approximately a year and a half ago, my company, Totah Telephone Company, Inc., received notice that a new distribution center would be placed in one of its exchanges. The city and state approached Totah to see if it would be able to provide the 100 telephone lines and broadband connections needed during the construction phase. Also as part of this discussion, upon construction completion, the distribution center wanted the initial ability to have 200 telephone lines up and ready with the ability to expand up to 1,000 lines, as well as a large broadband pipe.

Totah started by installing 100 lines for a local contractor for the project. On the plus side, Totah's existing network facilities are within 1,500 feet of the building's location. However, because the city and state negotiated the project, Totah could not require any advance payment for the additional facilities necessary for this phase of the project. The costs of lines and the cost of the additional facilities needed to actually reach the site were precluded from advanced payment. Both the city and state acknowledged that the site is free for the owner of the distribution center to use as long as it pays for the building and utilities. Totah, however, was precluded from charging aid to construction for the temporary facilities used during the construction phase.

This lack of cost recovery also applied to a $50,000 digital loop carrier (DLC) that was installed on the site in order to have the capability to provide 100 lines for one year during the construction phase of the project. Totah also had to place 1,000 feet of 100 pair cable that will not be used after construction is completed. By the time the services are installed and Totah is done with the construction trailers, the telephone company will have invested approximately $100,000 to meet its duties as carrier of last resort.

At the end of the construction phase, Totah will have to place a second DLC that is capable of being expanded to at least 1,000 lines, as well as expand the central office to handle an additional 1,000 lines (the Totah central office providing service to the distribution center is a DMS-10 and will require a new bay and cabling to add the extra 1,000 lines). Totah expects that the distribution center will actually necessitate somewhere in the neighborhood of 100 total lines because it will in all likelihood use T-1 facilities and haul all the traffic back to the home office. However, Totah was required to sign a contract stating that it would be able to provide the 1,000 lines on request within a 45-day time frame. The only way Totah can meet that contractual obligation is to have the capability installed and waiting for a call that may never materialize.

As most local carriers know, if you have ever negotiated with a large commercial company with state and city officials involved, the term "negotiate" is not in the vocabulary. The carrier is basically at the large customer's mercy, open to any request that may be made. Otherwise, the customer is perfectly willing and able find an alternative option. For instance, in our case the local electric co-op is providing an alternate route for the T-1s through its fiber that is in its static wire on the power lines. In short, if Totah wants any of the new concern's business, it will have to play ball by their rules.

Aftermath

By the time it is all said and done, Totah will have spent in the neighborhood of $150,000 to $250,000 accommodating the distribution center as well as city and state officials.

Under the new proposed primary line concept, what does Totah Telephone Company recover? What mechanism will offer the sufficient and predictable support needed to spare our other customers from imposition of these costs?

If Totah has a declared competitor (CETC) in the exchange, before the construction phase is complete and support is frozen, does the $150,000 to $250,000 even count towards USF recovery?

In the meantime, Totah Telephone Company, Inc. and other rural ILECs will do their duty to rural communities as carriers of last resort by continuing to provide high-quality, affordable telecommunications services to all the subscribers in rural America even in the face of risks imposed by the proposed Primary Line Concept. ■

in the NEWS

The Road to Wireless Standards Sets Stage For The Future

by Keith Doucet

The demand for broadband services is accelerating for both the residential and enterprise market. Existing wireline technologies, such as DSL and cable, are often not an option either, because they are simply not available in a given geographical area or lack the necessary performance to fulfill the requirements for high-speed connectivity. Wireless is less expensive, especially in locations where it is cost prohibitive to install.

The challenge with wireless is that there has not been an effective, standards-based solution for implementing wireless networks within metropolitan-sized areas. Companies have been installing proprietary equipment for wireless connectivity for areas outside the confines of a building. Proprietary systems can meet performance and security requirements; however, they tend to be more expensive and lack interoperability.

The use of 802.11-based hardware (better known as Wi-Fi) for metropolitan-sized networks decreases costs, but 802.11 has, among other things, performance limitations when supporting larger numbers of users requiring broadband access. More importantly, Wi-Fi systems do not feature Quality of Service (QoS), which is essential to support guaranteed bandwidth for real-time services such as voice and video. Consequently, Wi-Fi systems are ideally suited for indoor distribution, for which they were originally designed.

Enter WiMAX

The Institute of Electrical and Electronics Engineers (IEEE) 802 Group initiated a working group to create standards for broadband wireless access in order to offer a high-speed/capacity, low-cost, and scalable solution as an alternative to DSL, cable, T-1/E-1 leased lines and fiber. The first IEEE 802.16 standard, published in April 2002, defines the WirelessMAN Air Interface for wireless Metropolitan Area Networks (MANs). These early systems operate in the 10-66 GHz band and are primarily targeted for small to large enterprises as a broadband alternative to traditional wired connections.

The 802.16 standard, dubbed WiMAX, supports point-to-point and point-to-multipoint architectures transmitting at data rates in excess of 120 Mbps. In the 10-66 GHz band, transmission requires line-of-sight, making roofs of buildings and towers a pre-requisite for mounting base station and subscriber station radio equipment. The base station connects to a wired backbone and can transmit wirelessly up to 5-10 miles to a large number of stationary subscriber stations, possibly hundreds.

An Easy-Entry, Last-Mile Broadband Solution for You – Or Your Competitors

With wireless base station equipment targeted at under $20,000, a WiMAX-based solution can economically serve up to 60 customers with T-1 speed connections. That's an attractive proposition to an operator looking to minimize both capital and operational expenses. In addition, WiMAX can provide a feasible backhaul for connecting wireless LAN hotspots together.

To accommodate non-line of sight access over lower frequencies, IEEE produced the 802.16a standard in January 2003. The 802.16a standard operates in the licensed and unlicensed frequencies between 2 GHz and 11 GHz using orthogonal frequency division multiplexing (OFDM) as the principal transmission method for robustness to address non-line-of-sight deployments.

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The 802.16a medium access control (MAC) layer provides the means for distributing the bandwidth to multiple subscribers from a single base station sector. The MAC uses an advanced QoS mechanism to prioritize bandwidth allocations according to pre-defined service level agreements (SLAs). This is particularly critical for real-time applications, including voice services, where a portion of the bandwidth must be given absolute priority over normal data traffic to minimize latency and jitter. The MAC can support up to hundreds or thousands of subscribers from a single sector, providing a truly scalable network that can gracefully grow to meet consumer demand.

Both 802.16 and 802.16a form the basis of the emerging WiMAX standard, which is chartered with ensuring interoperability between equipment from multiple manufacturers. With WiMAX compliant products, broadband wireless access is poised to revolutionize the 'connectivity' landscape in the near future. ■