The North American Broadband Satellite Market

by Virgil Labrador
Editor-in-Chief

With over one hundred million households, the United States is currently the largest market in the world for broadband services. About sixty percent, or 60 million households currently access broadband services from various sources, mainly terrestrial. With the U.S. lagging behind other developed countries in broadband penetration (see OECD statistics next page), the US Federal Communications Commission has announced a National Broadband Plan which aims to reach 100 million households connected to 100 Megabits-per-second (Mbps) broadband service in the next ten years.

To reach that goal, large amounts of bandwidth will have to be made available not only in the densely-populated urban areas but in the rural areas where populations are more spread out. To reach the more sparsely-populated areas will require development of satellite or hybrid networks. Currently, satellite broadband service reach only one million households, or less than 2 percent of broadband households in the U.S. as opposed to the 30 percent penetration rate of satellite Direct-to-Home satellite broadcast services. Clearly, there is a lot more room to expand satellite broadband services in the U.S. market and major operators such as Hughes and Viasat are determined to develop the market to its full potential.

A recent study by NSR, *Broadband Satellite Markets*, revealed that the satellite broadband sector has weathered the effects of the depression of 2009, citing the achievement of the milestone of one million subscribers in the US as a good indicator of the potential and opportunities in the market.

The US is the largest market for satellite broadband but penetration rates lag behind other developed countries.

Hughes subsequently announced that it will launched another all Ka-Band satellite to be called Jupiter, scheduled for launch in early 2012. Both Viasat-1 and Jupiter are promising over 100 Gigabits of capacity which can provide broadband services to over a million new customers per satellite.

Both Hughes and WildBlue are counting on the unserved and underserved markets for broadband services, mainly in rural areas, which both companies estimate to be in the 10-15 million household range. So, even with two HTS satellites coming up,
The North American Broadband Market

which can serve a maximum of 3 million subscribers, there is still a relatively large addressable market for satellite broadband in North America.

which is not the case for the single nationwide beam produced by the typical Ku-Band satellite. Like the 80/20 rule that applies to revenue/customer performance, it’s likely that the vast majority of the new customers needed to fill a high capacity satellite come from the eastern US and the major metro areas. That leaves out the vastness of the plains and western US. It is

The newer Ka-Band offerings of satellite broadband could conceivably reduce the cost of the space segment portion of the system. Typically, this represents half the investment and ultimately operating cost as well. The WildBlue and Spaceway satellites incorporate multiple spot beams that can transmit high power carriers and reuse the frequency spectrum.

ViaSat is developing the ViaSat-1 system at Ka-Band to deliver even greater bandwidth than the previously-mentioned systems. More customers can be served and their data rates potentially increased relative to the current Ku-Band networks that support more than half of today’s subscribers. Multiple spot beams have the technical ability to accomplish this feat; however, obtaining this in practice is dependent on where the subscribers appear within a national footprint.

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a paradox that the greatest attraction for satellite broadband is in these vast expanses, but the customers are clustered in regions heavily served by cable modem and DSL. Consequently, satellite broadband must steal terrestrial broadband customers if it wants to move from the current one million to the 10 million projected subscribers for satellite broadband services in the U.S.

**The SOHO/Enterprise Market**

To achieve the full market potential of satellite broadband, according to many analysts, would require reaching not only to consumers but to other markets as well. Hughes has traditionally been serving the enterprise market and are focusing on both enterprise and consumer markets. Viasat has announced that its new satellite Viasat-1 will be serving not just the consumer market but the enterprise, government, military and other vertical markets as well.

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**Finding niche opportunity in today’s satellite environment**

*How Davids make profits while Goliaths fight*

The consumer and Small Office Home Office (SOHO) satellite market has followed the pattern of virtually all the other communications industries:

- Initial market acceptance
- Mass adoption of the technology
- Market dominance by a few large companies
- Fierce competition and intense marketing for the remaining market

Consumer/SOHO satellite is clearly dominated now by a few large players aggressively fighting for each other’s customers or for the remaining market share. From the outside, finding opportunity in this environment might seem a daunting challenge. However, like all other communications industries, there is an opportunity for niche players to carve out a lucrative business for themselves and even take advantage of the environment created by their largest competitors.

One such company is StarBand from Spacenet. Formed in 2000, StarBand was the first to offer a two-way, always-on, high-speed satellite Internet service available for consumers across the U.S. While its largest competitors undertook massive (and expensive) mass media expansion plans, StarBand targeted a select segment of users and focused their efforts on the ones that best complemented their greater corporate strategy.

According to Glenn Katz, the President and COO of Spacenet, “Our StarBand division has benefitted tremendously from the competitive environment in the US consumer satellite market today. The increase in advertising and public awareness has removed a lot of the skepticism of satellite and made it a very widely accepted product. Within this environment we made a conscious decision to focus on the higher end of this market and not get drawn into a no-win shootout. Not only is the high end consumer and SOHO market much closer to our core competencies of serving Enterprise and SME customers, maintaining this focus has provided our Master Dealers a larger suite of Spacenet products to choose from. Ultimately our StarBand strategy leverages our core strengths and creates a win-win for StarBand, our dealers and most importantly our customers.”

“One of the key components of the StarBand model is its relationship with its dealer community,” added Steve D’Argenio, Vice President of Channel Sales & Management at Spacenet. “Not only have we strived to provide StarBand dealers with a more lucrative commission structure for selling StarBand service, but by maintaining our core strategic focus we tend to deliver these dealers higher end customers with more customer loyalty, lower churn, higher spending and a higher propensity to migrate to higher service levels.”

Today, the company remains a niche satellite Internet service provider. However, the company is revitalizing its efforts and has found a way to expand to a broader range of customers, while at the same time remaining a profitable and viable business. With its latest product portfolio, the Nova series, StarBand offers a wide range of service levels and pricing options to customers across the U.S. with many different levels of broadband requirements.

With the introduction of StarBand’s latest more cost effective offerings, StarBand is attracting more satellite retailers who are looking for ways to expand their business opportunities and attract more customers. Interested satellite service dealers can find more information by visiting www.starband.com/dealers.
A recent Frost and Sullivan study on the “Business Market for Ka-band Broadband Services” said that “The business market for Ka-band is more promising than the consumer market, and it will continue to be more profitable for the first few years during which Ka-Band service is available.”

“Operators that had built their business models around the consumer or small office/home office (SOHO) market may have to rework them to target the more viable enterprise market instead.” the Frost and Sullivan study said.

One company that is focusing exclusively on the higher end of the consumer market and the SOHO and enterprise markets is Spacenet (see sidebar article in previous page “Finding Niche Opportunity…”).

By focusing on this specific market segment, it is using its core competencies as a distinct advantage to compete in the market.

“One of our main advantages has been our breadth of experience. StarBand was the original consumer satellite broadband service in the US. We’ve been doing this longer than anyone, and we feel this experience makes us better qualified to meet the changing requirements of our industry,” said Spacenet’s COO Glenn Katz.

“Another advantage which is really key to our higher end and SOHO customers is our hardware platform. The StarBand Nova Series is a very low cost highly reliable platform, but more importantly it’s a system that allows us to upgrade customers to a higher level of service, even enterprise class service, usually with no additional hardware requirements or change of satellite required,” Katz added.

**Satellite Broadband: Facilitating Access and Providing Vital Service**

Hughes did a survey of 23,000 HughesNet high-speed satellite subs who say they use their sat-provided internet to stay in touch with the rest of the world. According to the survey 43% of HughesNet subscribers say that the high-speed access has helped them stay connected.

Satellites help connect customers in remote areas and during natural disasters when most terrestrial infrastructure are down. Here are just a few examples of how customers are connecting via satellite:

A customer of Freedom Satellite (Wasilla, Alaska) is using its StarBand satellite Internet on a ship. The customer has a six-foot dish mounted on shore, and it feeds 110 voltage to the unit. StarBand’s Nova modem is mounted in a weather resistant box on the back side of the dish, which feeds the Wi-Fi antenna mounted above the StarBand dish. The ship has a Wi-Fi receiver antenna which feeds a Linksys wireless modem on board the ship, enabling all the crew members the ability to use the StarBand system.

Patrick Sterlin, a Spacenet reseller located in Haiti, and his wife survived the devastating earthquake in Haiti despite his home being destroyed and his wife being buried under the rubble for a day. Despite the chaos and destruction taking place around him, his StarBand satellite Internet system also survived the earthquake and continued to work properly. It enabled him to communicate and stay in touch with family and friends during the traumatic situation.

Karen Davis, a volunteer located in Haiti who has worked with Missionary Flights International for over 20 years, uses her StarBand satellite Internet system to help coordinate donated supplies coming to Haiti that helps support relief efforts. MFI generously offered to assist one of StarBand’s partners, Orbital Enterprises, fly supplies into Haiti following the devastating earthquake.
Both Hughes and Viasat are investing heavily on the satellite broadband market in the U.S. But is it a viable market in the long run? Will terrestrial technologies such as Wi-Max, 3G, 4G wireless or LTE will eventually reach the markets that satellite companies are going after?

Hughes’ Senior Vice-President Mike Cook is not worried about competition from terrestrial-based service providers. “There will always be a segment of the market that will never be addressed by the terrestrial service providers such as wireless, Wi-Max and others. With the new high throughput satellites that we now have and will be deploying in the next few years, we will have a very competitive solution for consumers,” he said.

WildBlue’s President Tom Moore agrees. He estimates that about 20-25 percent of the market will never be cost effective to be served by any terrestrial service. He said that the wireline technologies are based on home density and the smaller the density of homes increases the cost of deployment by several orders of magnitude. The cost can be up to hundreds of thousands per home in areas where there are fewer than 50 homes per mile, he said.

**Reason for Optimism**

There is reason for cautious optimism about his sector simply because it has expanded in the last year and, in spite of the recession, new money is available to produce more. Terrestrial broadband may be reaching saturation in developed countries, but that does not address the needs of rural and semi-rural districts where many either do or would prefer to live. Tele-working from home nowadays demands good Internet connectivity, and satellite broadband is often the best approach or people in remote areas.

A recent article from the New York Times discussed broadband penetration in the US and the Pew Internet and American Life project that “undercut the idea that Americans are starving for broadband.” The article reviews some key points from the Pew Study: 57% of Americans are broadband subscribers while only 9% still use dialup. Some 9% go to the library or other place access the Internet while fully 25% of the population doesn’t access the Internet at all. The latter breaks down into 17% who believe it’s either too difficult or too expensive to use and the rest just do not see it as relevant to their lives. An unexpected output of Pew’s research is that there is just 4.5% of the population who say they don’t have broadband because they can’t get it.

If we accept the Pew research on face value, the addressable market for satellite broadband could be as high as 43%, which for an assumed 100 million households, represents a whopping 43 million of population. The 4.5% that can’t get it would appear to be easy new customers – a market of 4.5 million. To this we could add some fraction of the 17% who might be persuaded, based on cost and convenience. That could exceed the 10 million subscriber number currently believed to be the potential market for satellite broadband.

Many of these issues are the result of a lack of need or appreciation for the service. Perhaps it is a matter of education or just that the lives of some don’t involve the kinds of interactivity that the Internet affords. By encouraging greater use of satellite broadband, governments and telecommunications firms contribute to greater prosperity. This can only approach the 100% level by including within the na-

<table>
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<td>Hughes</td>
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<tr>
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<tr>
<td><strong>Total</strong></td>
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tional infrastructure an affordable satellite broadband service.

**Ka-Band as the Future**

The developments in the U.S. of using Ka-Band satellites for broadband services are being closely watch in other regions who are launching their own Ka-Band systems in the next few years. Viasat is involved in the rollout of Eutelsat’s Tooway Ka-Band service next year and will be providing its SurfBeam 2 technology to the Ka-Band service Al Yahsat is launching in the Middle East in 2011.

Hughes, on the other hand, will be supply Avanti with advanced Ka-band networking infrastructure for Avanti’s HYLAS 2 satellite which will cover Europe and the Middle East. That’s in addition to Hughes initial US $24 million contract to supply Ka-band technology for HYLAS 1.

How these Ka-Band initiatives will do in the markets they are serving will bode well for future Ka-Band services in other bandwidth–hungry regions of the world.

**Conclusion**

The prospects for satellite broadband in North America certainly looks bright. Viasat’s CEO Mark Dankberg, in a recent testimony before the US Congress on the National Broadband Plan, sees the potential in satellite broadband much like the introduction of satellite Direct-to-Home (DTH) services in the US in the 90s. He sees a viable market where there could be several HTS satellites serving millions of consumers in this decade. However, WildBlue’s Tom Moore cautioned that for satellites to be continually viable, it has to keep up with the development in terms of quality, speed and reliability that terrestrial technologies. He said that at current rates, speeds are doubling every three years and satellites have to keep up or exceed this pace of development to remain competitive.

Probably one of the biggest success stories of 2009 was satellite broadband access, where research firm NSR noted that North America set a milestone by becoming the first region to top 1 million subscribers, and Western Europe will likely exceed 100,000 subscribers well before the end of 2010.
According to NSR satellite broadband access providers saw that few consumers and businesses were willing to give up their broadband service in difficult times. Plus, the imminent launch of the second generation of high throughput satellites like ViaSat-1, KaSat, Jupiter and even Hylas-1 will finally change the core economics of satellite broadband access services. “This trend coincides in a very timely fashion with a number of national government initiatives to bring broadband to all residences and business in their respective countries,” according to the NSR report.

Much is at stake in the satellite broadband market in North America. With Ka-Band broadband services rolling out in Europe and the Middle East next year, the world will be watching the developments in this region.

Will the investment in high throughput Ka-Band satellites pay off? How will Ka-Band broadband services fare in the consumer market? The next couple of years will be most interesting to watch.

**Global Broadband Market Share by Technology (1Q-2010)**

There are 484 million broadband subscribers worldwide as of the 1st quarter of 2010 according to the Broadband Forum. Of these number less than one percent get broadband from satellite. DSL gets the lion’s share of 64 percent of the market.

Source: Broadband Forum (baseline data from Point Topic).

**Vital Statistics**

**Global Broadband Market Share by Technology (1Q-2010)**

Source: Broadband Forum (baseline data from Point Topic).

**Virgil Labrador** is the Editor-in-Chief of *Satellite Markets and Research* based in Los Angeles, California. He is the author of two books on the satellite industry and has been covering the industry for various publications since 1998. Before that he worked in various capacities in the industry, including a stint as marketing director for the Asia Broadcast Center, a full-service teleport based in Singapore. He can be reached at virgil@satellitemarkets.com

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There is a strong demand for broadband satellite Internet across the U.S. in many underserved and rural areas. Spacenet’s StarBand product line helps satisfy the need for high-speed Internet in these areas. Now is a perfect time to take advantage of this market opportunity by adding StarBand satellite Internet to your product portfolio. With the introduction of our more cost effective offerings, you can attract more customers and quickly increase your customer base! And, with StarBand, you earn high upfront and ongoing monthly commissions while enjoying an intimate customer service experience.

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