3 Secrets to Capture the Mobile WiMAX Market

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Abstract

Mobile WiMAX was created to provide true mobility with high data rates, however, today, this vision is only successfully adopted by several WiMAX Operators. The real potential of Mobile WiMAX is yet to be tapped on worldwide. Why is this so, considering that the technology adoption does not differ?

Greenpacket analyzed leading WiMAX Operators and market conditions to investigate factors that drive a successful Mobile WiMAX embracement. This paper shares 3 tried and proven true secrets that will help WiMAX Operators capture the Mobile WiMAX market, encompassing correct packaging, device strategy and handling competition.

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Today's Reality of Mobile WiMAX

WiMAX is the brain child of several telecommunications companies who developed the idea of using fixed wireless broadband as potential last mile solutions to deliver Internet connectivity to businesses and residential users. It was conceived to provide the capacity and realibity of wireline networks with the ease of deployment and cost of wireless networks, as well as break the monopolies of incumbent carriers. As a result, the IEEE 802.16 standard was devised in 1999 and through on-going revisions, IEEE 802.16d was established as the standard for fixed WiMAX.

As part of the continuous progress, IEEE had the vision of taking WiMAX mobile and hence, developed the first Mobile WiMAX standard – IEEE 802.16e in 2005. Among other features, this standard supported an optimized handover delay and packet loss and increased network security to facilitate mobile connectivity.

As of Q3 2009, though 31% of subscribers worldwide were tuned to WiMAX (802.16e), the usage is not truly mobile. 45% of subscribers are using Mobile WiMAX in a fixed manner, particularly indoors, compared to 37% subscribers who own USB Modems as shown in Figure 2. While the difference is minimal which shows that mobile usage is catching up, this trend is worrying – according to WiMAX Forum, true mobile WiMAX usage was expected to gain adoption around the second half of 2007.
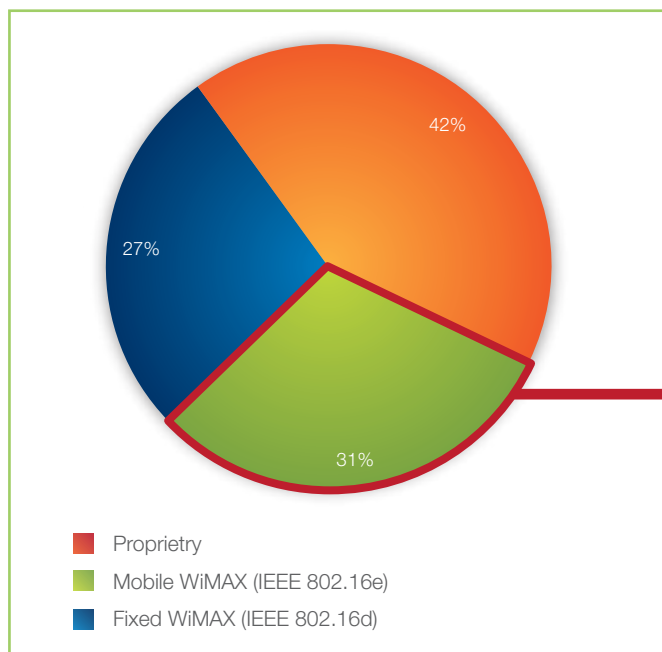
Source: Maravedis

Figure 1: Breakdown of subscribers by standard type as of Q3 2009
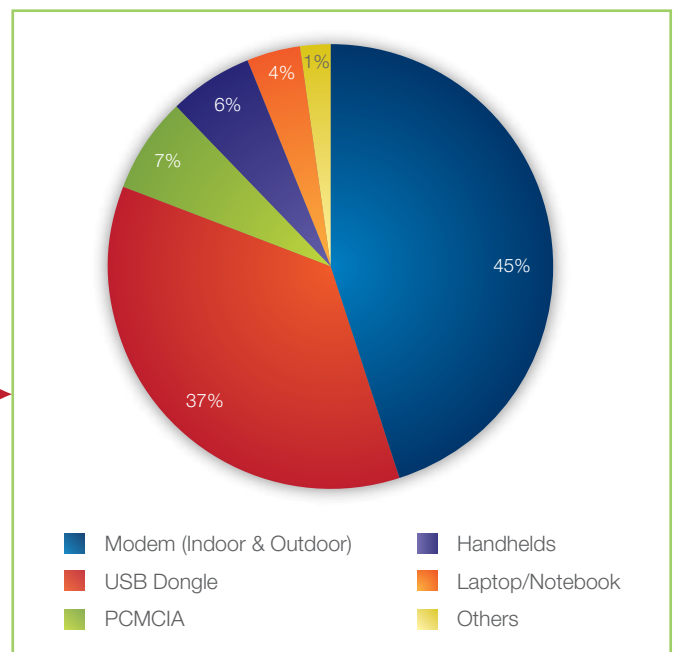
Source: Maravedis

Figure 2: Breakdown of IEEE 802.16e CPEs as of Q3 2009

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What was Mobile WiMAX Envisioned to be?

Mobile WiMAX was conceived to provide true mobility with high data rates and supports optimized handoff schemes, ensuring seamless service continuity with latency less than 50ms. Though it will not be able to compete with fixed WiMAX (802.16d) in terms of data rates, coverage distance (from base station) and deployment cost, Mobile WiMAX was developed to:

• Compete with existing cellular solutions through its data advantage.
• Provide operators with a competitive alternative to T1/E1/DSL, cable, satellite or fiber.
• Radicalize the way people live and work by empowering broadband on the go.

The following table summarizes the vision of Mobile WiMAX and how it fares today.

Criteria	Envisioned (in Mid-2007)	Current State (Q1 2010)
Market Penetration	• Worldwide, targetting developed and emerging markets.	• No deployment in countries crucial to the proliferation of Mobile WiMAX such as India and Indonesia.
Subscribers	• At this point of time, it was predicted there will be approximtely 11 million subscribers by 2009.	• As of Q3 2009, only 4.73 million Mobile WiMAX subscribers were recorded – less than half of the predicted.
Devices	• A variety of devices that will enable portable and Mobile WiMAX, which includes USB modems, handhelds, netbooks will be developed over time. • According to ABI Research predicted that Mobile WiMAX sales will surpass fixed WiMAX in 2008.	• Limited number of mobile devices is commercial. • As of Q3 2009, from the total shipment of IEEE 802.16e devices, majority of mobile devices shipped were USB modems at 37%. Whereas handhelds and notebooks/laptops stood at 6% and 4% respectively. • Sales of Mobile WiMAX devices only surpassed fixed WiMAX in Q3 2009.

Source: Maravedis, Strand Consult, ABI Research

Figure 3: Summary of the vision of Mobile WiMAX and how it fares today

Conclusion

It can be concluded that Mobile WiMAX has not quite propelled as expected. Though experts may argue it involves a combination of several factors, Greenpacket believes that WiMAX Operators play a vital role in ensuring the success or failure of this technology.

WiMAX Operators like Clearwire, Yota and P1 have been successful since launching their WiMAX service – all these operators surpassed the 100,000 subscriber mark within the first year of operations. On the other hand, some WiMAX Operators are struggling to stay afloat.

It is interesting to note the successful operators, Clearwire, Yota and P1:

• Reside in different regions, and
• Hold dissimilar nation status – Clearwire services a developed nation, while Yota and P1 offer WiMAX packages in developing countries.

This proves WiMAX is successful regardless of the regional or economic status in this Internet era. Users worldwide need the Internet and appreciate fast connections presented by broadband. The baton lies with the WiMAX Operator in implementing effective strategies to accelerate the adoption of Mobile WiMAX in their respective countries.

However, why do some operators succeed in this business while some do not, considering that the technology adoption does not differ?

Greenpacket shares 3 secrets to an effective strategy that will help WiMAX Operators succeed in their Mobile WiMAX offering.

3 Secrets to Drive Mobile WiMAX

Secret #1: Market-Tailored Packages

One size does not fit all. This is an important principle that WiMAX Operators must be aware of when crafting packages for users. They must thoroughly analyze and understand the market they operate in and the usage patterns and financial abilities of the target audience.

For example, students would appreciate prepaid packages while a postpaid package would be more practical for a business user. Prepaid packages also economically appeal to business travellers who might be stationed at a particular area for short term, as opposed to paying exhorbitant daily rates for WiFi connectivity in the hotel room.

Apart from prepaid and postpaid packaging, users also welcome a progressive pricing mechanism that relates to their usage needs, from minimum to unlimited bandwidth requirements.

Greenpacket studied wireless broadband packages offered by a WiMAX Operator in the APAC region to investigate the variety in packages involved. The study is also compared with a 3G Operator from the same country to gauge package competitiveness. Both operators employ postpaid and prepaid packages.

Market Study – WiMAX & 3G Operators from APAC

Postpaid Packages

Operator	Type	Package	Monthly Price	Allowance	Speed	Device
WiMAX	Casual User	A	$19.95	5GB	256/64	USB Modem = $89.00
		B	$29.95	15GB	256/64	
		C	$39.95	15GB	512/128	
	Frequent User	A	$49.95	25GB	512/128	
		B	$49.95	15GB	1024/256	
		C	$64.96	40GB	512/128	
	Heavy User	A	$74.95	40GB	1024/256	
		B	$99.95	75GB	1024/256	
3G		A	$29.95	400MB		USB Modem = $299.00
		B	$39.95	1GB		
		C	$49.95	3GB	Unknown	
		D	$79.95	6GB		
		E	$119.95	10GB		

WiMAX packages provide user classification, wider variety and are more competitively priced.

Source: Respective website of the selected operators
Figure 4: Comparison of postpaid packages between WiMAX and 3G Operators

Prepaid Packages

Operator	Package	Monthly Price	Allowance	Validity
WiMAX	A	$9.95	400MB	27 days
	B	$19.95	1GB	15 days
	C	$34.95	4GB	25 days
	D	$59.95	7GB	45 days
	E	$99.95	12GB	65 days
	F	$199.95	26 GB	365 days
3G	A	$20.00	225MB	30 days
	B	$30.00	400MB	
	C	$40.00	1GB	
	D	$50.00	2GB	
	E	$60.00	3GB	
	F	$80.00	4GB	
	G	$100.00	6GB	
	H	$130.00	3GB	90 days
	I	$150.00	4GB	

WiMAX packages are more competitively priced but with lesser package options.

Source: Respective website of the selected operators

Figure 5: Comparison of prepaid packages between WiMAX and 3G Operators

Secret #2: Device Variety

The device strategy employed by operators is closely knit to its packages. In order to successfully introduce Mobile WiMAX, there are two aspects to keep in mind as far as devices are concerned:

a) Create the demand for mobility devices.

The device mix should consist of mobility enhancing modems such as USB modems and handhelds. By increasing mobility devices from the product portfolio, operators are creating a demand which would naturally be supported by device manufacturers by supplying the demand. This simple principle of economics would further emphasize the trend for mobility and lower prices, resulting in the growth of true Mobile WiMAX.

As the Mobile WiMAX market matures and subscriber adoption rate increases, operators should look into WiMAX embedded products such as netbooks and consumer electronic products which can include cameras or gaming consoles. Though these devices are not available to the mass market, it is currently available in Korean shores.

b) Cater for different market range.

USB modems generally yield about the same range of performance in terms of throughput, what differs is certain features that promote better signal absorbtion, multi-network access (for example, WiMAX-WiFi-3G) or roaming/wide-band support – these features enable the USB modem to be positioned as a premium product. Many operators end up offering USB modems with the same features and performance while only the form factor differs.

A wiser device strategy would be to extend a variety of USB modems that cater to price-conscious users and premium-paying users. This gives subscribers the opportunity to enjoy Mobile WiMAX as opposed to the perception that it is expensive and is designed for the working class.

Clearwire, North America

One of the successful WiMAX Operators, Clearwire practices the above mentioned device strategy. It is important to note that although Clearwire contemplates going in the direction of LTE, its device strategy was successfully assumed to capture the target audience during the initial stages of WiMAX rollout.

Clearwire offers three different models of WiMAX USB modems and each varies in cost, feature and form factor, as summarized below.

Ways to Improve Signal	No	Yes *(via USB Performance Deck)*	No
Throughput *(Max. download speed)*	Up to 6 Mbps	Up to 6 Mbps	Up to 6 Mbps (WiMAX; 3G unknown)
Supported OS	• Windows XP SP2 • Vista (32/64 bit) • Windows 7(32/64 bit) • MAC OS X 10.5 & 10.6	• Windows XP SP2 • Vista (32/64 bit) • Windows 7(32/64 bit) • MAC OS X 10.5 & 10.6	• Windows 2000/XP/ Vista/7 (32 bit editions)
Supported Network	Clear 4G WiMAX Network *(single-mode)*	Clear 4G WiMAX Network *(single-mode)*	Clear 4G WiMAX Network & Sprint 3G EVDO Rev. A Network *(single-mode)*
Modem Price	Lease: USD 3.99/month + tax Buy: USD 69.99 + tax	Lease: USD 3.99/month + tax Buy: USD 79.99 + tax	Lease: USD 3.99/month + tax Buy: USD 224.99 + tax
Package — **Mobile**	USD 40/month	USD 40/month	USD 45/month
Package — **Professional**	USD 45/month *(with Static IP provision)*	USD 45/month *(with Static IP provision)*	USD 59/month *(with Static IP provision)*

Different purchase pricing for each modem.

Packages for general and business users.

Source: www.clearwire.com

Figure 6: Device variety offered by Clearwire

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Secret #3: Combat Competition

When Fixed WiMAX emerged, WiMAX Operators began to compete head on with wireline operators to capture the fixed broadband market.

Likewise, the primary competing technology for Mobile WiMAX is 3.5G and WiMAX Operators need to involve in rigorous campaigns to combat competition from 3.5G players. WiMAX's technology is built to have an advantage over 3.5G, here is a quick comparison between both these technologies.

Criteria	WiMAX	3.5G
Data Support	Is built ground up as a broadband technology to support data and thus enables Internet access at high data rates.	A technology targetted to support voice, which consumes a large percentage of the bandwidth and insufficient to handle huge amounts of data.
Capacity	Maximum downlink speed of 15 Mbps.	Maximum downlink speed of 5-6 Mbps.
Network Topology	Flatter and simpler, as it is designed as a data network from ground up.	Being a cellular network, additional network layers and tweaks are required to handle data packets.
Lower CAPEX	• WiMAX license spectrum is cheaper to acquire. • Deployment can be concentrated as hotspots.	• Can be up to 10 times more expensive than WiMAX's license bid. • Deployment has to be canvas entire coverage area in view of voice support.
Device Variety	Rather poor - in early 2010, only 190 types of WiMAX devices were available in the market.	Impressive, with over 2,700 devices as of early 2010.
Cost (device)	More expensive.	Cheaper due to economies of scale.

Figure 7: Quick comparison between WiMAX and 3.5G

How did 3G Capture the Mobile Broadband Market?

From the above table, is it obvious that 3G is much more advanced in terms of its device mix, both in terms of variety and cost, an area WiMAX still lacks a great deal. According to Qualcomm, low priced devices have helped many operators in the Western markets, particularly the U.S. to deploy successful subsidization models while locking-in future revenues through long-term service contracts. This strategy has contributed to the increased popularity for mobile data services and stimulates subscriber growth in the 3G sector, especially through USB modems (or dongles).

Additionally, through cheaper devices, 3G Operators were able to widen their target market audience. For example, Celcom Malaysia initially marketed its broadband services with USB modem as premium package to the working executives to support their mobile lifestyle. In 2009, however, with the price reductions, Celcom introduced Celcom Broadband Basic Youth Package for 18 to 25 year olds. The package is priced RM 50/month (USD 15) with free USB modem throw in.

Aside from the cost, USB modems are easy to mass-deploy due to its plug and play feature. This has helped to expediate the user adoption of this technology.

Thus, it can be concluded that 3G is successful due to the abundance of devices, especially USB modems. Cheap and easy to use USB modems enabled 3G Operators to offer attractive package to all market segments through device subsidies.

The Advice to WiMAX Operators

Learn from the 3G Operators. One of the key criteria to win the Mobile WiMAX mission is by acquiring cost-effective and deploying a variety of USB modems to cater for different market segments, by having an assortment of packages that will appeal to each segment.

Korea Telecom, Korea (WiBro)

Korea Telecom is the world's first Mobile WiMAX network and remains one of the most successful, leading WiMAX Operators today. Their WiMAX service name is WiBro which is subscribed by 255,000 users as of Q3 2009. How did Korea Telecom accomplish this feat?

Korea Telecom made an entry into the Mobile WiMAX space in November 2005 by positioning WiBro as a personal broadband service, kicking things off with USB modems. Central to this decision was the decline in fixed-line services versus growth in the mobile sector as shown in Figures 8 and 9. This trend in the telecommunications landscape of Korea simply meant that mobility was increasing in importance for the Koreans and Korea Telecom's move in launching their services with USB modems was indeed a strategic decision which has resulted in this operator co-fronting the Mobile WiMAX space.

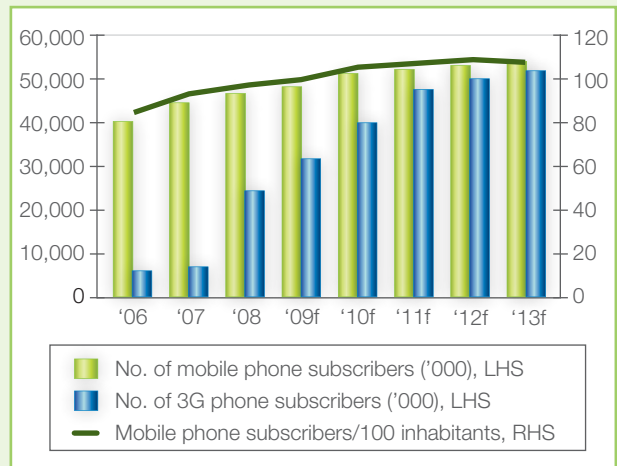*Figure 8: Fixed Line – Decreasing Trend*

Figure 9: Growth in Korea's Mobile Sector

Korea Telecom Quarterly WiBro Subscriber Trend

Source: Maravedis

Figure 10: Tremendous subscriber growth experienced by Korea Telecom as a result of introducing launching WiMAX as a personal broadband technology

Kickoff a Winning Mobile WiMAX Campaign with Greenpacket

Greenpacket offers a variety of WiMAX USB modems to help WiMAX Operators like you to successfully launch a winning Mobile WiMAX network. Our suite of USB modems include premium ranged and cost-effective USB modems to help you cater the different needs of your target audience without compromising on performance and network quality.

At Greenpacket, we understand the demands placed on Operators. That is why we specialize in developing groundbreaking technologies and innovative solutions to enrich your subscribers' experience and help you grow your business via new revenue streams.

With Greenpacket, limitless freedom begins now!

Free Consultation

If you would like a free consultation on how you can kick off a winning Mobile WiMAX campaign, please contact us at marketing.gp@greenpacket.com (kindly quote the reference code, WP0610 when you contact us).

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About Green Packet

Greenpacket is the international arm of the Green Packet Berhad group of companies which is listed on the Main Board of the Malaysian Bourse. Founded in San Francisco's Silicon Valley in 2000 and now headquartered in Kuala Lumpur, Malaysia, Greenpacket has a presence in 9 countries and is continuously expanding to be near its customers and in readiness for new markets.

We are a leading developer of Next Generation Mobile Broadband and Networking Solutions for Telecommunications Operators across the globe. Our mission is to provide seamless and unified platforms for the delivery of user-centric multimedia communications services regardless of the nature and availability of backbone infrastructures.

At Greenpacket, we pride ourselves on being constantly at the forefront of technology. Our leading carrier-grade solutions and award-winning consumer devices help Telecommunications Operators open new avenues, meet new demands, and enrich the lifestyles of their subscribers, while forging new relationships. We see a future of limitless freedom in wireless communications and continuously commit to meeting the needs of our customers with leading edge solutions.

With product development centers in USA, Shanghai, and Taiwan, we are on the cutting edge of new developments in 4G (particularly WiMAX and LTE), as well as in software advancement. Our leadership position in the Telco industry is further enhanced by our strategic alliances with leading industry players.

Additionally, our award-winning WiMAX modems have successfully completed interoperability tests with major WiMAX players and are being used by the world's largest WiMAX Operators. We are also the leading carrier solutions provider in APAC catering to both 4G and 3G networks and aim to be No. 1 globally by the end of 2010.

For more information, visit: **www.greenpacket.com**.

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