

One WiMAX subscriber, multiple devices

The true disruptive power of mobile WiMAX may be to break the one-subscriber, one-ARPU, one-device rule

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July 2007



Most communications services are currently tied to one contract and one device. For instance, a GSM mobile subscriber has a pre- or post-paid account that is typically associated with a SIM card and it is the SIM card that, when inserted into a particular device, designates that device as being live on the account. The subscriber can use a different phone by moving the SIM card, but only one phone can be used for communication at any one time. Even bundled services respect this rule: they offer a discount on the overall bill, but mostly treat devices and services as independent products.

WiMAX is set to change all this. WiMAX will be embedded into a wider group of devices than GSM or even HSPA or EV-DO. Devices will include desktop modems, laptops, phones, gaming consoles, multimedia players and other consumer electronic devices. Subscribers already have many of these devices, but most of them still lack wireless connectivity or use different interfaces (i.e., Wi-Fi for laptops, but GSM for phones). As more devices with embedded WiMAX become available, subscribers will increasingly prefer to buy these devices over those that lack connectivity, provided there is only a small difference in price.

Initially a subscriber may have a desktop modem and possibly a laptop card. In a few years, however, the primary device is more likely to be mobile or portable (a laptop or other data-centric device), with consumer electronic devices such as game consoles, multimedia players, or cameras making up the secondary connection device or devices. According to our latest report, "WiMAX: Ambitions and Reality", about 30% of WiMAX subscribers worldwide will have more than one mobile WiMAX device by 2012. In most cases, these users will not own multiple devices with the same form factors (i.e. two laptops, or two phones), but rather use WiMAX as an access technology for multiple applications and services (e.g. a laptop and a gaming console).

Multiple devices per subscriber is a good proposition for device manufacturers—it translates into higher WiMAX device sales—and for operators—it results into higher service stickiness and, therefore, lower churn. But in many ways the transition to multiple devices disrupts existing business models. The opportunity for WiMAX to attract subscribers is contingent on the ability of device vendors and operators to facilitate this trend, even if this often entails a new approach to product development

and marketing that runs counter to their current practices.

The vendor perspective

More WiMAX sales? That should be the dream for any manufacturer vendor. In reality the situation is more complex: the per-subscriber spend for telecoms, computing and entertainment equipment is remarkably stable as a percentage of overall income for any country and WiMAX is not going to change that. If subscribers buy more WiMAX devices, does it mean that they will stop buying other devices? It is unlikely that they will throw away their iPods and trade them in for a tablet just because it has WiMAX built in—they want a digital music player, not a data-centric device.

On the contrary, we expect that mainly multimedia players like the iPod will have WiMAX embedded because connectivity makes the device more attractive and expands its functionality. End users are not likely to think of these as WiMAX devices (or 3G or Wi-Fi devices for that matter), but as the devices they are accustomed to (e.g. a PDA or a multimedia player) with an additional feature.

The opportunity ahead—and the challenge—for vendors is not represented by a huge increase in overall device sales, but in successfully addressing the shift in demand towards connected devices. This will require more than adding a WiMAX module to existing device types. They will need to:

- **Keep devices affordable without reducing performance.** This is the most urgent goal to meet in order to get WiMAX off the ground. WiMAX functionality has to be embedded into a wide range of devices at low cost while limiting the impact on battery life and performance.
- **Hide WiMAX.** Many devices with WiMAX connectivity are not primarily “WiMAX devices” and the new functionality has to be blended in well. For instance, with an MP3 player, the WiMAX connection should work right out of the box and, if the subscriber

already has a WiMAX plan, it should be straightforward to add the device to the plan.

- **Optimize devices for mobile access.** Vendors need to go beyond the initial addition of WiMAX modules to their existing products. New form factors that combine the desired features and functionality with better support for mobile usage (long battery life, appropriate trade-off between overall device size and weight, and screen and keyboard size, etc.) will be needed to accelerate adoption.
- **Make them easier to use.** According to a recent survey by the Pew Internet and America Life Project, 32% of end users need someone else’s help to set up their electronic devices. As mobile broadband and WiMAX move to address the mass market, vendors need to improve user-interface design to be able to meet the demands of their new subscribers.
- **Allow users to preserve a single identity across multiple devices.** Communications among devices is still very limited even when they are all linked to the same local area network. The ability to sync a laptop and a phone or to manage phone settings and contents from a PC often requires more effort than most end users are willing to devote. Synchronization covers few features and often works unevenly. With an increasing number of connected devices, it is crucial for both vendors and operators to enable subscribers to keep their identity across devices, by sharing content (e.g. music, contacts) and by synchronizing information (e.g. calendar, email). Subscribers also need to find it easy to add new devices to a single service plan that allows them to have access to the same services regardless of the device used and to easily change the preferred device that is in use at any point in time, i.e. the one that rings first when there is an incoming call. In the GSM world, this would be the device with the SIM card. With WiMAX, it could be any of the devices on a subscription plan.

These features are crucial to enticing subscribers to move to devices with data connectivity and to use the new (and old) functionality effectively. If managing multiple devices becomes a nightmare, as it too often is today, the overall adoption of mobile broadband and WiMAX may be delayed because its value to the subscribers is greatly reduced. Mobile broadband has the potential to reach penetration rates comparable to those

of cellular voice, but subscribers still have to be convinced that they need more than basic wireless data connectivity (i.e. texting, messaging and email). The availability of compelling, well-designed devices will play a crucial role in driving mobile broadband adoption in the mass market.

The operator perspective

Most operators appreciate the opportunity that multiple devices brings and plan to allow subscribers to add new devices to their account as it will bring lower churn, a more attractive service proposition and higher ARPU. At the same time, however, they are accustomed to associating each device with a separate fee. Such an approach is likely to slow adoption of new devices and of services overall—because subscribers will find the overall service proposition less compelling if they have to pay an additional fee for each device.

Even if the fee to add a new device is nominal, it may prevent subscribers from either purchasing the device or from adding it to the plan, especially if the wireless interface is not required. For instance, a subscriber that buys a multimedia player with WiMAX may not be willing to pay more to add it to his service plan when he can download music to the laptop and transfer it via Bluetooth or USB to the player. It may be inconvenient, but there is no fundamental loss of functionality. For the operator, the traffic is the same.

It is also true that subscribers with multiple devices may share them with other subscribers (e.g. one subscription in a household may allow all family members to use a connection) or may generate higher levels of traffic. But there are ways to avert abuse, other than charging separately for each device, that also encourage ownership and use of multiple devices. For instance, operators may impose traffic caps or give lower priority to traffic from heavy users after they exceed a defined limit. They can also allow only one device to be active at any point in time from a single account, as long as they allow the subscriber to move quickly from one device to another (e.g. the device that happens to be online when a VoIP call comes in may not support VoIP, but could alert

the subscriber to move to a smartphone to answer the call).

The good news is that device subsidies will become less of a burden on operators. Subsidies are not likely to disappear entirely—WiMAX operators will have to compete with other operators that do offer subsidies. Subsidies are such a widespread marketing tool that a new technology alone is unlikely to threaten their existence. However, subscribers are not likely to expect substantial subsidies on secondary devices. They may expect a lower price on the desktop modem or a phone, but they will probably want to buy the laptop or gaming console that they like best, and many operators are not likely to sell these devices in the first place.

However, mobile operators are accustomed to a high degree of control over devices. They sell them to subscribers, subsidize them and control their interface and functionality. It is the mobile operator that decides which devices subscribers will use. The lack of enthusiasm among mobile operators for Wi-Fi in cellular phones, for instance, has meant that subscribers' access to these devices has been delayed and limited to only a few models for a long time. This level of control has made it possible to restrict access to online content from phones through a walled-garden approach.

All this will disappear with subsidy-free devices: the subscriber pays for them and feels entitled to retain control over the device. While subscribers will still expect devices to operate successfully in the network, they will feel free to take the device to a new account with a different operator and will not tolerate limitations on the applications that they can access on their devices. As subscribers are no longer a captive audience, the operator may find it more difficult to successfully market application-based services to the subscribers, and may see its role restricted as an access provider.

WiMAX adoption will mean more than true mobile broadband at reasonable prices. It is set to change the way vendors and operators develop, market and support devices and services. It represents a unique opportunity for operators to bring more freedom and flexibility to subscribers—and a higher perceived value for the service than the one they are accustomed to with current cellular data services.

About Senza Fili Consulting



Senza Fili Consulting provides advisory support on wireless data technologies and services. Our expertise extends to cellular communications, WiMAX, Wi-Fi, and other fixed and mobile Broadband Wireless Access (BWA) technologies. We assist vendors in gaining a better understanding of the service provider and end-user markets. We work alongside service providers in developing a wireless data strategy and in assessing the demand for wireless services. Independent advice, a strong quantitative backing, and an international perspective are the hallmarks of our work.

At Senza Fili we have in-depth expertise in financial modeling, market forecasts and research, business plan support, due diligence, white paper preparation, training, and evaluation of end-user requirements. Our clients are international and span the entire value chain; they include fixed and mobile operators, ISPs, wireless ISPs, other service providers, vendors, solution providers, system integrators, investors, and industry associations.

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