Unlicensed Mobile Access: A License to Print Money?

UMA payday to make VoIP, fixed-line providers suffer.

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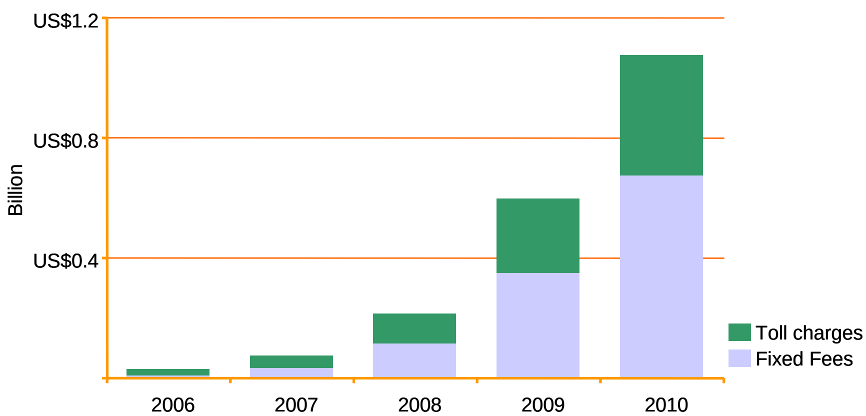
Unlicensed mobile access (UMA) will finally bring together Wi-Fi and cellular networks, making it possible for cellular users to place and receive calls seamlessly over either network without having to select one manually or even having to know which network is available.

This sounds attractive for cellular users seeking cheaper calls or better indoor coverage: Wi-Fi coverage within the home is often better than cellular, at least in the United States.



Revenues lost by fixed service providers as a result of deployment of UMA services. Source: UMA and beyond: Mobile Operators Benefit from Wi-Fi and Cellular Convergence, Senza Fili Consulting.

However, fixed operators and VoIP providers may not share the subscribers' (or mobile operators') enthusiasm. UMA will likely cause loss of revenues from toll calls that previously ran over the fixed line and that can now be routed through the UMA network. Moreover, the availability of UMA may induce users to cut the cord — or cancel their VoIP subscriptions — resulting in a decline in the number of subscribers and an even larger loss of revenues.

Fixed-to-wireless substitution is already taking place, especially in Asia and Europe. UMA will accelerate this trend as it provides a cost-effective, convenient way for subscribers to move their calls over to wireless networks.

The Opportunity

Of course UMA does not have to be cheap. Mobile operators may decide to charge for UMA at a price similar to that for regular cellular calls. If they do so, however, UMA's appeal will be limited to improved home coverage, and this would not be sufficient in most markets to justify a rollout.

The key marketing advantage of UMA is that it enables mobile operators to price calls selectively, thus reducing the cost only on calls placed from home, the office and possibly from Wi-Fi hotspots, which would otherwise be routed through the incumbent fixed voice lines.

Similar experiments in selective pricing in Germany by mobile operator O2 have been a success, because cellular subscribers often prefer to use their personal mobile phones, with all their contact numbers saved, rather than the family line. In addition, calls over UMA will not use the cellular edge infrastructure. This will unload traffic from the network and reduce costs.

To maximize the benefits UMA brings, mobile operators are expected to price UMA services at rates comparable to fixed-line calls and, especially in the U.S., to offer flat-fee plans. Considering the usage pattern of U.S. subscribers, a monthly fee of $10 would prove profitable to mobile operators.

Size of Loss

What will be the size of losses incurred from UMA and comparable Wi-Fi and cellular convergence solutions? By 2010, fixed operators are predicted to lose $1.1 billion:

- 63 percent due to lost revenues in fixed fees from users who decide they no longer need a fixed line;

- 37 percent in toll charges from voice traffic that used to be routed over the fixed voice network and now is carried by the subscribers' broadband connection.

It's difficult for fixed operators to compete with mobile operators that have exclusive access to the spectrum frequencies necessary to offer service and, with UMA, have a way to enter subscribers' homes and offer a service that can replace the fixed line.

It is easier for mobile operators to enter the realm of the fixed operator than it is for fixed operators to move into offering mobile services.

The Fixed Edge

Fixed operators have a highly valuable asset, too, for which there is even less competition: the copper wire, coax cable or, increasingly in some markets, fiber to the home.

Often, however, fixed operators have been not very successful at promoting their core advantage, especially because they have long seen voice as their main source of revenue. While this is changing rapidly, fixed operators have been slow to react, and UMA will put additional pressure on them to do so.

For DSL subscribers, the voice call will be transported over the same network in both cases, but the DSL operator is unlikely to gain additional subscriber revenues from UMA calls any more than it can from Skype calls.

However, mobile operators will want their subscribers not only to have access to the fixed line broadband connection, but also to be able to offer QoS to ensure good voice connectivity. QoS may offer an interesting way for fixed and cable operators to develop partnerships with mobile operators and gain back some of the lost revenues.

Fixed operators can take advantage of UMA, but the key requirement is partnership with a mobile operator that enables them to offer mobile services directly or to bundle them with existing services. In cases where ownership interest exists, the cooperation is easier to establish, and several carriers are working on the synergy that a UMA service closely tied to a fixed network can generate.

Another possibility is for the fixed operator to form an MVNO and sell mobile services under its brand using the mobile operator's network. One caveat is that MVNOs have proved effective so far at targeting specific segments (e.g., Virgin in the UK) but not as effective at targeting wider markets. Fixed operators, on the other hand, historically have targeted the entire community where they offer service.

The case of Fusion, BT's UMA service in the UK, is interesting, as it shows how a fixed operator can enter an MVNO deal with a mobile operator and, at the same time, leverage the fixed infrastructure it owns to offer data and voice connections.

In BT's case, the adoption of UMA is advantageous, as calls from home that are routed through the WLAN are also under the direct control of the operator.

VoIP's New Competition

Lower barriers to entry and decreasing prices make the business of providing VoIP service a tough one to be in. Despite great scope for growth, the increasing competition from incumbent operators, cable MSOs, ISPs, and other fixed service providers is only going to exacerbate market conditions.

Mobile operators may be the next players to join the fray. Although not designed to be a substitute for VoIP services, UMA effectively can provide a competing service if mobile operators offer a flat-fee service with unlimited usage.

Would mobile operators be interested in offering Vonage-like services? They would probably not think of the service in those terms, especially as VoIP is an effective way to commoditize voice calls — something mobile operators are not inclined to promote.

From the subscriber perspective, however, both VoIP and UMA offer an alternative to the fixed line and the cost likely will be comparable: a VoIP monthly subscription in the U.S. generally ranges from $20 to $30, roughly equivalent to the estimated $10 per month for an unlimited UMA subscription, assuming more than one subscription per household.

UMA has one main advantage over VoIP: Subscribers can use their mobile handsets and numbers to place and receive calls wherever they have access to a Wi-Fi network, while VoIP users must use their fixed handsets and often need a supplementary phone number assigned by the service provider (in addition to their fixed non-VoIP phone line). VoIP service also typically entails another contract and billing relationship.

Some VoIP service providers such as Vonage have launched Wi-Fi phones that can be used from home and from other WLANs where the user has access (e.g., at a hotspot or the office). The Wi-Fi phone will increase the service's convenience for some users who prefer a separate handset for VoIP calls (especially if they still have a fixed line at home), but it is an effective replacement for the cordless phone. Subscribers will still need their cellular phones for mobility.

Unlike fixed operators, VoIP service providers still are fighting to get market share, do not have deep pockets and, perhaps more importantly, do not have any more control than mobile operators over the broadband pipe to the home or office.

VoIP currently enjoys advantages such as rich features like different mailboxes, conference calls, online account management, and voicemail that can be forwarded to e-mail accounts. Once subscribers start to expect these features, however, mobile operators may decide to introduce them as well; this choice will be facilitated if UMA transitions, as expected, to a SIP-based architecture.

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