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WiFi Isn't A Market: It's Two

By Dave Birch, Consult Hyperion

Web: http://www.chyp.com
Email: dave@chyp.com

The world of wireless internet access (wifi for short) has been evolving. Not only are more and more homes and offices sprouting 802.11b 11Mb/s (and now, in our office as an example, 802.11g 54Mb/s) wireless Ethernet connections, they are in an increasing number of public locations. There are already more than 1,000 so-called hot spots in Europe and, according to IDC, this could grow to more than 32,000 by 2007 (generating revenes of $1.4 billion) [1]. How anyone is going to make a living out of this is up for grabs, with three basic options for potential service providers crystallizing out at present:

- Charge for access. This is straightforward: someone pays £X per minute, $Y per byte or £Z per session for access. Just like they used to for the Internet at home before it became all you can eat flat rate.

- Don't charge for access. There may hotspots funded by sponsorship, public bodies or simply altruism. Since it costs little to create a hotspot, I would expect to see this model grow: just to indicate the cost involved, note that The Guardian's G2 section was recently edited on Brighton beach using free wifi access funded by sponsorship from local companies. The total cost of setting up the beach wifi was less than £1,000 [2].

- Give access away with something else, such as cups of coffee or mobile phone subscriptions. Make wifi, as Paul Boutin called it, a condiment.

There are many reasons for thinking that the last option is the best one and that wifi is best seen as an amplifier for existing business models [3] rather than as a separate business in its own right. This is not a negative outlook: on the contrary, it means that we can expect to see wifi zones in every house, cafe and train station we visit.

The wifi story isn't just about public spaces. The growth of wifi in the home has been phenomenal. According to the various research firms, more than three million U.S. households already have wifi and that number will double over the next year. Public hot-spots are on a similar growth curve: from 20,000 worldwide to 150,000 in 2005. These could be 75 million home users worldwide by 2008 [4]. The spread of home users will in turn continue to stimulate the public business model, because it means that a great many people will be familiar with wifi (having purchased the equipment and set up their home wifi network) and therefore ready and willing to use it at public access points. Of course, home use is not without its problem: a man was arrested in Toronto in November 2003 for driving down a street downloading child pornography via the wireless networks of unsuspecting householders [5]!

Charge!

There will also be a professional market with better quality coverage and higher capacity. Many people (eg, me) will pay monthly for easy, high-quality access worldwide (although whether we'll pay enough to cover the infrastructure, which has to be widespread to make it worthwhile, is another issue). The professional market at present is highly fragmented (there are 20 commercial wifi providers in London alone) and the large number of operators is actually holding the market back. This is because the providers have been unable or unwilling to develop roaming packages for users and, once again, the hassle of having multiple accounts (even more than the cost) and not knowing whether your account will work in a particular location stop the market from growing.

Free Markets

This gives us an insight into the dynamics of the wifi deployment to date: these have come about because the industry has been trying to jam two different business models together. Looking forward, it is inevitable that the wifi landscape will comprise not one wifi market but two. If everyone gets wifi, in their homes and workplaces, and then everyone leaves it turned on all the time without security, then everyone will benefit from seamless wireless connectivity: and this includes the broadband providers, who will sell a connection to every hot spot. Most people will pay nothing for lower quality access in lots of places and wifi will become a cost of being in business to the average restaurant, coffee shop and fast food outlet, no different to water or electricity.

It could be that the roaming packages will be developed through specialist roaming operators aggregating services across wifi providers (such as Boingo) or through deals struck with other telecommunications service providers. Mostly likely, since the wifi access will be provided as add-on to broadband access or mobile packages, it will up to the fixed and mobile operators to negotiate and provide the roaming packages. Verizon has adopted the first part of this strategy, offering access through hot spots including upgraded

payphones as part of its DSL bundle [7], as has T-Mobile (but T-Mobile users from the US cannot roam onto T-Mobile hotspots in the UK [8]).

The reason that this (less price sensitive) professional market will survive despite the free market is that many of the locations that are important to the road warrior such as hotels and airports will be the province of the paid-for service. Flights and hotels are booked in advance and they generally don't have to tempt you in while competing against the provider across the road as is the case for coffee shops or fast-food restaurants [7]. The free market means that the paid market must refine itself to target the key niches where it makes economic sense for a subset of the population to take advantage of it. This subset is (essentially) business travelers and it therefore demands seamless roaming between hotspots with vertical ubiquity (eg, every BA executive club lounge or every Hilton hotel), common security standards and authentication more than it demands geographic ubiquity (eg, every payphone) or low cost.

As the market evolves to address the needs of the free and paid sectors appropriately, wifi will then be in position to realize its potential as a (as John Yunker of Pyramid has said [9]) disruptively inexpensive way to communicate. Link this with broadband applications such as voice-over-IP, file sharing, instant messaging and media broadcasting, and we're in for a genuinely interesting evolutionary phase.

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