

# WiFi's future brighter than ever

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In 1999, the European countries initiated plans to auction the spectrum for 3G. A ballpark US\$200 billion (about RM632 billion) was spent on the auction but 3G is still seeking validation. But the establishment (operators, vendors and consultants) is on 3G's side allowing the 3G bus to careen from country to country, leaving a trail of red ink. However, let just one ISP (Internet service provider) blunder with WiFi deployment in American cities and the inquisition is back.

To understand better the brouhaha, hark back to 2004 when Verizon launched a political broadside against Wireless Philadelphia. Demonstrating just what clout means, Verizon got Pennsylvania governor Ed Rendell to sign a law barring MuniWireless (municipal wireless) initiatives unless the municipality or local body first offered the incumbent service provider an opportunity to deploy its own network. That the incumbent had all these past years to deploy a broadband network and didn't, simply means that irony does not trump political muscle.

Then a funny thing happened. There was a groundswell of protest from the citizenry making the good governor rapidly backtrack, resulting in a last-minute deal which allows Wireless Philadelphia to proceed and EarthLink to subsequently win the contract to deploy. MuniWireless is now officially in the telecom establishment's crosshairs. Taking on City Hall is one thing. But to take on the corporate telecom establishment is another; a groundswell isn't enough, especially — and this is a lesson for Malaysian aspirants — when the ISP depends on the same incumbent to provide fixed-line connectivity to WiFi base stations.

In 2005, Diana Neff — the person behind Wireless Philadelphia — explained its economics to me:

- In lieu of capital expenditure-related payments, the city government becomes the anchor tenant at commercial rates;
- Power and locations for base stations are provided for free;
- ISP free to offer Internet access to homes and offices at commercial rates;
- Free Internet access in open parks; and
- Subsidised Internet access to weaker sections of the city.

That's the economic gist. Is its net wherewithal enough to rumble with fully amortised copper running voice and owned by an incumbent able to cherry-pick where to put its DSLAMs? I'd say, barely. Just about. If all goes well. Now, if the municipalities/states were to ante up to also mitigate the capex burden in addition to becoming anchor tenants as Perak has done, we could have a robust stand-off.

Here are the core arguments on the economics:

- Nothing is free.
- Recurring revenues are tough to kick off. To generate a stream that makes sense usually involves a three-year wait. This is the incumbent's huge advantage. His three-year wait occurred long before the



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- competitive landscape of today.
- If the municipalities pay for equipment and become anchor tenants, MuniWireless has the money then to wait out the gestation period required for monthly recurring revenues to stack up.
- If the municipalities are not going to pay for equipment, they need to ante up properly as anchor tenants. If neither, the MuniWireless operation goes bust.
- Again, the same economics does

Link signed up deals with the same velocity it is currently unwinding. We watched from the sidelines as each new deal resulted in one more concession and then another and another, setting a precedence for the rest of the industry to live with. By 2007, cities were refusing anchor tenancies and delivering a double whammy instead — by demanding free services if the ISP were to be allowed to address the city population.

MuniWireless' teething problems then have more to do with possible economic mismanagement and incumbent hostility than with WiFi technology. The same WiFi, for example, has worked wonderfully for T-Mobile when it officially launched the WiFi@home service, linking your home WiFi and the thousands of T-Mobile WiFi hotspots to its cellular network.

So someone may have screwed with the MuniWireless but WiFi isn't the perpetrator.

Seeing T-Mobile's foray, there's more to WiFi than WiFi. I wrote in 2005 about patching WiFi to cellular networks, suggesting UMA (unlicensed mobile access) as a method for cellular companies to co-opt WiFi and bring true broadband into the realm without investing in a questionable 3G. Kudos to T-Mobile for doing it two years later. T-Mobile's Malaysian counterparts should be ready in another five.

But WiFi-cellular links are already passé. If the cellular companies have been too slow/relevant/hostile to the technology, it doesn't mean the technology wasn't there. WiFi is the tip of an OFDMA (orthog-

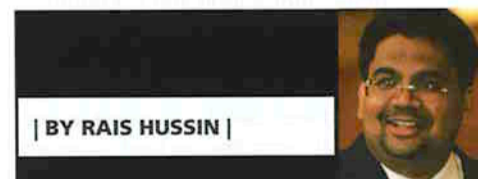
onal frequency division multiple access) iceberg and the WiFi-WiMax nexus is what's going to shake up the networks next.

One doesn't expect to see a WiMax operator mulling too much on the pros and cons of connecting to WiFi at the edges over a common IP back-end. The first casualty of such ubiquitous footprints with high-speed mobile wireless broadband access to the Internet is going to be band-aid applications like Blackberry. Whether you are sitting at Happy Valley Kopitiam, walking to your car with your White Coffee or driving off home, you can directly access your email server/service at a minimum 2 to 5mbps.

There are some very dedicated people working hard at IEEE under the IEEE P802.21 working group to develop standards for these vertical (cellular-WiFi) and horizontal (WiFi-WiMax) links. The standard is slated for finalisation by 2008 at which point WiFi begins its real role as the owner of the edge. As we old telecom hands have learnt at great expense, that's where the winning lottery ticket is hidden.

For a non-incumbent, to make sense of a WiFi-centric business, one needs to adhere to the economic arguments made in these articles. That keeps the business afloat while you spread your network to one home after another, one café after another. Your intent is to have as large a footprint as possible before you make that call to T-Mobile or Maxis, depending on your area code. ■

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| BY RAIS HUSSIN |

not apply to a cellular player because the 2G networks are comfortably amortised and the service ubiquitous.

- Unbundled services from the incumbent are a bedrock for MuniWireless economics. Without it, the whole enterprise remains fraught.
- Lastly, look at the blood around 3G to understand what it takes to launch a new service, even when the service is allowed to rest on 2G crutches. In comparison, WiFi's burn is peanuts and all it takes for the economics to work is, at a minimum, strict and wholehearted adherence to the Neff model. It's safe to say that besides a continued reliance on incumbent backhaul, the basics of the Neff formula weren't adhered to as EarthLink sought to light up America's urban landscape. In a rush to move away from a dying dial-up business, Earth-