

# The year that yearned for more

*I will do for country what  
I will not do for myself  
and my family*  
— Tun Dr Ismail

**W**hen T Ananda Krishnan bought Maxis Communications back from the public, it simply established that when the dust settled after the global wireless broadband slugfest, the ones still standing will be the cellular big boys.

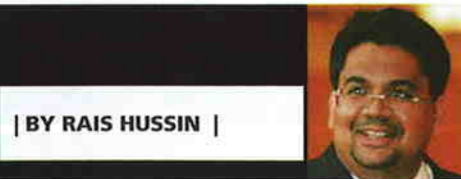
The above prediction does come with a caveat. It would no longer be the “cellular” establishment. Cellular technology as epitomised by GSM and WCDMA (wideband code-division multiple access) won’t

survive the Ice Age chilling in the telcoms environment even as you read my ramblings. While Maxis and other members of the establishment would still own the global wireless ATM (asynchronous transfer mode), its future would rest on a non-cellular air interface like OFDMA (orthogonal frequency division multiple access).

Now they could wholeheartedly adopt this air interface with WiMAX or they could do it years later with

HSPA LTE (High-Speed Packet Access Long Term Evolution). My other prediction is that they will almost unanimously choose LTE (Long Term Evolution). Use this prognosis to plan your wireless strategies.

If we weren’t doomed to repeat history, the Iraq war and the sub-prime crisis would never have happened and the cellular establishment would have already eschewed 3G and focused on technology that can most easily deliver wireless broad-



| BY RAIS HUSSIN |

band with minimum pain.

But that is not how things work. Which is why 2007 leaves an unfulfilled yearning.

Outside of Africa, most of the 2007 growth in cellular average revenue per user was from data use. Whether in Malaysia, India, Greece, South Korea or the US, ringtones, music downloads, gaming and Blackberry collectively made up for the flat line voice delivered this year.

Cellular customers used Blackberry in growing numbers. Growth in Blackberry use indicates a growing desire for mobile access to email servers. Denied direct access due to a cellular inability to deliver a reasonable speed to handheld devices, users find Blackberry to be a reasonable Band Aid. And because the cellular establishment insists on trudging a path through 3G towards a more ubiquitously faster wireless world, the Blackberry Band Aid is not going to be yanked out anytime soon.

The same lack of direct access to the Internet also ensures that music downloads to handhelds as well as data packets carrying gaming are forced, via GPRS (general packet radio system), to go through the cellular ATM. So, 2007 meant more money to the cellular establishment and commensurately less speeds to the user.

But why would the cellular big players enforce slower speeds for the user? Their agonising in 2007 suggests they have no desire to inhibit user access speed. They just want to do it on their terms. This was the only



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reason the same wireless magic that enabled tele-density to go through the roof even in poor countries, failed to deliver a comparable growth in broadband penetration.

So, what could have delivered a comparable growth in broadband penetration but didn’t? Or rather, couldn’t? The speeds that could do away with the Blackberry band aid or

allow unfettered high speed access to handheld devices were available to us ever since WiFi hit the shelves in the late 1990s. WiFi speeds, however, came with a tether, leashing the user to the hot spot or hot zone. There were several work-a-rounds to this problem, including adopting third-generation mesh and smart antennas that was used effectively in wireless Perak and wireless Malacca, which allowed for increased hot zone radius. These work-a-rounds addressed the lack of mobility solutions in the WiFi standards. Hence, the tether around most WiFi-compliant systems.

However, there’s no such tether in WiMAX, especially its 802.16e variant which sets the standards for full-blown wireless broadband mobility. The WiMAX Forum regularly holds “plug fests” where manufacturers of compliant base stations and client devices get together to play. The May 2008 plug fest should conclusively establish not only WiMAX supremacy to deliver high-speed Internet access for mobile devices but also the availability of such devices.

Having said that, it would be unfair to omit a mention that such high-speed access, as well as compliant devices, have been available in South Korea for a while now. The Koreans call it WiBro (wireless broadband). WiBro was recently co-opted into WiMAX standards. The standards have been co-opted by the International Telecommunications Union which should in turn make WiMAX more palatable to the cellular establishment.

But we have seen that the reason for the cellular establishment’s recalcitrance is not any desire to inhibit user access per se but to safeguard existing investments. Equipment manufacturers lull them into believing that their existing investments will be safe on a path that leads from WCDMA to HSP-DA (high-speed downlink packet access), to HSUPA (high-speed uplink packet access) and thence to HSPA (high-speed packet access). They claim that these systems deliver speeds comparable to WiMAX.

While incumbents will follow the above path, no newcomer can afford to do so. Any new 2G or 3G licensee in North America, Europe or Asia is doomed to fail. The 250 new applicants for 2G cellular licences in India, for example, are like lemmings heading for the precipice. This is why a 3G licence was of little use to Time

dotCom and had to be leased to an incumbent cellular player like DiGi. From 2007 onwards, the only route to mobile markets for a newcomer is a meshed WiFi-WiMAX system with a common IP back-end.

Let’s sum up what’s likely to happen.

The cellular incumbents will not deploy WiMAX with any enthusiasm. Their path to high-speed wireless broadband is from 3G to HSPA. But after that, they will use a WiMAX-type air interface in LTE. Newcomers, including Internet Service providers (ISPs), will immediately adopt WiMAX.

Every existing and upcoming WiFi hot spot and hot zones is part of a future WiMax network. WiFi will be an integral part of the edge network of any WiMax deployment. It is also a great edge network for cellular establishment as T-Mobile has demonstrated in the US.

We at Red Snapper are working hard to bring the WiMAX message not only to our incumbents and ISP friends in Malaysia and India but also to develop firmware enabling WiFi-WiMax handover. We see this as the future beyond 2007. E

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