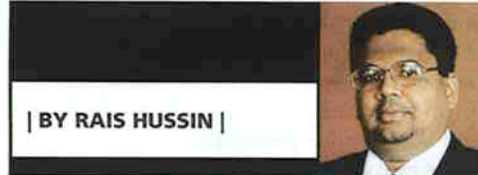


WiMAX's kiss of death

To learn why government regulators shouldn't bank on cellular operators to deploy WiMAX, look to what's going down in the US where Gary Forsee, the chairman CEO of Sprint-Nextel, resigned last November, allowing the cellular establishment to enjoy a big "I told you so" moment.

Forsee broke with the cellular establishment by betting US\$3.5 billion (about RM11.32 billion) on the mobile Internet. Cellular politics and Wall Street stupidity aside, his reasons for betting big on WiMAX were impeccable. Capital and operating costs associated with WiMAX-enabled mobile Internet are 10 times cheaper by orders of magnitude over comparable cellular/3G/HSDPA/CDMA-EVDO footprints and access is almost 10



| BY RAIS HUSSIN |

times faster. Sprint has data from their Washington DC and Chicago pilot sites to prove it.

While these advantages are irrefutable, the fact is cost savings take time before morphing into black ink and high-speed access is a differentiator only if the service is allowed the time to make a difference.

In Sprint's case, panic set in at the Wall Street kindergarten even before the Washington DC/Bal-

timore and Chicago pilots were fully deployed. Rejecting the WiMAX story after a short honeymoon, analysts perceived it as investment in yet another network while the company struggled to merge the existing Sprint and Nextel footprints. That WiMAX was a success on its own merits when not clubbed with the rest of Sprint's legacy was lost in the brouhaha.

Gary Forsee's fate will disabuse any CEO within the Malaysian cellular establishment from emulating a similar multi-radio scenario. That Forsee's strategy was correct if allowed to play out is neither here nor there. The love affair between the cellular world and WiMAX may have ended before it began.

Here's what every Malaysian cellular opera-

tor is driven by data, the customer is therefore telling us he needs speed and he needs unfettered access to the Internet. But the supply side isn't listening beyond its own agenda.

The big urban myth around 3G is that the customer has no use for video telephony and hence, it hasn't taken off. Yet the two biggest recent phenomena on the Internet — webcams and YouTube — are video driven. Webcams are a natural fit to the handset. One suspects the same application that ostensibly failed from inside the GPRS/3G walled garden will succeed over mobile Internet.

Sprint realised early on that the WiMAX-enabled mobile Internet service would need to function from outside the cellular mindset. The WiMAX operations were accordingly not just branded differently (XOHM), but also treated as a separate entity that looked more like an ISP than cellular operator. Note that Sprint's XOHM launched a mobile Internet service that competes head-on with Sprint's existing CDMA-EVDO offering. Such far-sighted madness is not likely to happen in Malaysia any time soon.

Recalcitrant or not, cellular operators will eventually adjust to operating in a multi-radio environment. The relatively homogeneous world under pax-GSM is of the past. Multi-radio handsets are here to stay. There is serious work going on under the auspices of IEEE802.21 to standardise a handover solution between different networks, including 3G, WiFi, WiMAX and fixed line.

Within four years, the following scenarios envisaged by the Intel Developer Forum could prevail in Kuala Lumpur streets.

You are almost ready for what could be the most important meeting of the year. Your personal communicator is in your hand as you take a cab to join your colleagues at a neighbourhood coffee shop before leaving for the airport. Your communicator is a GSM cell phone with multiple radios for GPS (global positioning system) location awareness, WiFi WLAN hotspots and WiMAX wireless broadband.

As you approach the coffee shop, your communicator's smart roaming capability detects a hotspot and wakes up the WLAN radio. While meeting with your colleagues, you begin to download a last-minute addition to your presentation using the coffee shop's WLAN. Looking at your watch, you suddenly realise you are running late.

As you hurry out of the coffee shop to grab a cab to the airport and the WLAN connectivity goes down, your communicator hands your connection to the WiMAX network to maintain the ongoing download operation, while you make a couple of quick calls over the GSM cellular network. On the way to the airport, your communicator recognises a low-battery condition, and shifts over to a lower-power GPRS (General Packet Radio Service) connection and shuts down the WiMAX connection to save power. At the airport, you plug your communicator into a power jack and the communicator wakes up the WLAN radio once again after detecting a hotspot to complete your download.

It behoves cellular licences to accept an inevitable end to cellular isolation. Interconnects to the public service telephony network and roaming between cellular networks is just not good enough. They are slated to become part of a multi-radio fabric with users moving freely across networks, their wanderings enabled though handheld devices containing up to four radios that interface with different network operators at different data rates ranging from 9.6 kilobits for cellular service, to a realistic 2 Mbps for the WiFi WLAN and up to a realistic 5 Mbps or greater for WiMAX broadband. ■

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tor is thinking. WiMAX mobility means mobile Internet. This means unfettered access to mailboxes, content, games and voice/video telephony over handsets. Which in turn means no GPRS, no Blackberry and no regulated downloads of ring tones, music, video clips, etc.

WiMAX requires the cellular operator to think like an Internet service provider (ISP) and he's not there yet. Not as long as the walled garden remains intact. The ISP, however, has no such mental or legacy constraint. An ISP like Jaring, for example, is eminently suited to deploy Malaysia's nationwide mobile Internet not just because of the above qualifiers but also because unlike cellular, WiMAX rides on an IP infrastructure and Jaring is IP infrastructure and little else. As I will mention later in this article, Sprint created a separate company XOHM for WiMAX. This company functions like an ISP and has created the IP infrastructure and backend that WiMAX requires. Jaring already has that in place. It would be disastrous were the Malaysian Communications and Multimedia Commission (MCMC) to club ISPs and cellular incumbents in the same category when re-farming allotted 2.5GHz spectrum.

Spin from equipment manufacturers?

So what's a cellular operator to do in the face of user demand for high speeds that 3G simply cannot deliver? Equipment manufacturers calm operators and users by charting an alternative path from 3G/HSPDA to HSPUA and then to HSPA with something called LTE at the end of this rainbow. To objective watchers this smells of spin to keep the walled garden intact on today's handsets.

If average revenue per user (ARPU) growth



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