

3G dreaming

The appropriate technology always wins. This year, the annual 3GSM Conference was held in Barcelona. Last February, it was Cannes. The cellular world's senior luminaries were all present, carrying 3G's grim mantle on their expensive shoulders. These are the heaviest of the heavy hitters in the cellular world and these days, they are on a mission.

Internecine competition notwithstanding, the cellular companies are a collective when it comes to 3G. It has to be thrust down our throats. Having already spent US\$10 billion on licences, another US\$10 billion worldwide on deployment followed by US\$10 billion on advertising the myth of a 3G Shangri-la and with the consumer yet to bite, they have no choice.

Locking horns with this phalanx is a motley crew made up of Internet geeks propagating wireless fidelity's (WiFi) virtues, various businesses deploying WiFi hot spots, Taiwanese manufacturers scurrying to get an auto-configuring WiFi-cellular phone into the market and the many providers of dial tone over broadband seeking to sequester a Vonage-type advantage.

The firepower on the cellular side doesn't appear to bode well for the pretenders. This is reinforced by the fact that regulators, governments and the analysts, while paying the requisite lip service to wireless broadband, refuse to acknowledge it as an alternative to 3G even as WiFi hotspots mushroom worldwide.

Their coquetry is understandable. After all, regulators devised the now infamous auctions to bilk US\$10 billion in licence fees, the governments conferred this money and pliant analysts help raise it in the market by extolling 3G's virtues while the handset manufacturers laughed all the way to the bank with another US\$10 billion in proceeds from equipment sales. The consumer may well want more WiFi, but the Establishment is squarely in 3G's corner.

However, having seen how such stand-offs usually end, I am scurrying over to WiFi's side. Vietnam and Afghanistan taught my generation that those with the helicopter gunships usually lose. WiFi is like the Vietcong combat slippers made from rubber tires or the improvised explosive devices of today's Iraqi freedom fighters. It is an appropriate technology. It will win and 3G will lose. I have no doubts about this. Like I said, I've been there before. As late as 1991, A&T issued an internal memo instructing employees to discourage X400 access to other mail services and especially to the then infant but burgeoning Internet. AT&T Mail would then be the only email service the world would use. Or so they thought. Well, we all know how that one ended.

The shame of it all is that if the cellular companies weren't so beholden to 3G, they'd simply co-opt WiFi and continue to rule the roost. A 2G/2.5G network that integrates WiFi hot spots at its edges and in outlying geographies is a far simpler proposition and far, far cheaper than the present 2G/2.5G-3G integration.

It isn't as if the Barcelona crowd is oblivious to 3G's severe limitations. Two or more years after its launch,



BY RAIS HUSSIN

3G users continue to experience poor coverage. This shouldn't be a surprise because if 3G is to replace GSM as planned, the networks will need three to four times as many transmitters as they have today.

Experts tell us that at issue is the fact that GSM propagates differently from the Wideband Code Division Multiple Access (WCDMA) technology used in 3G networks. For a start, how GSM cells overlap is adjusted remotely by altering the frequency each transmits at, but WCDMA is all on one frequency, so adjustment means an engineer visiting the base station and physically realigning the transmitters.

Then there's the way a WCDMA cell responds to increasing usage by effectively shrinking, a phenomenon called cell breathing. This means you need more overlapping cells to provide good coverage — and the best site for a GSM mast is not necessarily the best for a 3G one, creating a real estate overhead that could easily be avoided by strap-

admit a mistake has been made. Secret pilots are being conducted using OFDMA and retaliatory as well as face-saving strategies being plotted by small senior management cabals. It's almost as intrigue-ridden as the tobacco lobby's attempt to thwart the worldwide anti-smoking campaign.

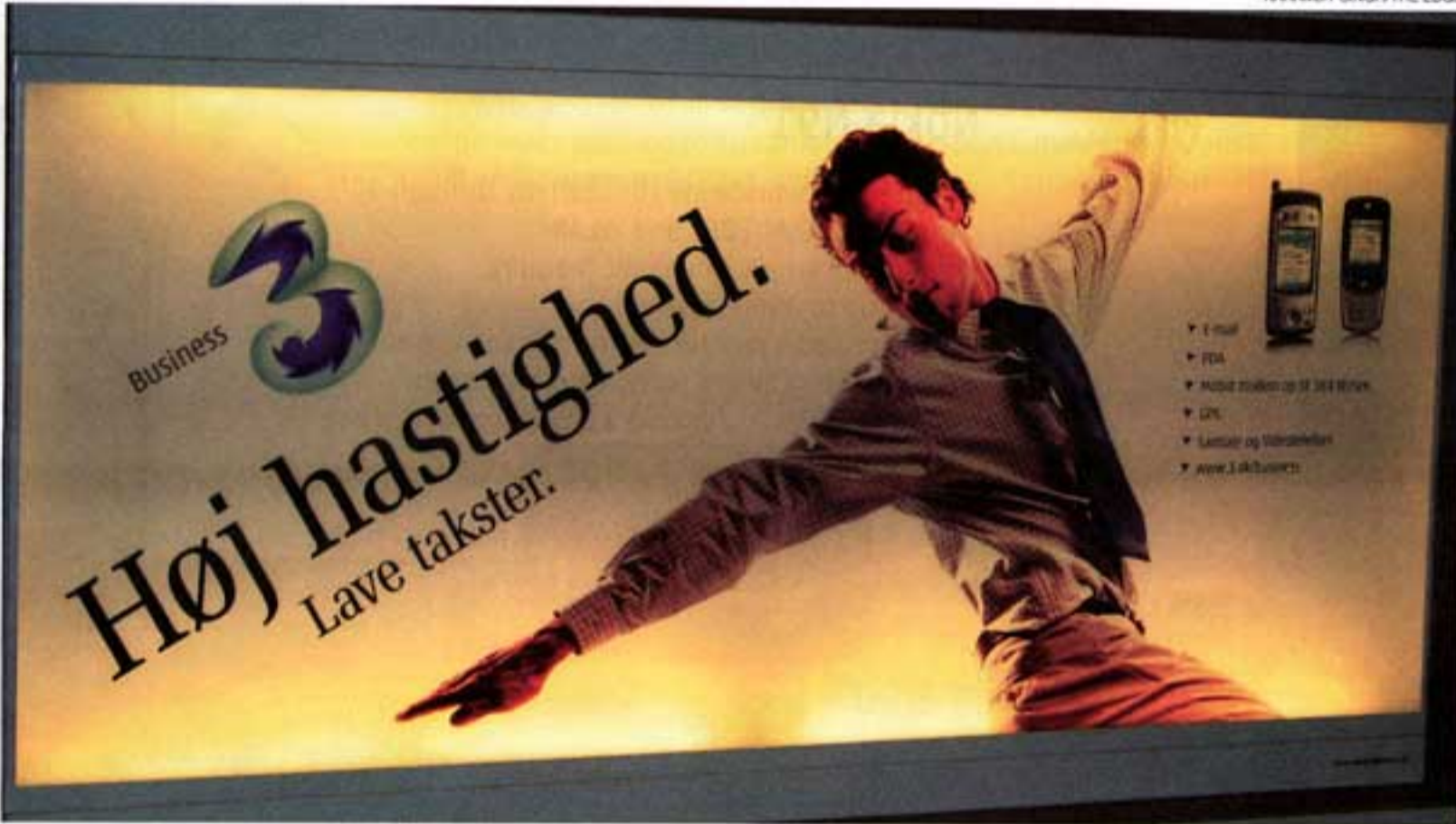
There, however, is one exception. Japan apparently is the only place where 3G has a life. The reason is simple. NTT DoCoMo and its competitors have spent billions to develop enticing applications that customers are willing to pay for, instead of on licences and meaningless advertising of hype and freebies as in Hong Kong and UK. Further, because WiFi is not a bad word there, Japanese cellular has co-opted it. Japanese users can WiFi their homes and if they so wish, go to their cellular operator's web portal and register their IP address into the IP Network Controller in the cellular network. The subscriber's WiFi-cellular dual mode cell phone is now patched into his WiFi LAN (local area network) and on a lower fixed line/VoIP (voice over internet protocol) type tariff as long as he is connected through his residential WiFi LAN.

If one wishes to test my thesis that WiFi shall prevail, study The Establishment for cracks. The biggest one is in what until recently was an invincible partnership between cellular service providers and handset manufacturers. Alarmed at how Intel has co-opted WiMax into its strategies, Motorola, a name synonymous with cellular technology, has been seen recently trying to seize some of the WiMax agenda from Intel. Moreover, it has also taken tentative steps to straddle both sides by announcing a WiFi-GSM dual mode phone. Such dual mode phones are now available. You can buy a Skype-enabled, branded cell phone in most independent appliance stores not beholden to cellular service providers.

The irony is that given a choice of buying such a Skype-enabled WiFi-phone or one that could coast seamlessly between WiFi and cellular networks, the consumer would almost always choose the later, giving today's cellular companies a killer advantage. This is because only the cell phone operator can decree if the customer gets a combined cellular plus VoIP bill, or not. But this is a very short-term advantage. Every day, the VoIP players get stronger, WiFi phones get more robust and WiFi technology extends itself to greater ranges with better handover, thus challenging cellular's coverage, its only existing strong suite. Either the cellular carriers muster themselves and co-opt WiFi today, or they wait as the advantage fritters. Within two years from now, I guarantee the situation shall reverse and cellular carriers will be leading the charge to interconnect with leading VoIP players or forking over large sums to make VoIP acquisitions.

When the cellular operators eventually bite the bullet, we should have an eco-system that allows hand-held devices to intelligently pick and choose between cellular and WiFi networks, whichever offers the strongest signal or lowest price in a given area. One just wishes they'd get it over with, do it now and save us consumers from their 3G dreaming.

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ping long-range WiFi access points to the GSM masts. But it's politically incorrect to even mention that in cellular's corridors of power. 3G is saved from total embarrassment because the preponderance of today's usage on 3G is voice, with video calls being little more than a gimmick. If users really started using services like video streaming and data, the present networks would collapse.

3G providers are never going to be able to amortise their costs over just discounted voice revenues. They need data and the accompanying bells and whistles. But once you start talking data, comparisons with Orthogonal Frequency Division Multiple Access (OFDMA) technologies like WiFi and WiMax become unavoidable. And when it comes to data, WiFi/WiMax run rings around 3G. Until recently, coverage was WiFi's major shortcoming. Not any more. In my last article, I mentioned having tested a new long range WiFi access point that emulates WiMax coverage. Should this take off for data access, how will 3G ever make money?

The Japanese exception

No wonder there's a lot of squirming going on among cellular VPs. After all, no one is going to be the first to