

BEST OF BOTH WORLDS

Roaming between 3G networks and Wireless LANs could provide the ideal end-to-end broadband corporate solution

Wireless LANs (WLANs) are one of the biggest success stories around at the moment. Over the past decade the technology has gained wide acceptance among a number of vertical markets, especially in retail, manufacturing, warehousing, education and healthcare, say analysts at Scope Marketing and Information Solutions, adding: 'With revenues of around US$1.5 billion, WLAN technology is no longer a fad, it is now part of the mainstream.'

Scope expects the WLAN market to become still more dominant in the future, increasing to a market of around US$4.8 billion by 2005 at a CAGR of over 34 per cent. Meanwhile, analysts at UK-based BWCS predict there will be over 39,300 WLAN public access hotspots in Europe by 2007, representing 32.5 per cent of the worldwide total.

The success of WLAN is increasingly regarded as positive news for the future of 3G. Far from seeing the two technologies as competing, industry and analysts alike are instead coming to regard them as complementary, with 3G providing broadband wireless access on the move while WLAN offers static 'hotspots' in public and semi-public locations, at the office or in the home.

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Not surprisingly then, two of the major providers in these complementary markets – Lucent and IBM – have joined forces to provide a roaming solution between WLAN and 3G. As a major player in the WLAN market, IBM is keen to develop a solution that will let its enterprise user customers get the best out of both technologies.

Key to the relationship is IBM's Business Consulting Services (BCS) division. Under the umbrella of IBM Global Services, BCS was created out of IBM's former Business Innovation Services division and newly-acquired PwC Consulting. By strengthening the company's relationship with the business parts of the enterprise – and providing access to the CIOs as well as the CTOs – BCS provides a counterbalance to IBM's existing relationships with the IT parts of the organisation, says Dennis O'Neal, a director with BCS who is closely involved in the work on WLAN to 3G roaming:

'From a mobility perspective, BCS is looking at developing enterprise standard solutions with its partners to drive the marketplace,' O'Neal explains. 'What we're saying with Lucent is, there's a story around having a 3G to WLAN solution. You tend to use WLAN when you're not actually physically moving, so this would be good for the home and the office, and 3G would be good for anything in between. And basically we're trying to create an end-to-end proposition around that kind of story.'

The 3G and public WLAN elements have a lot of operator interest because the mobile or fixed operator can make money out of those. 'We're just trying to create a combined proposition to enable people who have wirelessly enabled laptops to work anywhere and get access to corporate systems,' says O'Neal. 'The reality is that operators have paid for the 3G licences, and with significant announcements from ISPs and the likes of BT Retail, as well as initiatives such as Cometa Networks in the US [see sidebar] there are a growing number of 802.11b WLAN hotspots.

'WLAN is a cheap broadband technology, but it doesn't give you end-to-end coverage,' he adds. 'If the corporate user could step out of the building and be on a 3G network, then that would provide exactly what they need. We're trying to be forward-looking enough to develop a proposition with two complementary technologies to have one drive the other. What's more, bearing in mind that WLAN is a data broadband play, you're also going to complement driving the uptake of 3G.'

Ease of use

The roaming solution is predicated on coverage and ease of use, explains O'Neal. The idea is to offer a guaranteed level of service, and hence a reliable service that is easy for users to navigate no matter which country they are in. The way they get access to the WLAN hotspot, for example, should be much the same whether they are on a service provided directly by their ISP or roaming across someone else's service to get access.

For example, on the way to the office a typical user might go from the home WLAN network, roam on to a 3G network, then on to a public WLAN hotspot, back on to the 3G network, and finally on to the enterprise WLAN, suggests O'Neal. 'So the idea is that you could roam across any of these three technologies depending on what signal you could pick up. You're always connected.'

The access is either WLAN or 3G, but once in place the corporate user runs a VPN secure session on top, which then uses tunnelling to get access to corporate systems, such as email or ERP systems. Depending on whether it is a large corporation or a small to medium sized enterprise, users would either have their own VPN technology solution to get secure access back to the corporate systems, or a VPN solution provided by the ISP.

Initially O'Neal envisages a solution primarily for laptops rather than PDAs, as this is where the technology will first become available. The user will have a PC card that supports 3G, and the laptop itself will probably have WLAN built into it. The 3G cards are available today in testing, and O'Neal expects announcements over the next few weeks regarding commercial products.

Cometa takes off with national Wi-Fi

One challenge for WLAN is to achieve sufficient coverage so that people will use it, and IBM is working with a number of companies to look at how it can accelerate hotspot development. Cometa Networks, a new venture created by AT&T, Intel and IBM, was announced in December. It will be providing broadband wholesale, wireless internet access across the whole of the US, using WLAN (802.11b) technology.

Cometa plans to provide the service to companies including ISPs, cable operators and wireless carriers, who can then offer it on to their customers. Cometa will also offer the service to enterprise customers through the participating carriers.

The company plans to work with major retail chains, hotels, universities and real estate firms to deploy its wireless access 'hot spots' throughout the top 50 US metropolitan areas.

'Wi-Fi technology gives mobile workers high performance productivity tools that help them boost performance and customer service – whenever and wherever they're working,' says Lawrence B Brilliant, chief executive officer of Cometa Networks. 'Mobile professionals want a consistent, integrated solution that makes it easier to access reports, customer information and email using their existing internet accounts, whether a mile from home or across the country.'

Working with the card providers, IBM will use its own session management software to manage the access part. When the user moves out of the range of the hotspot, the session management software detects that the user is now within 3G coverage, and it manages the session across that link using virtual IP management, without the user even knowing anything about it, explains O'Neal.

'Say I was working on a Word document and waiting to be picked up at the airport. I start off on WLAN and I jump into a taxi. With the session access management software I can actually continue to work – the only thing I obviously need is coverage. As a user I wouldn't have to care or know which technology I was using.'

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O'Neal thinks the service will succeed because corporations will demand it: 'Historically the laptops or PDAs haven't been geared up to support new access technologies. Also there's a challenge with the set up, and getting these things to work out of the box so that you and I can use them without much support from the IT department or from the service provider. If, when I open my laptop, I log in and it's there, it's a guaranteed service – that will ensure a kind of supply and demand balance.'

Who'll use it?

It's really the application on top of the technology that has got to drive the uptake, argues O'Neal. While believing there is a real need for broadband mobility solutions, he acknowledges that there aren't that many 3G applications out there at the moment. 'We're looking at ways that the corporate user can get access back to things like ERP systems: get connectivity back to things like Peoplesoft, SAP, Oracle, the traditional ERP-type applications using these technologies.'

With a lot of corporations wirelessly enabling ERP

inside the manufacturing plant, he also sees opportunities to extend this outside the enterprise to the salesman in the field. When in front of a customer about to place an order and needing to know the availability of an item, it would be an easy matter for the salesman to check the stock level and secure the order with a firm guarantee of delivery dates.

In vertical markets, it depends very much on the industry. For example, utilities sending out engineers to dig up the road may typically be using maps that are slightly out of date. If they can be updated in real time, or they can send back updates in real time, next time they're going to find the right location straight away.

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Roadside assistance companies are also keenly interested, says O'Neal. A service engineer out on a call could receive a map sent to a pad device, showing the location of the next call. At the end of the day, call records could be uploaded via the WLAN at the driver's depot. Another significant focus area is insurance. The capability of wireless networks can be used to provide pay as you go motor insurance by tracking the car, where it goes, what roads it goes on, and the time of the day it goes on those roads. This might be a popular option with both drivers and insurance companies.

A driver for 3G

As more applications come through, this is going to be one of the main drivers for 3G, says O'Neal: 'Lucent has correctly identified WLANs as a means to develop the uptake of 3G services, and are willing to partner with those companies who can help achieve that.'

But there are other commercial benefits beyond purely making WLAN to 3G roaming a technical success. In terms of pricing WLAN this is also an important testing ground: 'You're trying to price a new data service aimed at corporate users. Getting the right tariff plan means that when 3G arrives it's not such a difficult transition.'

At the same time, pricing the service accordingly is one of those things that service providers have got to judge, he says: 'That's the name of the game. If operators can price it so that corporations will take it, but they're also going to start to make money out of it, then there's a win-win proposition.'

Having developed the solution, a pilot implementation is the next phase. O'Neal says the two companies are already working on opportunities at the operator end of the marketplace, specifically with those who already have 3G licences, and identifying enterprises who have already or are likely to express an interest in the service. 'Obviously if you can bring the two ends together it drives the whole thing. It's nice to be able to launch a service and have someone use it at the same time.'

And the collaborative approach makes most sense, says O'Neal. 'We're all trying to create that coverage to move the marketplace forward. I think there are some lessons to be learned around how GSM was arrived at and it's probably fair to say that no one supplier could really do it by themselves. IBM is actually in with the marketing guy, with the sales guy, whoever it is in that part of the business that has roaming employees, to see if there's some way that these technologies can provide a cost effective solution with the right applications to run across them.'

In the short term, O'Neal argues that the success of WLAN makes it a positive play with corporate customers, but one that will bring medium to longer term benefits for 3G: 'The fact is that WLAN is relatively cheap to deploy, and it's nice high bandwidth. I think there are a number of things that make it easier to move towards WLAN in the interim. But that said, rather than look at it as a threat, look at it as a nice complementary technology, and try having an end-to-end story across both WLAN and 3G.' ■

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