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Canopy hopes to put DSL Net access in shade

A new wireless technology claims to go where other technologies cannot reach, writes **Karlin Lillington**

The Republic is the first state in Europe to introduce a wireless, high-speed internet access technology that could bring low-cost broadband access to rural and urban areas left out of the DSL loop.

Called Canopy, the technology is being offered only to Cork city residents through access company Amocom, where it is competitive in cost with DSL (digital subscriber line - a broadband internet access technology supplied through fixed telephone lines).

But Canopy, like other wireless access methods, has the ability to go into urban and rural areas where DSL isn't available or isn't feasible. It also uses unlicensed broadcasting spectrum in a band recently made freely available by Irish telecommunications regulator ComReg - one of the reasons the Republic has popped up as Motorola's initial European market for Canopy.

Canopy operates in the 5.7 gigahertz band and will be moving into other unlicensed spectrum bands as they become available. It can deliver up to 10 megabits of connectivity for downloading and uploading data.

In contrast, most DSL connections run at 512 kilobits up to 1 megabit for downloads, and considerably slower for uploads.

According to Mr Tom Hulsebosch, senior director of sales and marketing for Canopy in Motorola's Chicago office, the Republic is potentially an ideal market for the technology. The State has relatively high costs for DSL and low availability of alternative access technologies such as cable modem connections.

We also have large rural populations and small towns that are unlikely to get DSL.

But as the State builds out a range of broadband fibre rings to the regions, wireless technologies such as Canopy should help cross the infamous "last mile" barrier into people's homes and smaller businesses - which is why Canopy is one of the technologies being used in a set of Government-funded wireless trial projects.

"There's certain limitations in DSL - for example, it generally has a



Mr Tom Hulsebosch, senior director of sales and marketing for Canopy in Motorola's Chicago office. He believes the Republic could be an ideal market for Canopy technology with our relatively high DSL costs and low availability of alternative access technologies.

three-mile limit from a telephone exchange," Mr Hulsebosch says.

Wireless technologies can be used to move internet access much further out.

In Canopy's case, the service is broadcast from an initial, very high-speed access point and can be extended endlessly in any direction as long as the small broadcast terminals are in line of sight of each other. Each terminal has a range similar to DSL, about four miles.

Motorola has specially designed Canopy to be cost-effective for small businesses and home internet users, Mr Hulsebosch adds, and imagines it could become quite inexpensive - well below current DSL prices here - as more users are added to a network.

Canopy is unusual in that it wasn't developed from existing wireless access methods used for other purposes, such as indoor wireless networks, he says.

Motorola did initial work on the technology more than a decade ago but it could not find a market for the wireless concept in those pre-internet days, he says: "We were six years before anyone else with wireless LANs [local area networks] and six years too soon," he quips.

But when Motorola, like other telecoms, took a battering and realised it was faced a shrinking market and a tough economy, it looked for new market niches into which it could expand.

Its early work on LANs was taken off the shelf and engineers refined it into Canopy - a technology that carries 65 patents and was introduced commercially last year. About 500 US internet service providers use Canopy, with about 50,000 base stations in use, says Mr Hulsebosch.

He says Canopy's particular strengths are the ability to add in large numbers of new users quickly and to operate with few problems from interference - a frequent issue for wireless networks, especially those using freely available spectrum where many others can jump in with their own networks.

Rather than this free availability being an issue, "we have found a real product niche in the unlicensed span [of bandwidth]", says Mr Hulsebosch.

The technology adds plenty of padding around the connection channel it creates - literally taking a larger channel than it needs for data traffic - insulating the connection from interference, he says.

Canopy is designed specifically with internet users in mind. High-speed Web browsing is its priority and the technology is tweaked around providing a good browsing experience, he adds.

Incumbent operators - those offering dial-up ISDN internet access or faster DSL - will be most threatened by Canopy's ability to use unlicensed spectrum, according to Mr Hulsebosch, because it eliminates an enormous barrier to market - the need to acquire licences.

Wireless is in its early stages and promises to be an important part of a range of complementary technologies people will use to access the internet in future, he says.

"We're just starting to market this product. We think there are

some exciting opportunities."

More than 50 customers have signed up for Amocom's Canopy service in Cork, says Amocom managing director Mr John O'Hare.

And while Mr Hulsebosch says that initial Canopy customers in the US have tended to be large corporations and educational institutions - "when initially you go into these markets, you have to scratch the most profitable itch" - Mr O'Hare's experience is that small to medium-sized businesses (SMEs) and home internet users make up much of his Cork market.

"We're finding the SME area is where the market is - anyone with an ISDN bill of over €100 a month," he says.

Amocom, which was set up in April last year, charges a €265 installation fee and then €60 monthly for a 512 kb connection, although customers can increase their bandwidth at a higher cost. The price includes a small receiving station, "about the size of a shoe", that is mounted on an external wall or roof.

Customers include a wide range of Cork businesses, from Web-design companies to car dealers (who like the high-speed net link for sorting out purchase details and financing for customers), manufacturing sites, accountants, solicitors and software developers.

The company got an initial grant from the Department of Communications, Natural Resources and Marine to participate in a one-year wireless access service trial with Canopy. But Mr O'Hare says the demand has been strong enough to warrant adding a third base station to the initial two acquired for the trial.

He is optimistic about Amocom's growth potential, given that, so far, most customers have come through word of mouth.

Mr O'Hare is a former Motorola engineer, but that didn't influence his use of Canopy and he wasn't even aware it was being developed when he was in the company, he insists. He liked the technology and felt it would work well for his new business.

The interest in his wireless service signals much pent-up demand for broadband internet access at a reasonable cost, he believes.

As Mr Hulsebosch says: "Competition is a great thing for helping market penetration."

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