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Whither WiMAX?

As Nokia's Anssi Vanjoki predicts the same fate for WiMAX as Betamax, new reports indicate there is still a lot of momentum behind the technology

YOU WAIT AGES FOR A REPORT about WiMAX, and then several come along at once. The technology made the headlines again recently after Nokia's head of sales and manufacturing, Anssi Vanjoki, apparently compared the fate of the mobile broadband technology with that of the somewhat similarly named Betamax, the failed home video technology that was eventually superseded by VHS.

Initially supportive of WiMAX, and indeed still a member of the WiMAX Forum, Nokia now seems to be putting most of its eggs in the LTE basket. And that makes sense for the company, which has a strong foothold in the GSM/UMTS/HSPA arena. Operators that are already following the HSPA path are far more likely to continue down the LTE route. As commented by Analysys Mason principal analyst Matt Hatton on his mobile broadband blog, "any operator that already has a 3G, or even GSM, network installed will find it cheaper to deploy LTE (although still very expensive)".

According to the report on FT.com, Vanjoki said: "It's my prediction that by 2015, we will have an LTE network that will cover most of the important places in the world and that will give us the coverage and capacity we need."

Vanjoki may be right that LTE will be WiMAX's VHS, but it's still difficult to rule the technology out completely. There are parts of the world with little or no 3G access, and WiMAX could still have a significant role to play there, for example. Plus it's also likely to have a role in providing fixed wireless access to the Internet in markets where there is little to no fixed network coverage.

This is certainly backed up by a recent report from the Arab Advisors Group, which says six Arab countries had 11 commercial WiMAX operators by the end of March, all using the fixed variant of the technology. WiMAX is now available in Algeria, Bahrain, Jordan, Kuwait, Saudi Arabia and Tunisia, and the report says several operators in many Arab countries have started testing the service.

"For now, it is nomadic WiMAX but not mobile WiMAX," says Jawad J. Abbassi, founder and general manager of Arab Advisors Group. "Regulators do not yet allow mobile WiMAX. Eventually, that MAY change."

Meanwhile a report from broadband wireless access research and analysis company Maravedis says at the end of December 2008, it estimates there were 3.16 million BWA/WiMAX subscribers, both fixed and wireless, a 15% increase from Q3 2008 and an 87% increase from Q4 2007. More than 1 million subscribers are based in the US.

"With a monthly residential ARPU of US$43.84 and business ARPU of $122.69, the worldwide subscriber base generated

The 22 operators that will make or break WiMAX

1.	Axtel (Mexico)
2.	Bayanat Al Oula (Saudi Arabia)
3.	Bolloré Telecom (France)
4.	BSNL (India)
5.	Clearwire (United States)
6.	Digicel Group (Caribbean)
7.	Enforta (Russia)
8.	Far EasTone (Taiwan)
9.	Inukshuk (Canada)
10.	Korea Telecom (South Korea)
11.	Mobilink (Pakistan)
12.	Neovia (Brazil)
13.	Packet One Networks (Malaysia)
14.	RWW (UK)
15.	Scartel (Russia)
16.	SK Telecom (South Korea)
17.	Sprint (United States)
18.	Tata Communcations (India)
19.	Telmex International (5 countries covered)
20.	UK Broadband (UK)
21.	UQ Communications (Japan)
22.	Zain Bahrain (Bahrain)

Source: Maravedis

LTE FORECASTS

Talking up LTE's future

Analyst companies come out with various predictions about the future revenue and subscriber growth for next-gen LTE networks

AS THE LTE hype machine leaps into action, analyst companies have been falling over themselves to issue projections about future subscriber numbers and revenue growth.

According to latest research by Frost & Sullivan, the number of 3G LTE subscribers will reach around 22.4 million in Western Europe by 2013, generating revenue of €9,685.4 million.

A separate report from Infonetics Research, meanwhile, said LTE subscribers could exceed 72 million globally by 2013 if service provider LTE plans are carried out.

And Juniper Research said revenues from LTE mobile broadband subscribers will exceed $70 billion globally by 2014.

Frost & Sullivan also said mobile operators are expected to maximise their high-speed packet access (HSPA) deployments in full, before leaping to 3G LTE. "The window of opportunity for HSPA Evolved is insignificant when compared to 3G LTE," the research and consultancy company added.

The company noted that mobile data usage is increasing exponentially: "Six to 14 times more data is being used on mobile broadband networks today than in the previous year," the company said. But it points out that revenues are flat, so network costs have to decline. "There is a strong focus in the 3G LTE camp on margin and production cost," it said.

The company also advises operators to stop locking-in devices to access networks; start upgrading their backhaul now if considering LTE by 2010/2011; employ careful network planning if they are considering femtocells for backhaul; be more innovative with pricing strategies; and put in place effective management tools (see analysis, page 2).

Infonetics Research said the LTE infrastructure market, including E-UTRAN macrocells and evolved packet core (EPC) equipment is primed to hit $5 billion in 2013. ■

estimated quarterly revenues of US$522 million," the company says.

Maravedis adds that almost 450 operators are deploying or trialling WiMAX, compared to the around 120 or so that have so far committed to LTE. But the company adds that "WiMAX's best promise remains in the hands of Clearwire", which it says closed the year with 475,000 subscribers.

Maravedis has also grouped together 22 operators (see table, page 1) that it says "will make or break WiMAX". It says these top 22 accounted for almost 50% of the total number of WiMAX subscribers worldwide in Q3 2008. Initially, many of these operators have focused on business users, particularly in developing markets, but Maravedis says it believes many operators will target residential users in the near future as CPE prices start to come down. "We estimate more than 80% of the worldwide WiMAX subscriber base will be residential by the end of 2010," it says.

Clearly the WiMAX market will benefit once more economies of scale kick in, and that will be helped when certified WiMAX CPEs become more prevalent in the market. At present Maravedis says the number of proprietary CPEs deployed continues to exceed by far the number of certified WiMAX CPEs.

"Of the over 1.24 million CPEs deployed by the top 22 operators [in Q3 2008], 63% are proprietary, and most of these belong to Clearwire and Inukshuk," it says. The company adds that mobile WiMAX equipment is also ultimately expected to outpace fixed WiMAX equipment.

"Up until now, certain WiMAX operators—especially smaller players—have focused their service offering on the SME and business segments, mainly because the cost of fixed CPEs is still too high to be affordable for the mass market," Marevedis says. "Operators are optimistic that mobile WiMAX CPEs costs will decrease to a level more accessible for consumers, especially in developing countries, due to continued economies of scale.

Looking ahead, the company warns that the economic crisis has put a great deal of pressure on WiMAX operators, and capex is expected to decline in 2009-2010. Nevertheless, it expects more than 4 million WiMAX subscribers by the end of 2009. ■

Anne Morris

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ANALYSIS: NETWORK MANAGEMENT

Ebbs and flows

As analysts advise operators to put traffic management tools into place, two companies say they can help save more than 20% of network costs

MOBILE BROADBAND WATCH has already reported on the problems that could lie ahead for mobile operators as mobile broadband traffic increases; many analysts say it's questionable that the business case for cheap flat-rate packages is sustainable in the longer term because of the strain this will place on networks.

Indeed, operators have been advised to introduce more flexible rates and packages in order to encourage low users yet rein in very high users. Now, two companies claim they can help mobile operators save "upwards of 20% of mobile broadband network costs" through more intelligent management of congestion at peak times. Camiant, a provider of policy control and application assurance technology, and international telecoms consultancy Omnitele claim mobile broadband operators can make substantial network cost savings by actively managing mobile broadband congestion and controlling the bandwidth consumption of "certain" users during peak hours.

Frost & Sullivan says operators need to put in place effective management tools to manage traffic using QoS policies, prioritised access and flow-based processing. "Such active traffic management will ensure that operators do not tarnish their brand image by levying huge charges for high-speed mobile broadband access," the company says in a research note. ■

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SPECTRUM

LatAm spectrum auctions set to boost broadband

Mobile broadband expected to play major role in filling in connectivity gaps

3G AND WiMAX spectrum auctions in Latin America will trigger massive broadband subscription growth, from 9% at the end of 2008 to 70% at the end of 2014, according to Pyramid Research.

The research company said fixed broadband penetration in Latin America, which stood at 5% at the end of 2008, is roughly 30% below the global average of 6.5%. 3G mobile penetration, at 3.4% is also below the global average of 7%.

"Regulators now look to accelerate the award of broadband spectrum, specifically WiMAX and 3G, to close the connectivity gap," said Jose Mario Lopez, research manager at Pyramid Research. Attempts will be made to bring new players into the market by placing strict limits on incumbents or current frequency holders. As a result, Latin America's broadband subscriber base is expected to rise from 48 million at end 2008 to 426 million at end 2014. Pyramid Research expects 87% of broadband net additions to come from mobile platforms, either 3G or WiMAX. ■

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HANDSETS

LTE handset angst

Research company says Verizon's handset plans uncertain because of late arrival of silicon

Verizon Wireless said it would extend its LTE support from datacards to handsets in 2011, but it is increasingly uncertain that there will be a sufficient choice of attractive handsets to pull in users, said ARCchart in its Rethink Wireless newsletter.

At last week's CTIA Wireless show, Verizon said it would activate up to 35 LTE markets by the end of 2010 with datacards, and move to smartphones the following year.

But ARCchart said this schedule may prove unrealistic, citing a research note from Deutsche Bank that claims Qualcomm will not have silicon for LTE datacards generally available until 2010. Handset chips will only sample in the middle of next year, and could take a further 18 months or more to get into commercial phones.

It said even these timescales are fairly tight for a wide area mobile technology, which will require intensive certification and testing before devices can be let loose on the new networks. ■

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NETWORK SHARING

Sharing could lead to one network – Ovum

Analyst suggest acceptance of sharing could result in one RAN per market

As reports suggest Ericsson and Nokia Siemens Networks are now effectively the largest operators in the world thanks to the number of mobile networks they manage, one analyst said increased acceptance of network sharing means some markets could be left with just one RAN network, which would be managed by the vendors.

Steven Hartley, senior analyst at Ovum, said the notion of one network is not entirely far-fetched. He said sharing will be driven by a combination of data demands driving up capacity needs, competition eroding prices and the propagation characteristics of LTE requiring more sites.

The result will be a dwindling number of physical mobile networks, until some markets are left with just one mobile network. Vendors could then function as network wholesalers, with operators the service retailers. ■

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NETWORK PLANNING

Femtocells to drive MBB cost savings

Research claims it can prove the business case for offloading onto femtocells

New research on the business case for femtocells has claimed there are considerable savings associated with offloading mobile broadband traffic via femtocells.

In its white paper, Signals Research Group said the cost savings associated with offloading just 1.4 GB of HSPA data or 1.3 GB of EV-DO Rev A data per month via the femtocell from a macro cellular network would justify an operator offering a subscriber a free femtocell. For a small but rapidly growing segment of heavy wireless data users an operator can easily halve the cost of delivering wireless data at home or in the office by offloading traffic from the macro cellular network onto a femtocell, the research said. ■

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