

Mobile WiMAX Back From The Brink

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Fixed and nomadic WiMAX services have been in existence for a number of years now with an estimated half a million WiMAX users worldwide in 2007. However, fixed and nomadic services were never expected to bring WiMAX technology to the mass market with hundreds of millions of users.

To illustrate this, IMS's last published report on the WiMAX market projected that fixed/nomadic would only account for just over 20 million users by the end of 2012. This is a fairly insignificant number when compared to the more than four and a half billion mobile users forecast for the same period.

Instead it is mobile WiMAX that has the real chance of taking the technology to the masses. Unfortunately in the last 6-12 months mobile WiMAX has experienced a number of problems. At the end of 2007 the only significant volumes of mobile WiMAX users were in South Korea, and even there the numbers are estimated to be less than one hundred thousand.

Much of the uncertainty around mobile WiMAX during this period has been driven by rumours and debate as to the future WiMAX strategy of US carrier Sprint. To provide a bit of history, in the summer of 2006 Sprint made the major announcement that the next generation mobile technology it would rollout would use WiMAX, specifically 802.16e. Up until this point it had used various evolutions of the cdmaOne and cdma2000 standards, along side the push-to-talk iDEN-based network it acquired via its merger with Nextel.

At the time of the announcement, Sprint also stated that it would be spending \$3 billion over the next two years rolling out the network using Motorola, Samsung and Intel to supply equipment. Nokia/Siemens Networks also joined this list of companies in early 2007.

However, since this time the carrier has struggled. The mobile user based is losing customers at a rapid pace, and back in October 2007 Gary D Forsee, the company's Chairman and CEO, resigned. This is significant because Forsee was understood to have been one of the main proponents of the technology within Sprint and so immediately rumours began that it may switch to another technology.

The appointment of Dan Hesse as the new CEO didn't help put an end to this. He was CEO of AT&T Wireless shortly before that company decided to dump the relatively unpopular IS-136 cellular technology for the more international and much more widely used GSM/W-CDMA group of technologies. Hardly good news for the relatively niche WiMAX technology. Around the same time that changes at the top of Sprint were occurring, preliminary discussions between Sprint and the predominantly fixed WiMAX provider Clearwire regarding the roll out of a shared national WiMAX network broke down.

This marked a particular low point for mobile WiMAX. So much of the hype around the technology had been on the back of the Sprint network, and at this point it looked like there was a significant chance it would never happen. Should Sprint have dumped its WiMAX plans for another standard, industry confidence in the technology would have been significantly and perhaps irreparably knocked.

At the same time that Sprint was going through this period of uncertainty, the standard itself was also experiencing problems. The WiMAX Forum was established to promote the technology but to also certify products for interoperability. The organization had originally hoped that products adhering to the mobile WiMAX standard, 802.16e, would start to be certified during early 2007. However, this date was continually pushed back and delayed. Not only that but it was increasingly becoming apparent that most carriers were waiting for Wave 2, 802.16e products for their mobile networks and with a certification process not yet finalised for Wave 1, Wave 2 was looking a long way away.

However, this last week has seen a significant turnaround in the future outlook for the technology. The announcement that Sprint and Clearwire were back together and setting up a new business that will combine their next-generation wireless broadband businesses has put an end to rumours that mobile WiMAX in the US was about to come to a premature end. Furthermore, the fact that big hitters such as Intel, Google, Comcast, Time Warner and Bright House Networks were throwing in \$3.2 billion for a 22% stake means that mobile WiMAX is no longer relying on just Sprint to kick start it into the mainstream. Instead, the future of the technology is now relying on a collection of the world's largest and well known communication/information companies. With the news that in recent months 802.16e equipment is at last being certified by the WiMAX Forum the future for the technology suddenly looks a lot brighter.

But outside Sprint, Clearwire and South Korea, how is the mobile WiMAX going to progress? Compared to existing

cellular technologies such as cdma2000, W-CDMA and their variants, it certainly has advantages in terms of performance. In terms of comparisons to LTE and other 4G technologies it certainly has advantages in terms of the fact that it's available now. So for any would-be operator that wins 2.5GHz, or similar, spectrum, WiMAX represents an attractive option.

However, for the more patient, a route that follows LTE may well offer longer term advantages. In the medium- to long-term LTE is expected to have the edge over WiMAX in terms of volumes of scale, international roaming, a strong supplier market and good national coverage. And with LTE being designed with legacy W-CDMA networks in mind, it's unlikely that any existing W-CDMA heavyweight will make the switch to WiMAX.

It's certain that these recent developments have now brought mobile WiMAX back from the brink, and a successful future looks much more likely. However, IMS Research still expects that in the long term, the technology will be overshadowed by LTE in the mobile market.

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