



Success Brief
Intel® WiMAX Wireless
Broadband Technology

WiMAX Helps Service Providers Serve Millions of New Customers



“Until I moved to Berlin-Pankow, where there was no DSL service available, I never realized how important broadband Internet access is to a self-employed person. Now, with DBD’s fixed WiMAX service, I finally have broadband access—and an efficient home office—once more.”

Heike Bayer-Wenzel
Independent Marketing
Consultant
Pankow, Germany

Historically, customers in rural and underserved areas have suffered from limited access to online information—information that could lead to social and economic development. WiMAX broadband wireless networks provide a unique and cost-effective way to reach these millions of potential customers.

WiMAX makes it feasible—and profitable—to deliver the equivalent of cable or Digital Subscriber Line (DSL) Internet access to large geographical regions around the world. The potential market segment for these services is astounding, as the International Telecommunication Union (ITU) estimates only 30 percent of the world’s villages currently have any kind of connection—even by telephone—to the rest of the world.¹

Already, service providers are benefiting from deployment of 802.16-2004 networks for fixed WiMAX applications, as well as “last-mile” access and cellular backhaul. WiMAX can be deployed quickly and inexpensively, and overcomes the cost, physical distance, and performance limitations of other technologies such as ADSL and Line of Site (LOS) microwave links.

With the proliferation of Intel-based WiMAX technology, service providers offering high-bandwidth, low-cost WiMAX connections can attract new users and serve diverse market segments, helping millions of customers improve their businesses and their lives.

Measures of Success: Germany’s MAXXonair® Reaches New Market Segments with WiMAX

Deutsche Breitband Dienste GmbH (DBD), a service provider based in Heidelberg, Germany, has been offering WiMAX broadband Internet access through its MAXXonair brand since August 2005. The cost-effective, easily deployed WiMAX network helps the company provide new services that attract both private users and businesses.

In the German capital Berlin, in the district of Pankow, MAXXonair service reaches customers like Marco Knoblauch, the managing director of a real estate agency—EURIX GmbH & Co. KG—who had been using a slower connection before switching to WiMAX. The long upload times, and resultant backlogs in office work, almost caused the business to move its office. “This would have created additional costs for us, and it would have meant the loss of 11 jobs for the district of Pankow,” Knoblauch said.

With MAXXonair premium service, Knoblauch’s company now spends less per month and enjoys 3.5 Mb/s download speeds, 768 Kb/s upload speeds, and 99.5 percent availability. “Thanks to MAXXonair, we can now stay in Pankow,” Knoblauch said. “The transfer of data takes only a few seconds, and we save about 5,000 euro a year.”

The fast and cost-effective deployment of WiMAX networks also makes it a smart investment for service providers like DBD. WiMAX systems, which can be deployed in just days, are designed to overcome the cost and physical distance limitations of other technologies, while enabling service providers to reach large geographical areas at limited expense.

To help ensure connections could handle high-throughput applications for customers like Heike Bayer-Wenzel, an independent marketing consultant in Pankow, DBD chose equipment manufacturer Airspan’s indoor customer premises equipment (CPE), which is based on Intel® WiMAX silicon. The solution worked for Bayer-Wenzel, who is now able to send and receive 3.5 Mb/s downloads and 768 Kb/s uploads, while her daughters can use the Internet for schoolwork and for communicating via VoIP with their father in Syria.



DBD Deutsche Breitband Dienste GmbH is a wireless telecommunications service provider based in Heidelberg, Germany. Through its DSLonair® brand, the company offers WiMAX-based high speed wireless Internet access to residential and small and medium enterprises in rural areas not fully covered by DSL services. With its second brand, MAXXonair, it serves metropolitan areas with both WiMAX broadband Internet access and Voice over IP (VoIP). More information is available at www.DSLonair.de and www.MAXXonair.de.

What's WiMAX?

World Interoperability for Microwave Access, Inc. (WiMAX) is a standardized wireless technology also known as the IEEE 802.16-2004 standard. The fixed version of WiMAX allows for non-line-of-sight (NLOS) connections, and serves end users at fixed locations or nomadic users moving at pedestrian speeds. Engineered to deliver last-mile wireless broadband access, as well as providing a cost-effective backhaul solution for cellular and Wi-Fi, WiMAX offers service providers a compelling alternative service and business model compared to existing broadband wireless technologies.

Greater range, lower equipment costs.

While most existing wireless technologies, such as 802.11 or Wi-Fi, are range-limited to within a few hundred feet around the base station, WiMAX systems can deliver services over large geographical areas, and so are suitable as point-to-multipoint "last-mile" networks. Because WiMAX is based on international, vendor-neutral standards, service providers can choose among the hundreds of vendors in the WiMAX ecosystem, leading to economies of scale as the technology becomes more widely deployed.

Fast, cost-effective deployment

WiMAX deployment takes just days—not the months often associated with other broadband solutions. The cost savings of self-install customer premises equipment (CPE), as opposed to truck rolls, also helps to keep deployment costs low. In addition, the NLOS coverage of WiMAX means operators and service providers can rely on greater coverage predictability, which helps ensure higher installation success rates.

The Future of WiMAX

Intel believes broadband wireless technologies will help bring the next billion users to the Internet by providing new broadband wireless services in established market segments and by enabling broadband services in previously underserved and emerging market segments. Today, more than 35 service providers have deployed

commercial fixed WiMAX networks using Intel-based CPE equipment. In addition, Intel is actively engaged with many of the more than 175 service providers worldwide that are preparing for both fixed and mobile WiMAX trials and deployments.

Because WiMAX technology can support both fixed and mobile broadband wireless applications, operators and service providers can win customers today by deploying fixed WiMAX, and are enabled to help increase revenue and prevent future churn by rolling out mobile and nomadic WiMAX services. With the imminent availability of CPE using Intel's Rosedale 2 silicon, which supports both 802.16-2004 and 802.16e-2005, service providers will be able to deploy WiMAX networks today and later upgrade to a mobile network with an over-the-air software update. Rosedale 2 offers service providers the opportunity to get into the WiMAX market segment now, acquire customers, and still future-proof their networks for mobile WiMAX.

Intel and the WiMAX ecosystem, including the WiMAX Forum™, have made great progress. With more than 370 current Forum member companies, the ecosystem continues to grow—offering service providers an extensive choice of certified and interoperable products from numerous equipment vendors. Intel continues to work with a growing community of developers, laying the path to Intel® Centrino® mobile technology integration and mass-market segment adoption for fixed and mobile WiMAX.

How Do I Learn More?

Service providers such as DBD are already successfully integrating Intel® technologies and providing WiMAX service to customers throughout the rest of the world, changing lives and helping to bring the future to every region. To learn more about WiMAX, visit www.intel.com/go/wimax.

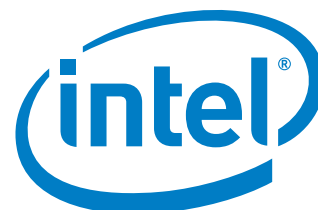
The WiMAX Forum is an industry-led, nonprofit corporation formed to promote and certify interoperability of broadband wireless products. Member organizations and details can be found at www.wimaxforum.org/about/roster.

Solution provided by: MAXXonair

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¹"ITU Launches New Development Initiative to Bridge the Digital Divide," ITU press release, June 17, 2005.

*Other names and brands may be claimed as the property of others.