

WiMAX: application scenarios, first experiences and evolution

WiMAX is the leading standardized BWA technology. It effectively addresses several different types of potential customers and situations, especially where alternative DSL solutions are either not available or not economically viable.

Its ability to support both LOS and NLOS connections make it suitable for ubiquitous service offering in rural and urban areas alike. High speed and symmetrical bandwidth can satisfy the needs of individual customers, public administrations, and enterprises of all sizes. Cellular coverage make its deployment extremely fast and relatively inexpensive.

Early field experiments in various countries confirm that expectations in terms of coverage, performance and usage scenarios are indeed justified. Test applications include such different services as fast internet access, high quality audio and video communications, education and entertainment, tele-medicine, tele-metering and tele-surveillance. Reference scenarios prove that WiMAX can be equally well integrated in fixed or mobile networks, and that it makes an excellent complement to WiFi both as hot-zone feeder and for continuous indoor/outdoor coverage. It can also be effectively paired with DVB-T for implementing T-Government and other highly interactive services.

Full worldwide interoperability, market diffusion and technological evolution are expected to draw WiMAX equipment costs well below those of any alternative technology available today. Further, as the standard evolves from nomadism to mobility support, WiMAX could indeed become the key to fixed/mobile convergence, coming from both ends. If in addition new frequency ranges will be specified, below 2GHz, it could also represent more than a first step beyond current 3G systems.

Depending on the specific market situation and regulation, WiMAX could in the next years represent a unique opportunity to reshuffle the competitive scenario, foster fixed/mobile convergence, overcome possible risks of digital divide, and effectively support economic growth and people welfare in developed and developing countries alike.

The presentation will cover all of the above aspects, highlighting in particular what WiMAX can best do in different usage and regulatory scenarios, the main outcomes and indications of early experiments, and the availability of WiMAX products and technologies with respect to the foreseen evolution of the standard.