

Making Sense of WiMAX

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When peering in at the still-evolving world of WiMAX from the outside, it is easy to be confounded by the cloud of information swirling around as the technology works to launch itself into the mainstream. To the layperson, it is possible to conclude that WiMAX has already become hopelessly complex, and it has not even been launched. In an ironic twist, some of the very companies and [standards](#) organizations with the most to gain from the success of WiMAX are often, perhaps unwittingly, involved in spreading confusion when they could be fostering clarity. For example, the WiMAX Forum™—the industry consortium that promotes this new, standards-based approach to Broadband Wireless Access (BWA)—talks of Fixed and Mobile standards, while the IEEE has standards with monikers that include 802.16d, 802.16-2004, 802.16e and 802.16-2005; and there are accounts of new releases like 802.16m and 802.16p that further muddy the waters.

The casual observer must ask whether these things are the same or different? Further, the potential for confusion grows when terms like ‘Nomadic WiMAX’ and ‘Portable WiMAX’ are introduced to the global conversation about WiMAX and the technology behind it. Some equipment vendors have even co-opted ‘WiMAX’ to refer to any BWA product, further blurring the line between the [standards](#)-based approach championed by the Forum and the pedestrian proprietary products that have been on the market for years. Trying to understand it all is enough to turn even the most seasoned technologist into a closet technophobe. All labeling issues aside, there is a seemingly endless parade of technologically-focused issues that also swirl around WiMAX. Consider all the frequency bands that WiMAX has been purported to use. Then there are the WiMAX Profiles, the WiMAX Releases and the multiple waves of Certification. And even though first-generation WiMAX products are just now taking hold in some regions, there is the irresistible urge on the part of some to speculate about what comes next: the unfortunately named—but inevitable—‘WiMAX 2.0.’ Before we all drown in this eddy of profiles and releases and waves, let us try to stem the flow of confusion, separate the wheat from the chaff, and identify what is essential knowledge in tracking this market.

So, let us boldly go where few have gone before in an effort to understand WiMAX, its fixed and mobile variations; how the [standards](#) organizations work to bring harmony to the system; and how releases, profiles and certification are designed to foster both interoperability and market growth. It does not have to be as complicated as some might make it seem.