

Standards-based WiMAX to take Wireless Communications to New Heights

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The wireless communications market has been witnessing tremendous growth in the recent past and the emergence of the standards-based wireless interoperability for microwave access (WiMAX) is expected to further this popularity. In fact, WiMAX is likely to become the third most widely used high-speed Internet access technology following digital subscriber line (DSL) and cable modem, which are its key competitors.

“Customers are more confident about accepting a specifications and standards-based product and this is tilting the balance in favor of WiMAX,” explains Frost & Sullivan Research Analyst Arjun Chokkappan.

Lower costs, continuous product evolution, and flexibility in switching suppliers are driving uptake of WiMAX based products. Success in several mass markets, coupled with the increase in the number of technology providers, is also making this technology more accessible and affordable.

WiMAX focuses on bringing about interoperability in broadband wireless access (BWA) systems. This is achieved through a unique subset of baseline features known as system profiles that enables equipment from multiple vendors to interoperate.

However, WiMAX still needs to prove its capabilities in terms of quality of service (QoS). Interference within the same frequency in particular needs immediate attention.

“This is likely to prove challenging since the 802.16 standard operates in unlicensed spectrums,” explains Chokkappan. “With the number of service providers on the rise, there are greater chances of interference.”

Another challenge is competition from existing technologies such as Wireless Fidelity (Wi-Fi), cable, and DSL in which customers have invested heavily.

WiMAX is looking to meet the latest demands in the wireless communications market for efficient voice over Internet protocol (VoIP), superior performance, and higher reliability in the wireless industry that is currently unmet by the existing technologies.

“Given its non-line of sight, VoIP, and interoperability capabilities, WiMAX holds the potential to coexist with – if not upstage – current technologies,” observes Chokkappan.

For example, a combination of Wi-Fi and WiMAX capabilities for cellular phones, laptops, and personal digital assistants (PDAs) is an emerging trend. The hybrid Wi-Fi and WiMAX provides user access through Wi-Fi and backhaul by means of WiMAX.

WiMAX can also look toward upstaging DSL – particularly in the rural areas of Asia and eastern Europe where it is extremely expensive to deploy cable or DSL.

“For WiMAX, standards and low costs are expected to be crucial differentiating factors that will enable the technology to remain competitive in the mainstream commercial market,” concludes Chokkappan.

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