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WiMax - a critical view of the technology and its economics

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2015

http://hdl.handle.net/10539/22606

Rapetswa, Kagiso (2015) WiMax - a critical view of the technology and its economics, University of the Witwatersrand, Johannesburg, <http://hdl.handle.net/10539/22606>

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Abstract

Mobile Broadband is now more of a necessity than a luxury, especially amongst the younger generation, irrespective of where they live. Mobile WiMax and LTE, the latest and fastest Mobile Broadband technologies, mark significant improvements over 3G networks because they use IP (Internet Protocol) end-to-end. To end-users, this means faster network speeds, better quality services, and increased coverage area. To the Network Operators, this means simplified network architectures, efficient use of resources, and improved security. In this report, the different issues and challenges related to deploying Mobile WiMax (802.16e or 802.16m) in rural South Africa, were identifed and explored. In this project, Atoll, SONAR, and Touch Point analysis tools were used to determine which Mobile Broadband technology is economically and technically suited for rural South Africa. It was found that LTE yields superior performance results than WiMax, which in turn yields superior performance results to all other existing 3G technologies. However it will take time for LTE to reach rural areas therefore WiMax can be considered as a solution to extend Broadband services to rural South Africa and thus assist in bridging the digital divide. Recommendations on how best to deploy Mobile WiMax are made based on observations made from the experimental work.

Key words: Mobile Broadband, WiMax, LTE