

ABSTRACT

In technological area of Broadband Wireless Access (BWA) recently expand of Wimax (Worldwide Interoperability for Microwave Access) technology. Wimax have some excellence compared to previous technology in the case of speed data transfer, cell radius, and adaptive modulation and also support LOS and NonLOS.

At this time, Wimax standar divided into two category that is IEEE.802.16d (often referred as 802.16-2004) and IEEE 802.16e (often referred as 802.16-2005). Both of them very differ, where 802.16d are destined for fixed and nomadic segment, while 802.16e for portable and mobile segment

In this final project studied about mobile wimax technology (802.16e) to deploy wireless MAN with fixed wimax (802.16-2004) as backhaul. The major problems to planning MAN (Metropolitan Area Network Planning) are bandwidth estimation, bandwidth availability for every sector, cell radius, reuses frequency, total cell.

As a sample project, Bandung city will be selected as network planning for wireless MAN. The planning done using bit rate requirement and area coverage approach.

The result is cell model, consisted of bit rate amount in one cell, radius cell, wide cell and total cell. To cover all of Bandung city required 46 cells; 35 cells in urban area and 11 cells in suburban area and one wimax backhaul. Beside that, to make easier calculation, there is software planning which can be changed according to provided parameter.