

ABSTRACT

Worldwide Interoperability for Microwave Access (WiMAX) technology is a Broadband Wireless Access (BWA) technology which is anticipated to be implemented in Indonesia. These technologies can provide broadband internet connection with wireless media that is more flexible, easier to implement, and less expensive than wired media and Digital Subscriber Line (DSL). WIMAX implementation plan will be easily done on media capable of displaying and analyzing planning data based on geographical location information of planning, one on the medium is a Geographic Information System (GIS).

In this thesis will be carried out a study on the placement of Base Tranciever Station (BTS) using WIMAX in the GIS software Mapinfo 10.5 to determine the scenario that gives the numbers of base stations and cells optimally in Bandung. The calculation will be done based on research that has been done before whose using coverage and capacity approach. But, it is different with more improvements, more renewing the data, and also more optimal in the GIS for the analysis.

Data of planning is stored and processed in the GIS for display and analysis so it produce a map with distribution of customers, graphs of customer traffic, and location of 53 base stations in urban areas and 14 base stations in suburban areas.

Keywords : **WiMAX, GIS, MapInfo 10.5, coverage, capacity, base stations.**