

Abstract

PLANNING AND IMPLEMENTATION OF NETWORK-BASED ANALYSIS OF WIMAX IN EAST TIMOR Telecommunications developments currently rising rapidly. Not only developments in the technology, but also the development of telecommunication services needs of the community. One is the development of WiMAX technology as an access technology of Wireless Broadband Access (WBA). This development would be accompanied by the readiness of implementation in the field. As one effort to prepare the implementation of these, in this thesis discusses the WiMAX network planning in East Timor. WiMAX technology is implemented in this thesis uses 3.5 GHz frequency and 3.5 MHz wide channel for fixed access services. Planning begins with identifying regional services, both from the region and the number of subscribers as the basis to perform network dimensioning. The number of potential customers approached by several approaches, per capita income and age, as well as existing customers. With the estimated number of subscribers, will be known to traffic needs to be served. While dimensioning Methodological approaches traik capacity and coverage. From the calculations obtained by the approach channel in the first year requirement is 50 channel development for urban and 10 channels for the suburbs. And predicted its development by a factor of development remained until the 5th year. Having determined the needs of these channels, then performed

visualization of dimensioning in the area of planning to find some alternatives that provide the number of cell development in the region optimally. Then determined the location of the coordinate development of base station (BS). From the visualization results were obtained three alternative implementations.

Keywords: WiMAX, Adaptive modulation, SNR, Dimensioning.