

ABSTRACT

In this final project, the Author tries to research the implementation strategy of 4G/LTE technology of case study in Makassar City based on existing site by using several approach methods i.e. the Full Blown Coverage, Capacity, Capacity - Coverage, and Potential Sites Method. The methods used for the implementation planning of 4G/LTE technology is based on the parameters used in existing 3G sites in the Makassar city cluster area considering the Traffic, Throughput, User and Revenue data. These parameters are grouped into High - Medium - Low and combined with the respective approach methods. The parameters measurements were taken for a full month period of time.

4G/LTE implementation planning in accordance with the above methods resulted in a different number of 4G/LTE sites. The Number 4G/LTE sites of which must be implemented in Makassar City is closely related to the policies and strategies of each telecommunication operator in planning their needs on 4G/LTE network, in example, how much development budget is available, how much coverage will be needed, how is the quality of service that will be presented, and others.

In order to assist the mapping of existing sites in Makassar city cluster and to determine the 4G/LTE coverage plot as per the implementation of 4G/LTE planning result, operators are using the simulations results from several planning tools such as Atoll RF Planning, GIS and Mapinfo.

Keywords: *Traffic, Throughput, User, Revenue, coverage, capacity, quality, simulation, Planning Tool.*

ABSTRAK

Pada Tugas Akhir ini, penulis mencoba untuk membahas mengenai strategi perencanaan implementasi teknologi 4G/LTE studi kasus di Kota Makassar berdasarkan site eksisting yang sudah ada dengan menggunakan beberapa metode pendekatan yaitu Metode Full Blown Coverage, Capacity, Capacity – Coverage, dan Potential Sites. Metode yang digunakan untuk Perencanaan implementasi teknologi 4G/LTE ini berdasarkan parameter-parameter yang digunakan dari site site 3G eksisting di cluster area Makassar meliputi data Traffic, Throughput, User dan Revenue. Parameter-parameter tersebut dikelompokkan menjadi High – Medium – Low dan dikombinasikan sesuai dengan metode pendekatan masing-masing. Pengukuran parameter tersebut diambil selama satu bulan penuh.

Perencanaan implementasi 4G/LTE sesuai metode-metode di atas menghasilkan jumlah site 4G/LTE yang berbeda-beda. Berapa jumlah site 4G/LTE yang harus diimplementasikan di Kota Makassar terkait erat dengan kebijakan dan strategi masing-masing operator telekomunikasi dalam merencanakan kebutuhan jaringan 4G/LTE, misalnya berapa budget pembangunan yang tersedia, berapa luas coverage yang akan ter-cover, bagaimana kualitas layanan yang akan dihadirkan, dan lain lain.

Untuk membantu pemetaan site-site yang ada di cluster Makassar dan untuk mengetahui coverage plot 4G/LTE yang dihasilkan dari hasil implementasi perencanaan 4G/LTE, digunakan simulasi dari beberapa planning tool seperti Atoll RF Planning, GIS dan Mapinfo.

Kata kunci : Traffic, Throughput, User, Revenue, coverage, kapasitas, kualitas, simulasi, Planning Tool.