Model strategi implementasi LTE di pita 1800 mhz berdasar demografi area = LTE implementation strategy model in the 1800 mhz based on demographic of area

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Abstrak

[ABSTRAK
Kebutuhan akan layanan data pada jaringan telekomunikasi terus meningkat, jumlah trafik data setiap tahun selalu bertambah sedangkan trafik voice cenderung sudah jenuh. Teknologi 4G LTE (Generasi ke-empat Long Term Evolution) sebagai teknologi jaringan telekomunikasi terbaru dari 3GPP (Thrid Generation Pathnership Project) mampu memberikan kecepatan dan kapasitas lebih baik dari teknologi sebelumnya. Implementasi 4G LTE ini menjawab tantangan trend kebutuhan akan layanan data yang terus meningkat. Dalam proses implementasinya terdapat 2 tantangan besar yaitu terbatasnya lebar pita frekuensi di 1800 Mhz dikarenakan harus berbagi dengan sistem eksisting 2G DCS 1800 Mhz, dan kondisi demografi Indonesia yang bervariasi. Model dibangun dengan mengkombinasikan tipe area dengan lebar pita yang digunakan mulai dari 3 Mhz, 5 Mhz, 10 Mhz, 15 Mhz dan 20 Mhz. Dengan melakukan simulasi pada berbagai tipe area di Jabodetabek dan berbagai lebar pita frekuensi dihasilkan lebar pita yang berbeda pada masing-masing area berdasarkan aspek teknis (coverage dan kapasitas) dan kelayakan ekonomi yang diharapkan.
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ABSTRACT
The need for data services in telecommunication network continues to increase, payload of data traffic every year is always increasing while the voice traffic is saturated. 4G LTE (fourth-generation Long Term Evolution) as the latest technology telecommunication networks of the 3GPP (Third Partnership Generation Project) is able to provide the speed and capacity better than previous technologies. 4G LTE implementation answering the challenge of increment data needed. In the process of implementation, there are two major challenges, the limited bandwidth at 1800 MHz due to be shared with existing 2G systems DCS 1800 MHz, and demographic conditions of Indonesia that different from one area to another area. The model is built by combining the type of area with the bandwidth used ranging from 3 MHz, 5 MHz, 10 MHz, 15 MHz and 20 MHz. The model is built by combining the type of area with the bandwidth used ranging from 3 MHz, 5 MHz, 10 MHz, 15 MHz and 20 MHz. By simulating the various types of areas in Greater Jakarta and various bandwidth generated different bandwidths in each area based on the technical aspects (coverage and capacity) and the expected economic feasibility., The need for data services in telecommunication network continues to increase, payload of data traffic every year is always increasing while the voice traffic is saturated. 4G LTE (fourth-generation Long Term Evolution) as the latest technology telecommunication networks of the 3GPP (Third Partnership Generation Project) is able to provide the speed and capacity better than previous technologies. 4G LTE implementation answering the challenge of increment data needed. In the process of implementation, there are two major challenges, the limited bandwidth at 1800 MHz due to be shared with existing 2G systems DCS 1800 MHz, and demographic conditions of Indonesia that different from one area to another area. The model is built by combining the type of area with the bandwidth used

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