ABSTRACT

Digital Trunked Radio is a digital wireless technology standardized by the European standardization bodies, namely the European Telecommunication Standard Institute (ETSI). Digital trunking radio was created to meet the special needs of wireless telecommunications networks. In European countries, this technology is intended for military, police, airports, mining and transport companies. Tetra can serve voice and data services.

One of the results of this final project is the number of base stations required to cover and accommodate traffic demand dibuthkan by the Technical Implementation Unit (UPTD) Fire in Jakarta area. To get the most optimum number of cells, used two methods: Planning Base on Capacity and Coverage on Base Planning methods. Base on capacity planning method is a method of planning that focuses on the ability of a site to serve the use of traffic channel. While planning base on coverage is a method of planning that focuses kemampuaan site to cover a location based on the parameters measured radio. Once the planning is done by the two methods are then compared and the results are then determined how many of the most optimum site to cover and accommodate the use of the channel in the area. To complete per-masalahan above, the parameters that must be considered is, the sensitivity of the receiver, Free Space Loss, MAPL, traffic per customer, customer number, area and EIRP.

The results of this final project is the number of base stations needed to cover the area of the Jakarta area and can accommodate traffic demand of the user. In SKE-nario 1, it takes 6 site with plotting locations on the sub and postal department to facilitate monitoring and Controlling. In this scenario the lowest received signal generated by -95 dBm, number of servers in the overlapping zone of 4 server and Bit Error Rate of 0 <= BER <0.09. On the backhaul side, from a planned 6 links are one link that had received a signal attenuation of 0.4. In scenario 2, it takes 5 sites by plotting the location of the sub, the postal department as well as other locations that strategis.Skenario produce a signal received at -95 dBm lowest, number of servers on ov erlaping zone by 4 server and Bit Error Rate of 0 < = BER <0.09. On the backhaul side, all links are planned to meet the clearance limit and not having received the signal attenuation.

Key Word : Radio Trunking Digital, *planning based on coverage, planning based on capacity* Atoll