ABSTRACT

Traffic simply defined as all information that moving from transceiver to receiver. The behaviour of traffic are unpredictable and cannot be known accuratelly and precission. But, the traffic behaviour has a trend pattern that could be projected and forecasted. The projection of pattern is useful by operators of telecommunication company for preparing devices, human recources, etc in next period.

Genetic Algorithm are adopted from biological sciences. This algorithm apply natural selection in evolution theory. Optimation problem, automatic programming, learning machine, economic model, time series forecasting, etc could be applicated by this algorithm.

This final project was created an application that forecast in time series axis. It learn the historical traffic growth and generating forecast value in Visual basic 6.0 language. Case of study in this final project are NGN traffic of PT.TELKOM Bandung. The approach of minimum error fitting are used by genetic algorithm to forecast data traffic that smoothed by *linier trend fitting* and *curve fitting* with *LOWESS* algorithm and then compare it with *single moving average* (SMA).

The final project has shown that genetic algoritm could be implemented to forecast the trafics. It has average MAPE in the amount of 25.56% for linier trend fitting approach and 13.85% for curve fitting approach. While moving average method has average MAPE 39.06%.

Keywords:*"Traffic forecasting, Genetic Algorithm, linier trend fitting*, and *curve fitting"*