

ABSTRACT

The rising of telecommunication demand have resulted on the rising of traffic burden of the network. For the sake of handling that problem, get more efficient telecommunication service and making effective cost on the good performance, the network optimize have to be done so that the telecommunication service that got follow the traffic growth.

The using of design method with genetic algorithm hopes can overcome the obstacle and constraints that existed. This method is the best alternative 'cause the capability and ability of genetic algorithm in handling the problem of seeking the solution in the multi-objective function.

In this research will discuss about simulation of a topology of IP backbone network with the study of PT Telkom Indonesia using genetic algorithm. The specific problem that will be solved is optimizing the form of IP backbone topology of PT Telkom in parameter of cost and delay using genetic algorithm. The simulation is made with MatLab 7.01 for the computation and Visual basic for visualizing the network topology.

The output of this research is the form of IP network topology that is the most optimum. In the other hand, in this research, also do the estimation of network topology for few years to go with the input of traffic node with the assumption rate traffic.

Key words : Genetic Algorithm , IP.Backbone

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