Abstract

Capacitated Location Routing Problem (CLRP) is part of i *Location Routing Problem* (LRP). LRP is a logistic problem to choose the location of depot and route of depot. *Capacitated Location Routing Problem* (CLRP) is one of *NP-Hard*Problem. LRP choose location-allocation then route the vehicle (Garey and Johnson, 1979). At CLRP, the decision of location- allocation is damage the minimum cost. So that, it will also affect the depot and the location-allocation of consumer. CLRP is a part of *Supply Chain Management*, for example to distribution chemical, softdrink, food, gasoline, machine, and other. CLRP is a combinatorial problem that hard to solve and need a complex computation. CLRP can be solve with route first based on the minimum distance of customer with *Self-Organizing Feature Map* (SOFM) and then *location-allocation* based on the constraint

In this experiment is trying to produce a gap which is near with the best solution known of Prins dataset and use *Self-Organizing Feature Map* (SOFM) to solve it. In the result of testing test to find a optimal solution, the gap is 20-40 is the best. The dataset is having a characteristic capacitaed on depot and capacitated on vehicle and taken from http://prodhonc.free.fr/Instances/instances_us.htm that

Kata Kunci: *Self-Organizing Feature Map* (SOM), *Capacitated Location Routing Proble*m (CLRP), *distribution, location routing problem, supply chain management*