

A Comparison of Simulated Annealing Cooling Strategies for Redesigning a Warehouse Network Problem

Rozieana Khairuddin^{1b} and Zaitul Marlizawati Zainuddin^{2a, 3}

¹ Faculty of Industrial Sciences & Technology, Universiti Malaysia Pahang,
26300 Gambang Pahang, Malaysia.

² Department of Mathematical Sciences, Faculty of Sciences, Universiti Teknologi Malaysia,
81310 Johor, Malaysia UTM Centre for Industrial and Applied Mathematics & Department of Mathematical
Sciences, Faculty of Sciences, Universiti Teknologi Malaysia, 81310 Johor, Malaysia.

^a, [Corresponding author: zmarlizawati@utm.my](mailto:zmarlizawati@utm.my)
^b rozieana@ump.edu.my

ABSTRACT:

Simulated annealing (SA) has been a very useful stochastic method for solving problems of multidimensional global optimization that ensures convergence to a global optimum. This paper describes the use of SA for solving the warehouse redesigning network problem and compares the performance of three different SA cooling schedules: the basic geometric cooling schedule, logarithmic and linear. Extensive computational results, which are performed and described, show that the geometric cooling schedule produces consistently better quality solutions in less time than the solutions produced by the other schemes..

Keywords: *simulated annealing; redesigning network problem; cooling schedules*

