Two-Sided Single-Detour Untangling for Bus Routing

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Abstract

In this paper, a two-sided single-detour untangling problem with capacity constraints can be firstly formulated. Furthermore, based on the optimality of hierarchical bubble sorting, an $O(n2)$ algorithm is proposed to solve the two-sided untangling problem for bus routing. Compared with the $O(n3)$ algorithm[4], the experimental results show that our proposed algorithm can successfully untangle all the twisted nets for the tested examples in less CPU time.

Keyword：PCB Design, Bus Routing, Single-Detour Untangling