Routability-Driven RDL Routing with Pin Reassignment

顏金泰, 陳科銓, 陳志瑋
Computer Science & Information Engineering
Computer Science and Informatics
yan@chu.edu.tw

Abstract

Due to the infeasible pre-assignment of IO connections in a flip-chip design, all the published RDL routers cannot guarantee 100% routability for the pre-assigned IO connections. In this paper, based on two swapping processes for pin reassignment, the unroutable conditions in a flip-chip design can be eliminated. Furthermore, by using the assignment of routability-driven transfer and boundary pins, a given set of pre-assigned IO connections between the wire-bonding pads and the bump balls can be completely routed to minimize the total wirelength with 100% routability in a flip-chip design.

Keyword：Flip-chip design, Routability