Disjoint Paths and Routing: Results and Problems

Alan P. Sprague
UAB

The problem of finding edge disjoint paths on a grid is known in the chip design community as the knockknee routing problem. There the problem is generalized to the problem of finding edge disjoint trees: each tree joins specified vertices on the periphery of the gird. The theory of knockknee routing is relatively well established.

A newer routing regimen is called the Times Square Model. It replaces the grid by a triangular grid. We will discuss routing in the TSM, and its relationship to knockknee routing. An additional worrisome aspect of the TSM is the "layering problem".

We will also discuss edge disjoint paths in the hypercurbe: is the directed hypercube rearrangeable?