

CONNECTION PATH SELECTION METHOD FOR
CROSS-CONNECT COMMUNICATIONS NETWORKS

ABSTRACT OF THE DISCLOSURE

A method and system for finding a path through a communications matrix represents the assignment of a center stage switch through an input switch to input gates by an input stage array, center stage switch connections between an input stage switch and an output stage switch by a center stage array, and output stage switch connections to output gates by an output stage array, as well as representing idle input switch links to the center stage switches by an idle input array and idle output switch links from the center stage switches by an idle output array. The method and system perform a process of pumping the input stage array, output stage array and center stage array using information in the idle input link array and the idle output link array to determine an optimal center stage switch having both an idle input link between a predetermined input gate and the optimal center stage and an idle output link from the optimal center stage to a predetermined output gate as identified by the idle input link and idle output link arrays. The pumping process relies on the idle input array and idle output array for connection status data. The method and system may be used advantageously with a rearrangeable communications matrix to establish optimal connection configurations during both normal and rearrangement operations.

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