APPARATUS AND METHOD FOR PARTITIONING RESOURCES FOR INTERCONNECTIONS

ABSTRACT

An apparatus and method for determining how to interconnect a plurality of components of a system, given a limited number of interconnect resources available to a device. First, it is determined whether the system meets the capacity constraints of the device. If the requirements exceed the capacity, a larger device is necessary. Otherwise, a topmost interconnection level is established. This topmost level is partitioned into four different partitions. The components are assigned and optimized to these four partitions. Next, a lower level of interconnection is established for one or more of these four partitions. Each of these lower levels are, in turn, partitioned into four different partitions. Components are then assigned and optimized to these partitions. This process is repeated for even lower levels until routing of the interconnections for the system is achieved. Thereupon, the components are physically interconnected from the lower levels to the topmost level according to the routing pattern that was determined in the establishing, partitioning, and said optimizing steps.

(No figure can appropriately accompany the abstract)