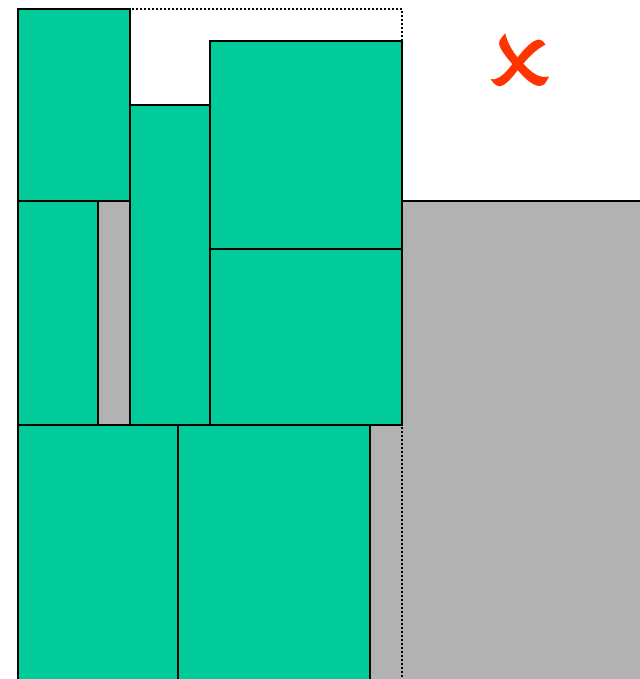
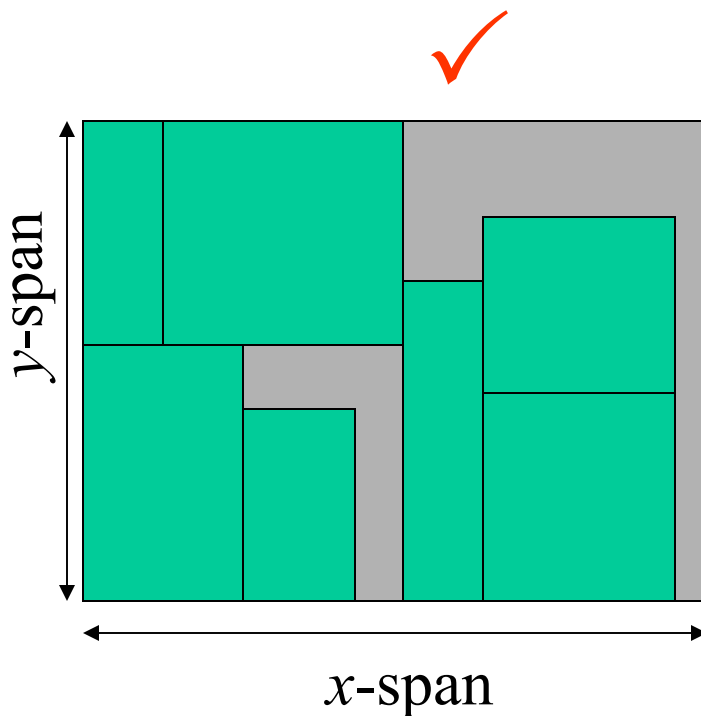


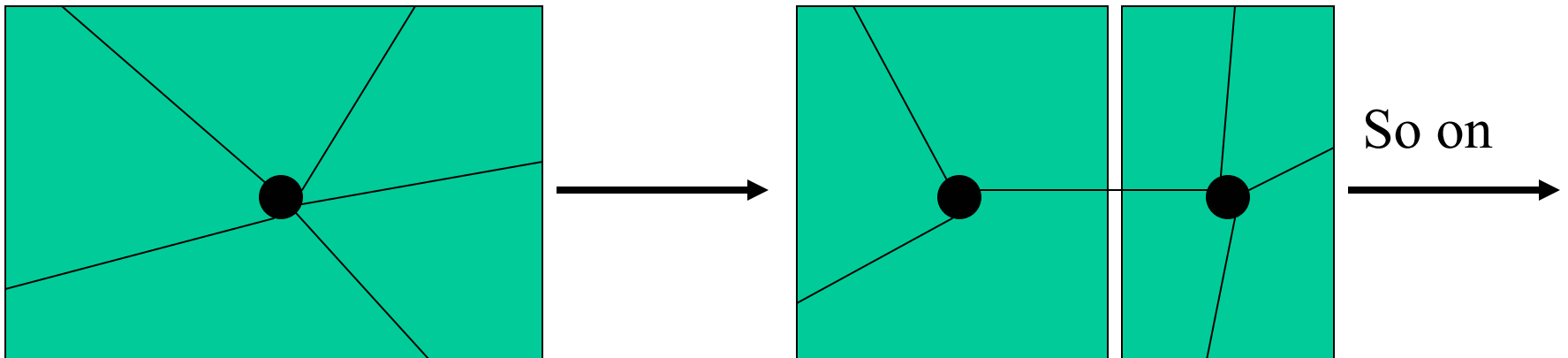
# Fixed-outline Floorplanner (Parquet)

- A constraint satisfaction problem
- “Parquet” based on “floorplan *slack*”
- Use better local search to satisfy constraints while minimizing wirelength



# Min-cut Bisection Based Placer (Capo)

- Cutting edge standard-cell placer
- Uses top-down, multi-level min-cut partitioning framework
- Cannot handle macros

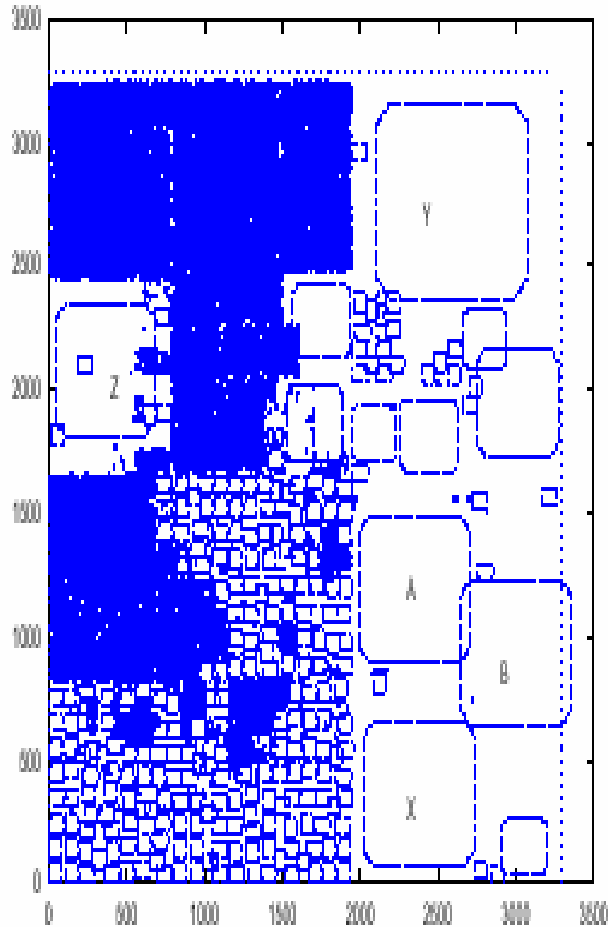


# Mixed-Mode Placement using Capo+Parquet

- Flow
  - Shred macros into fake standard-cells. Place shredded design using Capo. Get macro placements using average of sub-cell locations
  - Use physical clustering to generate a floorplanning instance with soft and hard blocks
  - Floorplan design using Parquet to fit in layout region
  - Fix macro locations
  - With macros fixed, replace the standard cells using Capo

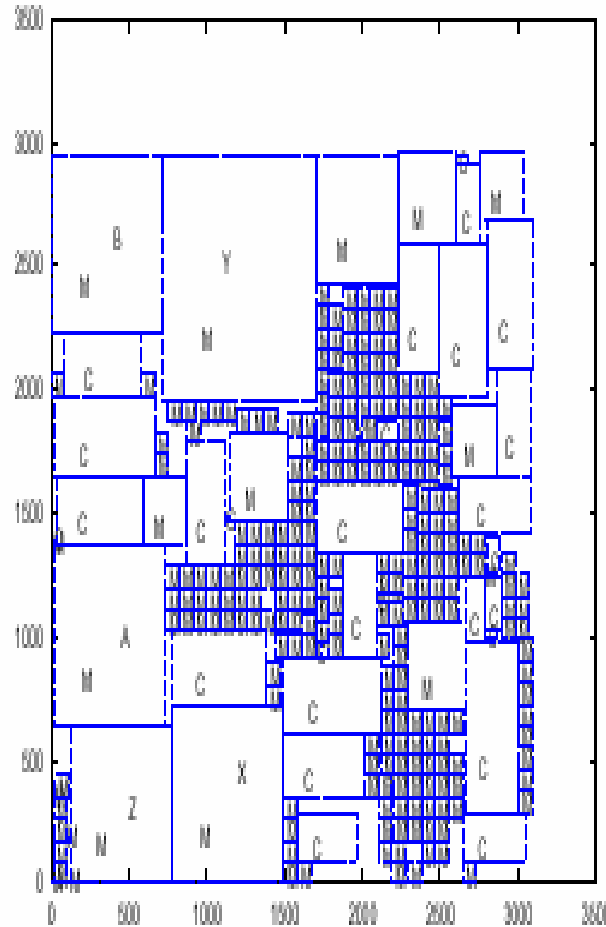
# Flow

ibm02: HPWL= 5.44e+06



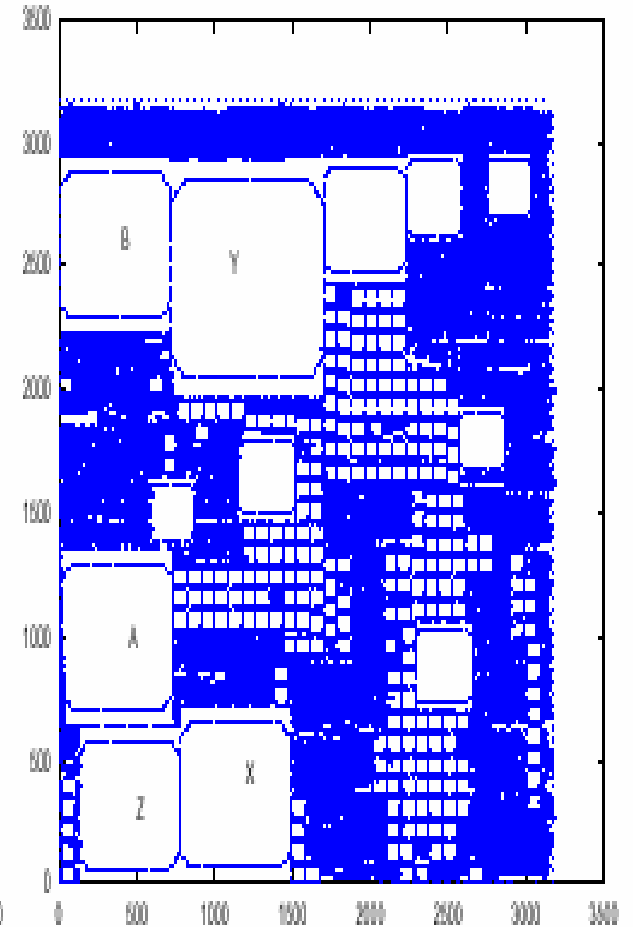
(a)

ibm02: area= 9.1e+6 WS= 8.6% AR= 1.04



(b)

ibm02: HPWL= 8.876e+6



(c)