

EDA Challenges at Advanced Technology Nodes

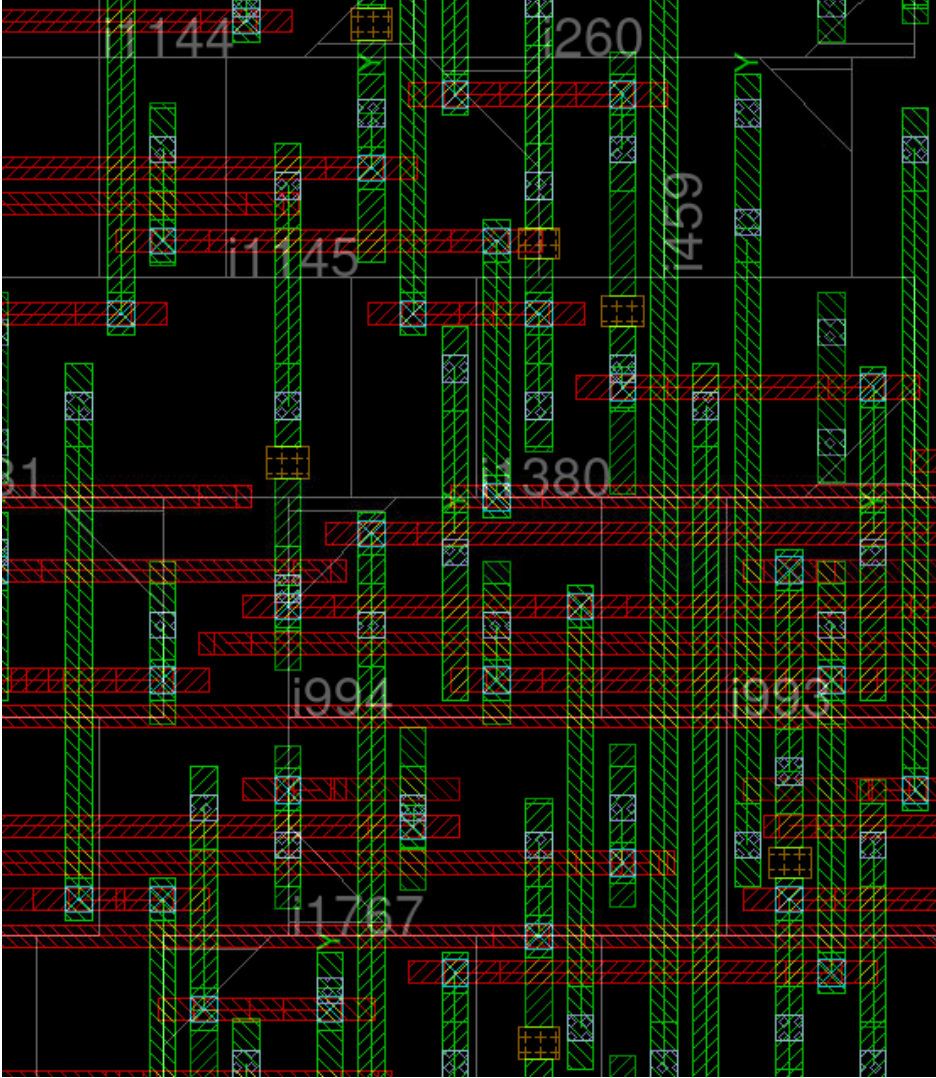
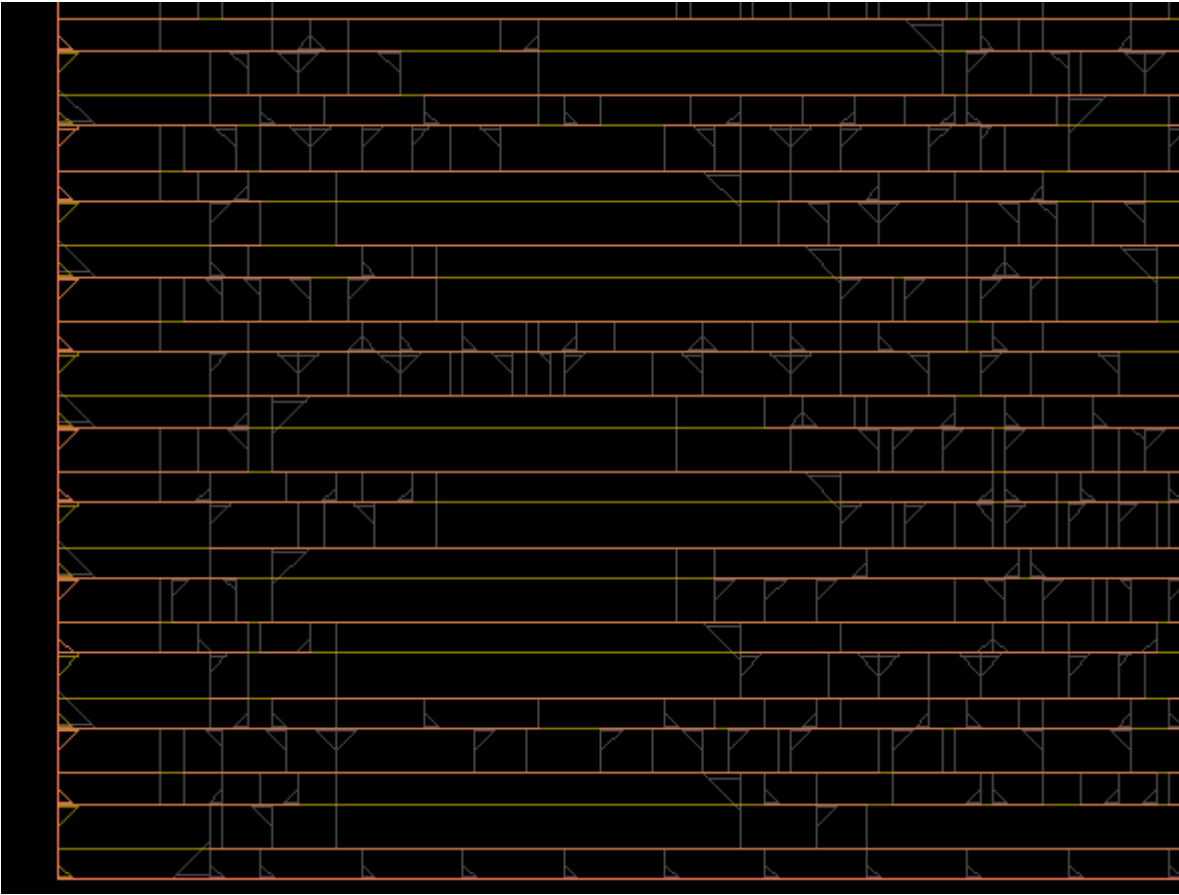
Eugene Liu

Sr. Director, Software Engineering, Siemens EDA

March 11, 2024

Break Tool Fundamental Assumptions

- Unprecedented placement/routing methodologies



Logic Results Decide the Quality of Physical Results

- Physical result dominates timing/power.
- Physical indices, such as wire length, via count, etc, may not correlate well with timing/power/routability.
- New perspective needed on heuristics-based optimization.

Radical Changes from One Process Node to the Next Process Node

- New distinctive requirements for each node.
- Shrinking does not only rely on process advancement, but also std-cell layout strategy.
- More work shifts to the physical design tool.