Université Libre de Bruxelles

Automated System Partitioning for Efficient 3D Circuit Integration

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Work presentation

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Contents

Context

- Partition integrated circuits and stack the partitions in 3D
- Find clever ways to set the weights of the equivalent graph

Work done so far

- Using metis and hmetis to partition architectures (MPSoC, OpenMSP, RTX, SPC)
- Considerations: Area, power, wire length, number of connections, etc.
- Attempts at asymmetrical partitioning

Focus

- Maxcut algorithms (linear programming, semidefinite programming, heuristics)
- Graph partitioning methods (single and multiweighted)
- Explore existing implementations of the above (Metis, Party, Scotch, etc.)