

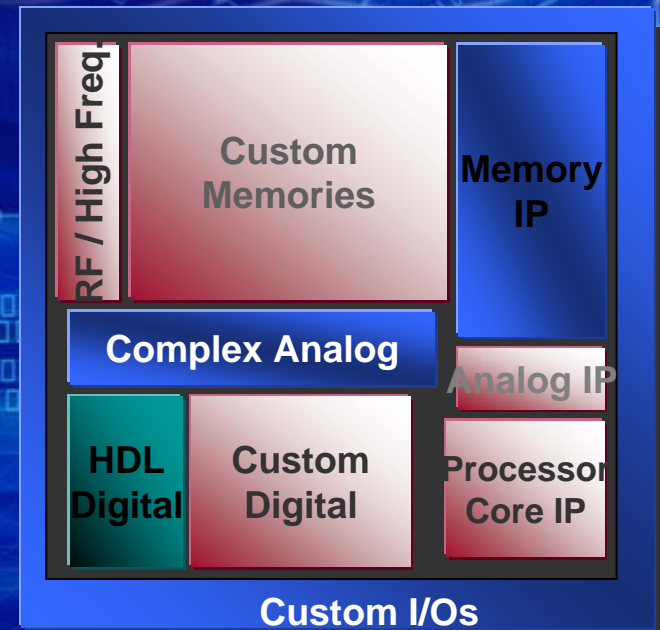
BMAS 2004

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Top Down Design Method

NOKIA

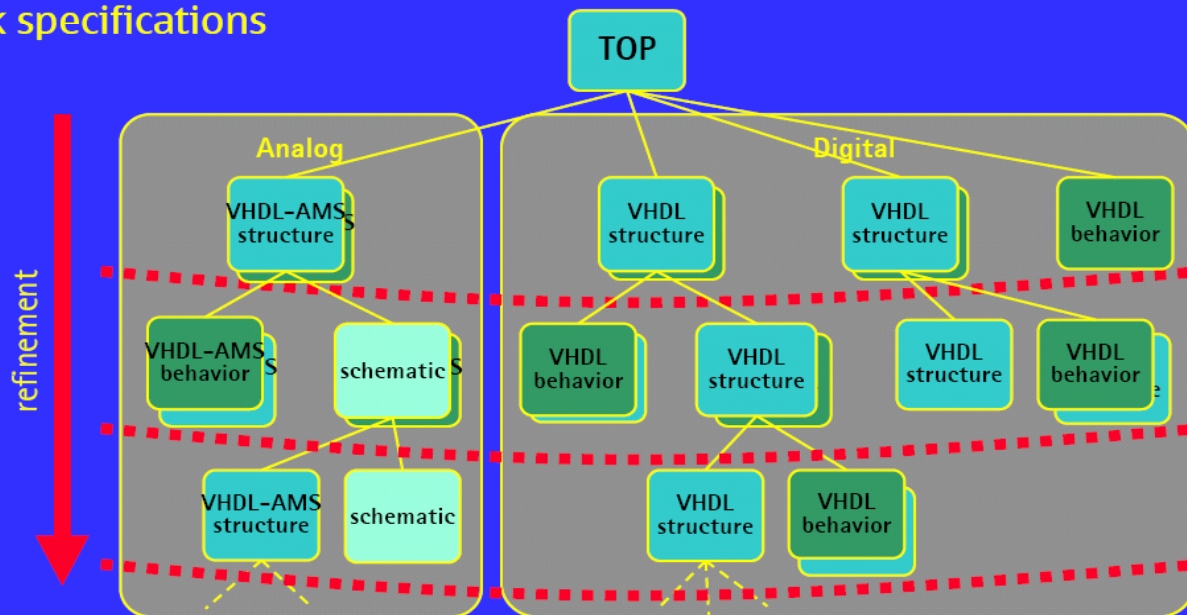
Systematic top-down design method is needed to manage the complexity

Advantages

- enables management and design of large high performance ana-digi systems
 - large system can be build up incrementally using mixed descriptions
- design options easier and faster to test at higher abstraction level
- high level decisions have higher impact on the design
 - GLOBAL optimum easier to find
- much of design work can be done in higher abstraction levels -> technology independence
- helps to find the REAL block specifications

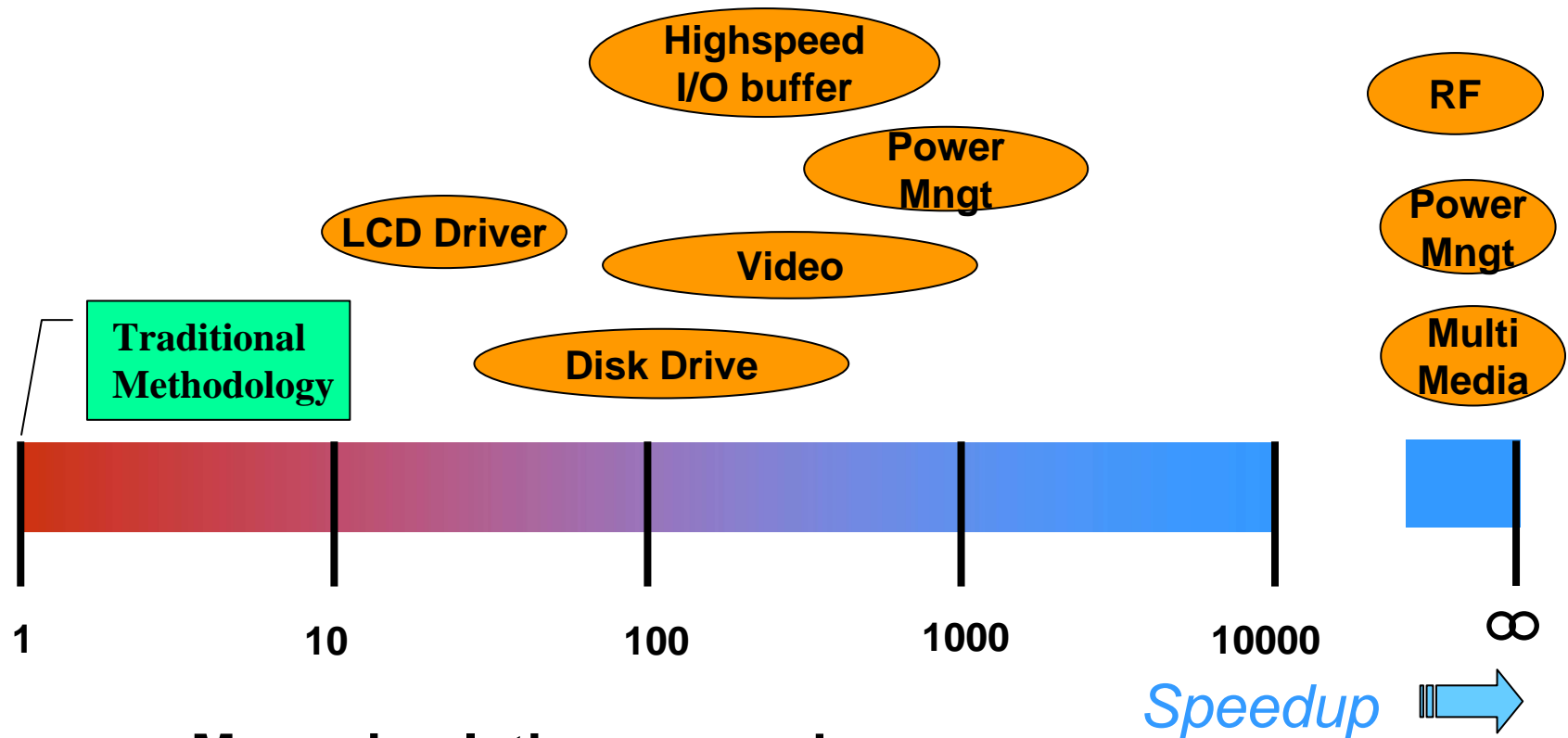
Hierarchical, stepwise refinement (Divide and Conquer)

- multilevel, mixed signal parameterized description
- parallel models



- "Top Down Design Methodology of RF/Mixed-Signal SoCs", Nokia, DATE'04

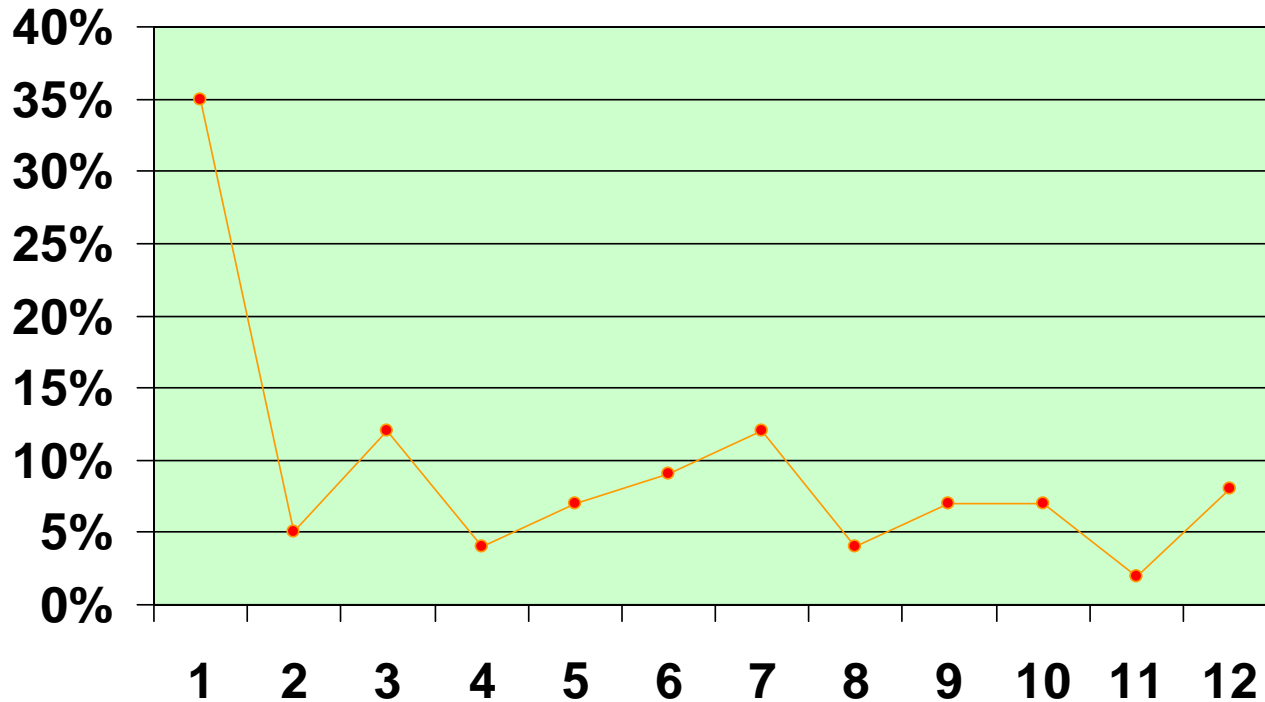
Experience from using AMS Languages



- More simulations were done
- More corners were checked
- More defects were fixed before tapeout

Typical cost of AMS BHV modeling

Ratio of BHV Modeling over Front-End Design



- Average additional resource for F. E. design : 7%
- Current additional resource for F. E. design : 5%

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