



Major upcoming verification challenges

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Main challenges for next years

■ **Scalability**

- How long will exhaustive RTL simulation remain affordable?
- Incredible amount of data generated by simulation runs

■ **Systems Complexity**

- Nobody can have full understanding of full system
- Systems tests too complex to be hand written
- Heterogeneous multi-core systems introducing new level of complexity

■ **Productivity**

- Human efforts and IT resources (CPU, licenses, disk) cannot grow linearly
- Expense driven context : we must do more with same budget
- Enable fast verification of derivative projects

Some ideas of solutions

- **Ease the abstraction mix**
 - Mixing RTL of some components with faster models
- **Verification Intelligence**
 - Rely on Business Intelligence techniques to optimize regressions and enable multi-team collaboration
- **Scenario Model Based Verification**
 - Generate complex use cases for HW/SW systems
 - Knowledge sharing and reuse
- **Debug automation**
 - Providing tools to get automatic hints on bug locations