Simulation Technology

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Today

- Simulator is a tool to get a job done, we use the tool that makes the most sense

- Currently our needs are limited by the tools we have

- We are using mini-apps, skeleton apps

- We are comfortable with what we've got for conceptual and functional simulation

What is missing

- Verified and validated models for performance or power are lacking

- Want bigger scale. Current tools too slow for very large scaling

- We have different levels of granularity already and good frameworks...

     ...Plugging the components together is the greater challenge.

- Modeling IO is a real problem.

- Understanding new programming models behavior.

Next Step

- Opportunity for integrated, interoperable component

- Need modeling across all targets. Hoping that Chisel can help?
  - Design; conceptual, functionality, cycle accurate
  - CPU, memory, network, storage, IO
  - Power, resilience, performance

- Chisel is an open-source hardware construction language that supports advanced hardware design