AHA! Agile Hardware Center

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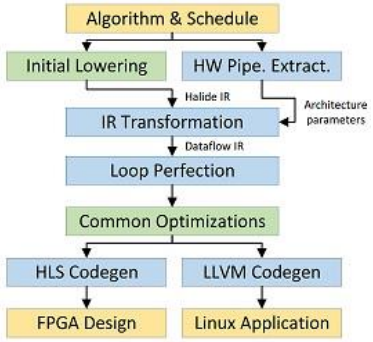
Hardware/software systems must become easier and more fun to develop.

A more *agile* hardware development flow can quickly and easily modify an existing design. This lets us play with the resulting system.

Tool Chain

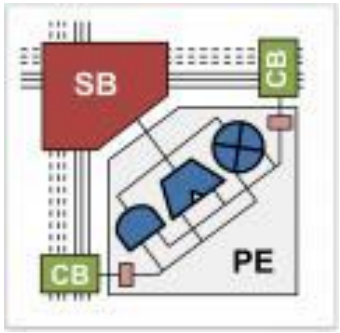


To support agile practices, we will create a new tool chain for design and testing of unified HW/SW systems optimized for rapid design iteration.

Open Source Pledge

Agile Hardware Center researchers pledge that all hardware and software will be released under an open source model.

Coarse Grain Reconfigurable System on Chip

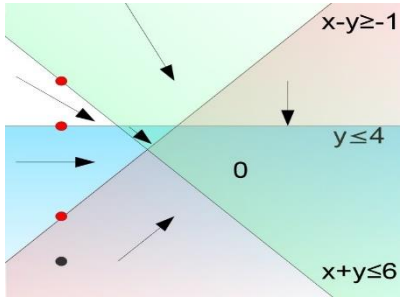


To simplify HW design, we will create an SoC combining open source Linux with RISC-V cores and a CGRA optimized for image processing.

Our tool chain will let designers move seamlessly from writing application code to running the application on the SoC.

https://aha.stanford.edu/

Satisfiability Modulo Theory Solvers



Agility requires replacing manual efforts with efficient automated tools wherever possible.

Design automation tools currently use SMT for a wide range of tasks, but their relatively slow performance often constitutes a bottleneck.

We aim to dramatically improve SMT performance for HW analysis and add capabilities for optimization.