

Title: SimXMD: Simulation-based HW/SW Co-Debugging for FPGA Embedded Systems

Abstract:

We are presenting SimXMD, a tool that allows developers to debug microprocessor code and custom hardware simultaneously. SimXMD connects a GNU debugger instance to a full-system simulation of a MicroBlaze embedded system. This enables free-roaming investigation of hardware-software interactions inside the system, including reverting back to an earlier point in simulation time with accurate memory state.

SimXMD is open-source, and its modular architecture facilitates extension to other processors, simulators and debuggers.

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