Apr 25, 2022 | 📅 RISC-V Perf Analysis SIG Meeting

Attendees:
- See introductions below

Agenda
- Introductions (20 min)
- Discuss regular meeting time and cadence (10 min)
- Review charter (20 min)

Notes
- Slides and video posted **[here](#)**
- Watched RISC-V disclosures video
- Introductions
  - Interim Chair - Beeman Strong - see slides
  - Interim Vice Chair - Liu Zhiwei - see slides
  - Atish - working at Rivos, Linux kernel and QEMU, worked on perf core, SBI PMU extension
  - Bruce - SiFive for two years, architecture group, debug, trace, performance analysis. Previously at MIPS, Intel, Tek, startups.
  - Christoph - Vrull, chair of toolchain SIG, compilers, assemblers. Interested in what tools can do to achieve SIG goals.
  - David - T-HEAD, VC of SW HC. Building RV ecosystem in T-HEAD.
  - Jessica - RA at Cambridge, CHERI proj. Compiler and OS work. Int in improving RV ISA for performance analysis.
  - Jim - GNU toolchain developer, primarily gcc but everything. "Retired".
  - Mark - RV CTO, pixie for MIPS, cache-reordering in 80s, interested in valgrind
  - Michael - no audio
  - Philipp - SW HC chair, Vrull, manage compiler & toolchain team. Lots of work on gcc, mainly around spec. Interested in finding hotspots.
  - Ved - Rivos arch team, work on ISA. Interested in interactions with other technologies, and view perf analysis is a hidden perf feature.
  - Anup - Worked on ARM perf, PMU SBI. Also interested in virtualization of PMU.
- Meeting schedule & cadence
  - 7am PT / 2pm UTC on Mondays avoids more conflicts on other days
  - Beeman suggests every other week cadence while we get started
  - Monday every other week is toolchain, don't want that conflict
  - Mark: definitely have meeting fatigue, try to do lots via email
  - Jessica: psABI group meets every 4 weeks, though close to ratification
    - Mark: could do 6am's sometimes, to avoid those conflicts
  - Propose keeping Mondays 7am PT / 2pm UTC, alternating weeks with toolchains
- Charter review
  - Charter listed in slides, and [here](#)

- ○ Mark: what will be interactions with unpriv ISA?
    - ■ Would like a line that says work closely with other TGs
  - ○ Jessica: call out need for ISA
  - ○ Mark: want to make sure that we are providing input to ISA additions
    - ■ Last line is there to cover that
    - ■ Add ISA committees and TGs to the last line
  - ○ Mark: board asks about perf over time (Jan vs Mar) but also vs other architectures. Would love a drop box for perf results vs a DUT, or vs last time, or vs other architectures. Also want to cover philosophy for covering RV performance.
    - ■ Philipp: think this is the wrong group, let's discuss offline. Time to revisit this idea.
- ● Bruce: When do we make proposals for extensions? Counter enhancements, etc?
  - ○ Mark: all extensions have to go through the ISA committees. Can form TGs but have to be approved by the TSC.
  - ○ Mark: ISA is instructions, state, and behavior.
  - ○ Fast track specs don't require TGs, run from the committees. Do still require 45 day review. Needs to be small, localized, simple.

Action items
- ☐ Beeman Strong - Apr 25, 2022 - send out updated charter for review
- ☐ Beeman Strong - Apr 25, 2022 - add upcoming meetings to Tech calendar