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RISC-V MC

CFP closes on July 15th.
We are excited to propose the next edition of the RISC-V micro conference to be held during the Plumbers Conference in 2024. This event has consistently served as a pivotal gathering for developers, enthusiasts, and stakeholders in the RISC-V ecosystem, especially those focused on its integration and evolution within the Linux environment. Broadly speaking anything related to both Linux and RISC-V is on topic, but discussion tend to involve the following categories:

- How to support new RISC-V ISA features in Linux mainly vendor-specific extensions.
- Discussions related to RISC-V based SOCs, which frequently include interactions with other Linux subsystems as well as core arch/riscv code.
- Coordination with distributions and toolchains on userspace-visible behavior.

Possible Topics

The actual list of topics tends to be hard to pin down this early, but here's a few topics that have been floating around the mailing lists and may be easier to resolve real-time:

- Unified discovery - What to do with this ? RVI spec which has little use in kernel land
- Control-flow integrity on RISC-V kernel.
- Hardware breakpoints / watchpoints
- OPTEE preemption model (interrupt delivery)
- riscv64 text patching w/o stop_machine()
- RISCV kernel control flow integrity
- non-PCI MSI capable devices in ACPI
- Napot
- BULTIN_DTB

Key Stakeholders

Apologies if I've missed anyone, but I've tried to list a handful of the people who frequently show up and help drive discussions at the RISC-V microconferences we've held at past Plumbers:

Regular RISC-V contributors/maintainers (I probably forgot few more)

- Palmer Atish Anup Conor Sunil Bjorn Alex Clement Andrew
- Soc stakeholders (Arnd, Conor, Heiko, Emil: There are many new SOC families showing up with RISC-V ports, and much of the new)
- We usually have attendance from a handful of the arm/arm64/ppc/mips/loongarch contributors/maintainers, as we share a lot of code and thus find many cross-arch issues. There's probably going to be even more now that we've got many shared SOC families.
- Carlos/Nick: Due to the nature of RISC-V we end up with many complicated toolchain interactions, so it's always good to have some time to discuss toolchain topics.

Accomplishments post 2023 Microconference

- All the talks at the 2023 Plumbers microconference have made at least some progress, with many of them resulting in big chunks of merged code. Specifically:
- Futile attempt to deprecate nommu after agreement in RISC-V MC :) [1]
- In fact, More support for nommu landed as a result of that discussion :[2]
- Perf feature improvement patches under discussion in lore [3]
- Good progress on supervisor software events [4] and more use cases (CFI, double trap)
- Kernel mode vector support merged[5]

[1] https://lore.kernel.org/lkml/a49546e8-6749-4458-98da-67fd37b7df18@rivosinc.com/
[2] https://lore.kernel.org/lkml/20240325164021.3229-1-jszhang@kernel.org/
[3] https://lore.kernel.org/lkml/20240217005738.3744121-1-atishp@rivosinc.com/
[4] https://lore.kernel.org/lkml/20240112111720.2975069-1-cleger@rivosinc.com/
[5] https://lore.kernel.org/all/20240115055929.4736-3-andy.chiu@sifive.com/t/#m1d48afa31c6040e4433cbf3bae2de998ae2ca112

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