



Security HC meeting

September 29, 2022

Security HC notes from Sept. 29, 2022 meeting

Only RISC-V Members May Attend

- Non-members are asked to please leave except for Joint Working Groups (JWG).
- Members share IP protection by virtue of their common membership agreement. Non-members being present jeopardizes that protection. [Joint working groups](#) (JWG) agree that any IP discussed or worked on is fully open source and unencumbered as per the policy.
- It is easy to become a member. Check out riscv.org/membership
- If you need work done between non-members or other orgs and RISC-V, please use a joint working group (JWG).
 - used to allow non-members in SIGs but the SIGs purpose has changed.
- Please put your name and company (in parens after your name) as your zoom name. If you are an individual member just use the word "individual" instead of company name.
- Non-member guests may present to the group but should only stay for the presentation. Guests should leave for any follow on discussions.



Antitrust Policy Notice

RISC-V International meetings involve participation by industry competitors, and it is the intention of RISC-V International to conduct all its activities in accordance with applicable antitrust and competition laws. It is therefore extremely important that attendees adhere to meeting agendas, and be aware of, and not participate in, any activities that are prohibited under applicable US state, federal or foreign antitrust and competition laws.

Examples of types of actions that are prohibited at RISC-V International meetings and in connection with RISC-V International activities are described in the RISC-V International Regulations Article 7 available here: <https://riscv.org/regulations/>

If you have questions about these matters, please contact your company counsel.



Collaborative & Welcoming Community

RISC-V is a free and open ISA enabling a new era of processor innovation through open standard collaboration. Born in academia and research, RISC-V ISA delivers a new level of free, extensible software and hardware freedom on architecture, paving the way for the next 50 years of computing design and innovation.

We are a transparent, collaborative community where all are welcomed, and all members are encouraged to participate. We are a continuous improvement organization. If you see something that can be improved, please tell us. help@riscv.org

We as members, contributors, and leaders pledge to make participation in our community a harassment-free experience for everyone.

<https://riscv.org/community/community-code-of-conduct/>



Conventions



- Unless it is a scheduled agenda topic, we don't solve problems or detailed topics in most meetings unless specified in the agenda because we don't often have enough time to do so and it is more efficient to do so offline and/or in email. We identify items and send folks off to do the work and come back with solutions or proposals.
- If some policy, org, extension, etc. can be doing things in a better way, help us make it better. Do not change or not abide by the item unilaterally. Instead let's work together to make it better.
- Please conduct meetings that accommodates the virtual and broad geographical nature of our teams. This includes meeting times, repeating questions before you answer, at appropriate times polling attendees, guide people to interact in a way that has attendees taking turns speaking, ...
- Where appropriate and possible, meeting minutes will be added as speaker notes within the slides for the Agenda

Risc-V Security



Agenda

- Summit
 - Tutorials reminder, status
- CHES
- Current Organisation
 - TGs and Sig status
- CHERI
- Any Updates from TGs + SIG



Meeting notes on next slides

Summit – Dec 12,15 – San Jose

- Tutorial Day – 15th
 - Tutorial Prep status ?
- TG/SIG face to face ?
 - Agenda, suggestions ?



Summit

- Talks selection done, notifications to go out soon
- Tutorials: for security, 45 min. CFI (George) + 45 min. uArch Side Channels (Allison)
- Face-to-face during conference:
 - AI (Manuel): Ensure we have space for Security HC
 - AI (all): Send topics to Andy

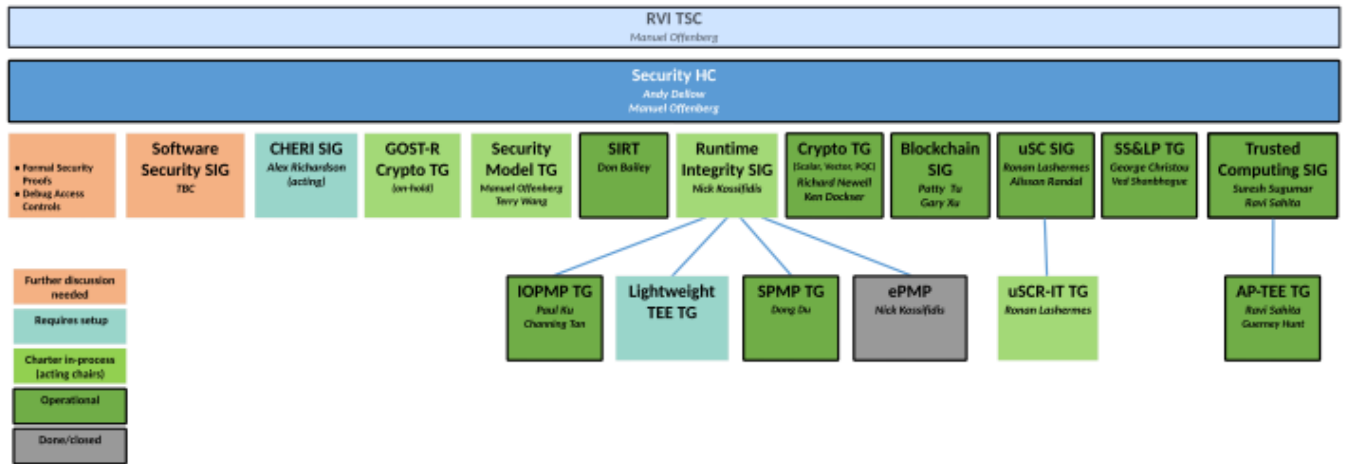
CHES

- TASER
 - RiscV specific papers
 - Aim to encourage more RV content at CHES
- CHES Papers
 - A lot of papers on masking, composable gadgets etc.
 - Attacks –
 - Some advances in physical attacks (dual photon absorption, multiple fault analysis)
 - Incremental improvements to Automated SCA
 - Defences –
 - Automated SoC leakage identification
 - Partially contradicted but the conference 'best paper'
 - Basically states that the layout and physical manifestation is critical in the amount of leakage
 - OpenTitan – worth listening to the keynote
 - Risc-V - interesting FI attack. Basically shows the weakness of reprogramming the ePMP every context switch.



- TASER: RISC-V specific ~ 160 people
- CHESZ: ~550 people
- FI attack: discussion that this one was identified as potential risk and possible mitigations are part of SPMP draft

Current Organisation



- Several fixes identified (above slide shows updated revision); org chart is in the Security HC git repo for all to access
- Discussion on where Lightweight TEE TG would belong; issue is that it needs to closely coordinate with AP-TEE TG
 - There is an old proposal on Lightweight TEE / m-mode isolation; need review
 - Acting TG chair needed; Gueney may know a candidate

CHERI

- Capability Based Security
 - Seems to still be important.
 - Should we start a SIG
 - What about Cambridge....



- Cambridge University is now a RISC-V member!
- CHERI SIG can be started, no longer JWG needed
- Alex Richardson volunteered to become acting chair of SIG
- SIG location in RVI org. is TBD; Mark to discuss with Krste

TCs and SIGs

- IOPMP vote underway
- AP-TEE vote underway
- Security Model TG, not officially there yet but work starting
- Runtime Integrity SIG formation / Switch
 - Nick ?



- Did not get to this section of the agenda

Any Other Status Updates



Open Action Items

Running list of open AI's