



Technical Newsletter

2023-12-01

Volume: 6

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## News from TSC, ARC, ICs, HCs, SIGs and TGs

### Unprivileged Spec IC

#### Updates from the Shadow Stack and Landing Pads Task Group

The [Shadow Stack and Landing Pads Task Group \(TG\)](#) is pleased to announce the successful completion of the architectural review for the [Zicfilp](#) extension, introducing labeled landing pads ISA for enhanced forward-edge control-flow integrity. Concurrently, the TG is actively collaborating with the ARC to address outstanding issues with the Zicfiss extension, which focuses on implementing shadow stacks ISA for reinforcing backward-edge control-flow integrity. The extension updates were discussed at the RISC-V mini-conference held at Linux Plumbers Conference 2023 ([slide](#)). We look forward to sharing further updates as our work progresses.

### Security HC

#### RISC-V CoVE updates at Linux Plumbers Conference

A Confidential Computing Micro-Conference (MC) was held at the Linux Plumbers Conference (LPC 2023) on November 14th - See detailed agenda [here](#). RISC-V CoVE updates were discussed as well - See slides [here](#). Related topics of attestation standards was discussed ([link](#)). In addition to the Confidential computing MC, there was a proposal for a generalized ABI verbs for TEE-IO - see [link](#) - a follow on Birds-of-a-feather (BoF) was held for this topic - the CoVE-IO TG ABI will be one of the inputs towards this common ABI for Linux host and guest interfaces.

#### High-Assurance Cryptography Task Group Approved by TSC

The High-Assurance Cryptography Task Group was approved by TSC. It will explore, recommend, and develop RISC-V Instruction Set Architecture (ISA) Extensions that enhance performance and security for classical cryptographic algorithms like AES. The two main aspects considered are improved key management and the ability for micro-architectures to provide side-channel resistant implementations.

- Chair: [G. Richard Newell](#) (Microchip Technology)
- Vice-Chair: [Markku-Juhani O. Saarinen](#) (Tampere University)
- Jira: <https://jira.riscv.org/browse/RVG-145>
- Mailing List: <https://lists.riscv.org/g/tech-high-assurance-cryptography>
- Charter: <https://github.com/riscv-admin/high-assurance-cryptography>

## SOC Infrastructure HC

### Updates from the Server SoC Task Group

The Server SoC Task Group (TG) is pleased to present the initial draft of the Server SoC Test Specification. This document is a key addition to the requirement specification draft previously developed by the TG. It details tests for a standardized set of hardware capabilities, essential for portable system software such as operating systems and hypervisors, in a RISC-V server SoC.

We strongly encourage your engagement in reviewing this draft, available [here](#). Your expertise and feedback at this stage are invaluable and will significantly contribute to refining and finalizing the specification. Your insights are crucial in shaping the future of RISC-V server SoC development.

# News From the CTO Office

## Recently Ratified Specifications

In the latest Board of Directors meeting, held on Nov 30th 2023, the following specifications were ratified:

- [Smcntrpmf - Counter Mode Filtering](#). Author: Beeman Strong ([Rivos Inc.](#)).
- [Zacas - Atomic Compare-and-Swap \(CAS\)](#). Author: Ved Shanbhogue ([Rivos Inc.](#)).
- [Svadu - Hardware Updating of PTE A/D Bits](#). Author: Ved Shanbhogue ([Rivos Inc.](#)).
- [Zicond - Conditional Operations](#). Author: Philipp Tomsich ([VRULL](#)).

## New Meeting Schedule for 2024

Starting in January 2024, the RISC-V Technical Meetings will be reorganized to better serve the community. Time slots considering the weeks of the year (2024 will have 53 weeks: 27 odd and 26 even), were allocated for the following groups:

- Privileged IC, Unprivileged IC, ISA Infrastructure HC, Profiles.
- Privileged Software HC, Applications and Tools HC, Platforms.
- SOC Infrastructure HC.
- Security HC.
- Technology HC.
- Governance (TSC, Chairs, Technical Governance).

You can see a detailed breakdown of the time slots allocated as per the approved plan [here](#).

Chairs and Vice-Chairs of SIGs and TGs are encouraged to work with their respective IC or HC in order to define the best time slot for their meetings. ICs and HCs Chairs and Vice-Chairs are also encouraged to work with their peers in order to accommodate all meetings in the best possible way.

## Action Required for Chairs and Vice-Chairs: LFX and RISC-V Jira Account Creation

Please, read the following instructions carefully only if you are not able to access RISC-V Jira or has never accessed it before.

We are moving to Jira. In order to access RISC-V Jira, it is required to have a LFX account. If you do not have a LFX account, please create one by clicking [here](#).

Once you have created your LFX account, please login in RISC-V Jira by clicking [here](#).

In order to access the resources within RISC-V Jira, you will need to be added to the right group. Please open an issue at [help.riscv.org](https://help.riscv.org) and provide the following information: LFX email address and Jira username. We will add you to the right group and you will receive an email notification once you have been added.

If you **cannot** access [help.riscv.org](https://help.riscv.org), please send an email to [help@riscv.org](mailto:help@riscv.org) with your GitHub ID so we can add you to the help repository.

## Voting

### Technical Steering Committee Votes

- [Technical Steering Committee Vote to Approve the SmMTT Task Group](#). End date: 12/6/2023.

### Committee Chair Votes

- [Ratification-Ready Milestone for SBI 2.0 and ACPI FFH specification Committee Chair Sign Off](#). End date: 12/4/2023.

## Technical Resources

### Calendar in your own timezone

The **RISC-V Technical Meetings Calendar** is available in your own timezone [here](#).

### Etherpad

Etherpad, a real-time browser-based editor where users can co-edit documents instantly, is available. No login needed. Etherpad should not store permanent content. To access Etherpad, click on the [here](#). Pads are reusable, so feel free to use the same pad for multiple meetings.

# Upcoming Events

## RISC-V Summit Europe 2024

[RISC-V Summit Europe](#): June 24-28, 2024, Munich, Germany.

# Glossary

- **TSC:** Technical Steering Committee
- **ARC:** Architecture Review Committee
- **IC:** ISA Committee
- **HC:** Horizontal Committee
- **SIG:** Special Interest Group
- **TG:** Task Group

## Newsletter Contributions

To submit a topic for our newsletter, [click here](#). Be sure to carefully read the submission guidelines!

## Contact Information

For any queries, visit our [help.riscv.org](https://help.riscv.org) or email us at [help@riscv.org](mailto:help@riscv.org).



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