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Startseite > Druckeroptimiertes PDF

# 2nd RVF (RISC-V Firmware) - Workshop 2024

### **Programm**

The program is available at <a href="https://www.edacentrum.de/en/rvf/program">https://www.edacentrum.de/en/rvf/program</a> [1]

### Registration

The online registration is now available at https://www.edacentrum.de/en/rvf/registration [2]

### Scope

Several European and national projects have work packages that address various aspects of firmware (hardware near software) for RISC-V. They include firmware generation, libraries, and validation as well as addressing various RISC-V ISAs including special instructions and closely/loosely coupled accelerators. They also include mechanisms supporting making firmware including virtual prototypes and debug to name only some. Also, several of the projects strive for making their software public available via various channels of open source.

### **Objectives**

The objectives of the workshop are:

- Present the ongoing and planned activities in the scope of firmware development for RISC-V.
- Discuss the taken strategies and implementation paths.
- Identify and align on joint technical activities to increase synergies.
- Jointly report the results in workshops, technical papers, special journal sessions or even books.

### Date: 24 and 25 October 2024

Location: Technical University Munich, Arcisstraße 21, 80333 Munich, Germany; in Google Maps [3])

# Workshop language: English

#### Venue

The two-day workshop will take place at the Technical University of Munich on 24 and 25 October. Details on room and schedule (depending on the number of submissions) will be announced in early October.

# **Contributions and Registration**

All researchers and engineers that work on firmware development for RISC-V, especially all partners of the projects listed below, are kindly invited to present the current status of their work.

For registration, a title (until 20 September 2024) and an abstract (until 27 September 2024) of a talk/discussion contribution are wanted.

Title and abstract have to be registered at https://www.edacentrum.de/en/rvf/submission [4].

The costs for rooms, catering, dinners and social events will be distributed among the attendees. Attendance registration and free of charge cancellation can be done until 9 October 2024 AoE (= Anywhere on Earth) at a web page (to be communicated). Further information will be available in due time.

### **Relevant Project Tasks**

### GenerIoT (European, ITEA (EU+National))

- Task 2.2,2.3: (Meta)Models and Tools for making (Meta)Models
- Tasks 3.1, 3.2, 3.3: FW Generation and Virtual Prototyping (for Firmware Verification)

#### TRISTAN (European, KDT (EU+National))

- Task 4.4: Middleware (HAL) and Libraries (AI; DSP, BLAS, ...), C/C++ and RUST, Tools for generation ...,
- Task 5.1: Virtual Prototype
- Task 5.3: Tools and methods for HW/SW system-level design and verification

### ISOLDE (European, KDT (EU+National))

- Task 2.4: Software interfaces to general purpose cores
- Task 4.1, 4.2, 4.3: Libraries (Drivers), Tools for ...

#### Scale4Edge (German, BMBF (National))

- Task 3.7: (Firmware for) Deployment for Extreme Edge Al
- Task 3.1, 3.8: DBT-RISE ETISS VP for FW verification

#### SoC HUB (Finnish, Business Finland (National))

- WP4 SW components
  - Rust-based runtime for portable firmware across SoC Hub SoCs
    - Used for bootloaders, validation tests and verification tests
  - · Automatic structural verification of IP-XACT based memory map metadata
  - Priority-queue based hardware acceleration of a real-time OS (RTIC)
  - OpenASIP programming paradigm for parallel computing

#### **Deadlines**

Title registration 20 September 2024 deadline: AoE\*)

Short abstract deadline: 27 September 2024

AoE\*)

<del>2 October 2024</del>

Author notification: AoE\*)
7 October 2024 AoE\*)

4 October 2024

Program available: AoE\*)

8 October 2024 AoE\*)

Attendee registration 9 October 2024 AoE\*) deadline: 16 October 2024 AoE\*)

#### **Organising Committee**

- Wolfgang Ecker, Infineon Technologies, DE
- Daniel Müller-Gritschneder, Technical University Vienna, AT
- Timo Hämäläinen, Tampere University, FI
- Suvi Lammi, Tampere University, FI
- Henri Lunnikivi, Tampere University, FI
- Ulf Schlichtmann, Technical University Munich, DE
- Andreas Vörg, edacentrum, DE

In case of questions, please contact Andreas Vörg voerg@edacentrum [dot] de.

<sup>\*)</sup> AoE = Anywhere on Earth

Quell-URL: https://www.edacentrum.de/rvf

#### Links:

- [1] https://www.edacentrum.de/en/rvf/program
- [2] https://www.edacentrum.de/en/rvf/registration
- [3] https://maps.app.goo.gl/rEDm5zbGM2wCU2EP6
- [4] https://www.edacentrum.de/en/rvf/submission