

## Sep 12, 2024 | 📅 RV Performance Events TG

Attendees: Beeman Strong   Dmitriy Ryabtsev   tech.meetings@riscv.org

### Notes

- **Attendees:** Dmitriy, Beeman, Snehasish, MattT, Chun, Bruce, Greg, Robert
- **Slides/video** [here](#)
- **Serialization in TMA**
  - Intel puts all in CORE\_BOUND.SERIALIZATION
  - [Beeman's email](#) suggests serialization may fall into any of several buckets
    - Flush & restart, e.g. for FENCE.I or satp writes, would be BAD\_SPEC
    - FENCE & FENCE.TSO would be MEM\_BOUND
    - Others (some CSR writes?) would be CORE\_BOUND
  - Include WFI in CORE\_BOUND.SERIALIZATION
  - Agreed on new buckets
  - What about SFENCE/SINVAL? Take this up offline
- **Looking at spec**
  - Should we include the events in the spec, when they are already in json?
    - Events tables are generated from json
  - Spec should at context and (non-normative) implementation guidance to the event definitions
    - Should include TMA details, not assume it is understood from x86
  - What should existing implementations do?
    - Can use spec'd event names for events that are supported (implemented event matches the spec definition), and keep the rest custom
  - Will this TG specify a baseline of events?
    - Can always check json file
    - But what about comparing implementations? Want to know which support critical events
    - Akin to profiles, provides some consistency across implementations
    - Arm has a common subset of events, just basic stuff
      - Linux perf also has basic set of events
    - Only tool/user knows what events he/she needs, there's no basic set that works for everyone
    - In datacenter, some features like autofdo are critical, so need to know if an implementation has the basics to support it
    - Agreed to look at how to group events, and indicate their support
      - Arm and Linux perf events are a good starting point
      - Let's discuss proposals on the email list
- Could put pdf on github rather than gdrive

### Action items

- ☒ ~~Beeman Strong~~ - ~~Aug 15, 2024~~ - ~~check on implementation of TMA events for serialization~~
  - See above
- ☐ rdb197@gmail.com - Aug 8, 2024 - Include Bfloat16
- ☐ rdb197@gmail.com - Aug 8, 2024 - Check on single/double vs 32/64 terminology for FP events
- ☐ rdb197@gmail.com - Aug 8, 2024 - Consider adding events for VSETVL, div/sqrt, etc
- ☐ Beeman Strong - May 23, 2024 - check on idea to count remote HITMs locally