

Nov 7, 2024 | 📅 RV Performance Events TG

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

Notes

- **Attendees:** Beeman, Bruce, Chun, MattT, Ved, Daniel, Shashank
- [Video](#) (no slides)
- Reviewing github [PRs](#) and [issues](#)
- [New PR](#) to reorganize CACHE events
 - They were instruction-centric, now making them cache-centric (all speculative)
 - Spec describes hierarchy, followed by full event tables (from JSON files)
 - What are the cache definitions?
 - Better to just have an ID that can map to any cache?
 - But then will still need some way to map IDs to caches
 - Maybe just have standard cache events, but not standard caches. Anything can be a cache. E.g., victim cache.
 - Does this box us into a typical hierarchy?
 - Assumption is that implementations will choose which of the standard events to implement, may vary per cache
 - Also, expect implementations to extend these with to include custom caches outside the standard set, or custom cache events
 - So this neither boxes us in or imposes onerous requirements, it just creates a standard set of events that, if implemented, a generic tool can understand
- Aiming to do a similar overhaul of INST/UOP events, with a defined hierarchy
 - Will include ability to count load instructions that miss a given cache, which used to be in CACHE events
 - Should also cover some of the issues, including having both RET and SPEC versions of all INST/UOP events
- Will add a new spec release once these issues/PRs are in
- Finished early

Action items

- ☐ 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