**Discussion notes 09Mar23**

Zfinx/Zdinx: Normally, Narrower FP values in wide FPregisters get a NaN prefix (all1s)

But: in Xregs (Zfinx for an RV64) the upper halves are ignored

Coverpoints for F/D check that the upper halves are all1s. Zfinx, Zdinx will not test that the upper half is all ones, but will supply instead random values, e.g. ignore XLEN-1:w for operations where w < XLEN.

Q: is this a “Don’t care” or a “don’t participate” (Seagate)

* Inputs upper half are ignored, but outputs sign extend

Q: F&D suites: can we use existing tests

* We can re-use some existing tests, but need new ones
  + Reuse tests for RV32Zfinx in RV64Zfinx and RV64Zdinx
  + RV32Zdinx will need to have to be specifically crafted.

Summary – Reuse tests wherever possible i.e \*Zfinx, \*Zhinx\* variants to reduce maintenance overheads

----------------

Q: do we share source files?

A: Yes, we do; all are located in public repo

**Compatibility test framework:**

Branding: <https://riscv.org/about/risc-v-branding-guidelines/>

**RISC-V**: We need to keep wiki pages updated with new releases

V2 vs V3: whether framework and tests were same or different

**Chair:**  There are really 5 moving pieces: ACTs, Sail, riscv-config, tool chain, riscof framework

**RISC-V** – What version of the ACT are we using? Who can help keep things updated?

**Chair** – v3 is the current.

**Incore** – v2 had tests and framework in the same repo,

v3 has test and framework in different repos.

**Seagate** – SAIL version should also be included in the branding page.

**Chair** – Should include SAIL, riscv-config, tools and then ACT themselves.

**Seagate** – RVA20 ACT is not complete.

**Chair -**  that is correct. Still lots of work to do on priv side, (only A-extension on the unpriv?)

**Certification/Branding steps**

**Chair –** need to make sure that the level of branding matches the tests passed

(e.g. don’t get RVA branding for only RVI tests passing)

**RISC-V** – We need people to volunteer to help for ACT guideline vs. Branding

Will send out an email calling for volunteers on the mailing list.

Will send out the doc for wider review once the document is sufficiently good.

Will co-ordinate branding side with ACT side.

AI: RISC-V … the above…

**Chair** – Ebreak test for T-Head fails. This is because T-head uses Ebreak in their test bench to signal end-of-test, which makes it impossible to test this required unpriv instruction.

This should require a waiver, or a change their test bench to get the branding.

This is an unexpected case, because EBREAK and ECALL are unpriv ops.

AI: Chair: document that the RVMODEL\_HALT macro supplied by the vendor does not use an opcode and parameter that will trap.

**Chair:** Can we actually test that an implementation is compatibility if it has custom priv layer ?

I think that means we need to avoid the EBREAK and ECALL ops, even if there are unpriv ops.

It also means that a single failing priv test effectively makes the priv layer custom.