

欢迎第一次参与编辑的伙伴(本页开会时不展示)

- 开放编辑, 直接点击 request for edit 然后在东亚时区群里at吴伟
- 如果没有找到自己的内容分类, 可以添加1-2页在最开始或中间
- 欢迎在开始的前5分钟进行自我介绍
- 日常八卦在东亚时区RISC-V双周同步微信群中, 欢迎加入

东亚时区RISC-V双周会

2022年04月14日·第033次

<https://github.com/cnrv/RISCV-East-Asia-Biweekly-Sync>

Host: Ji Qiu qiuji@iscas.ac.cn

Organizer: PLCT Lab wuwei2016@iscas.ac.cn

会议议程(15:00 - 16:00)

- 自我介绍、等待参会者接入、非技术话题八卦(5分钟)
- RVI 的更新和八卦(基本上跟东亚双周会群内消息同步)
- Unratified Specs 的参考实现进展
- 东亚地区小伙伴的项目更新
- 自由讨论

RISC-V International 同步

- RISC-V 基金会的Zoom会议链接后续会进行大调整, 后续开会请注意别搞错地址了
- 今天上午10AM举行了英文的 RISC-V Open Hours
 - 参加的小伙伴可以谈一谈感受 :-)
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AOSP for RISC-V - 汪辰、陆旭凡

- **Sync aosp-riscv to RVI upstream:**
 - [fixed cmake issue and code cleanup](<https://github.com/riscv-android-src/platform-external-qemu/pull/3>)
- **Sync aosp-riscv from RVI upstream:**
 - N/A
- **aosp-riscv development**
 - [Updated emulator integration branch](<https://gitee.com/aosp-riscv/working-group/pulls/28>)
 - [added prebuilt gdb](<https://gitee.com/aosp-riscv/test-riscv/pulls/16>)
 - [use gdb built for 18.04](<https://gitee.com/aosp-riscv/test-riscv/pulls/17>)
- **Articles:**
 - [added article gdb android emulator](<https://gitee.com/aosp-riscv/working-group/pulls/29>), [GDB 调试 Android 模拟器](<https://zhuanlan.zhihu.com/p/497296691>)
 - [added article run qemu 2.12.0](<https://gitee.com/aosp-riscv/working-group/pulls/27>), [尝试运行第一个支持 RISC-V 的 QEMU 版本 (v2.12.0)](<https://zhuanlan.zhihu.com/p/493669179>)
 - [added article to introduce how ndk is built](<https://gitee.com/aosp-riscv/working-group/pulls/26>), [Android NDK 的构建分析](<https://zhuanlan.zhihu.com/p/492330971>)

RISC-V GCC进展

ZC扩展的开发工作目前已基本结束，等待CORE-V rebase/review完成后进入测试维护阶段：

https://docs.google.com/presentation/d/1Xxlma2Jf6XFQyz4YVdvbfzL9jvmr_UNVKtEtCxaq058/edit#slide=id.g123a3aaa6df_0_157

CMO扩展指令实现时发现binutils支持与spec定义有冲突，正在issue中讨论(我们目前支持了两个版本)

<https://github.com/yulong-plct/riscv-gcc/tree/cmodev-upstream>

<https://github.com/riscv/riscv-CMOs/issues/47>

Waterman建议等待RVWMO确定后再进行ZTSO支持，目前进入block状态

[Liaoshihua/riscv-binutils-gdb at ztso \(github.com\)](#)

Kito发布了psABI的新release，EABI部分仍在等待新的进展：

<https://github.com/riscv-non-isa/riscv-elf-psabi-doc/releases/tag/v1.0-rc2>

RISCV-GNU-Toolchain双周会slides链接：

[RISC-V GNU Toolchain Biweely sync-up 04-07](#)

Clang/LLVM 进展 (PLCT)

1. Gollvm, 我们的目的是添加riscv的支持, 现在修了一些公共的部分
 - a. 已经被合并的patch:
 - i. 修复gollvm里Distro.cpp对Arch Linux的检测: <https://go-review.googlesource.com/c/gollvm/+399317>
 - ii. gollvm能在link的时候为Arch加上/usr/lib或者/usr/lib32目录: <https://go-review.googlesource.com/c/gollvm/+399876>
 - b. 新的在review中的patch:
 - i. <https://go-review.googlesource.com/c/gollvm/+399316>
2. LLVM upstream
 - a. 已经被合并patch:
 - i. 给stepvector.intrinsic添加代价模型, 代价不是最好的, 可以解决crash的问题: <https://reviews.llvm.org/D122782>
 - ii. B扩展的clz intrinsic支持, <https://reviews.llvm.org/D121915>
 - iii. 一个大体量的NFC, [NFC][CodeGen] Use ArrayRef in TargetLowering functions: <https://reviews.llvm.org/D123467>
 - b. 新的在review中的patch:
 - i. 部分zfinx的codegen支持: <https://reviews.llvm.org/D122918>

Clang / LLVM 社区的更新（廖春玉、陆旭凡）

1. D123515 Support “.option arch” directive
2. D122543. [ORC] add lazy jit support for riscv64
3. D123679 [RISCV] Don't getDebugLoc for the end node of MBB iterator
4. D123579 [RISCV][VP] Add RVV codegen for vp.trunc.
5. D118026 [RISCV] Improve the condition of hasRVVFrameObject.

QEMU/Spike 中 K / Zce / Zfinx /全家桶 进展 (PLCT)

- QEMU K 扩展支持暂无更新
- Zce支持更新到v0.70.3
 - <https://github.com/plctlab/plct-qemu/tree/plct-zce-0.70.0>
 - <https://github.com/plctlab/plct-spike/tree/plct-zce-dev-0.70.0>
 - <https://github.com/riscv-software-src/riscv-isa-sim/pull/975>
- Spike Zfinx支持依旧在review当中
 - <https://github.com/riscv-software-src/riscv-isa-sim/pull/831>

V8 for RISC-V 更新(邱吉、陆亚涵)

- Upstream Update :
 - [riscv64] [deoptimizer] Remove soft deopts (<https://chromium-review.googlesource.com/c/v8/v8/+3573783>)
 - [riscv64][sim] Increase the simulator's stack limit margin (<https://chromium-review.googlesource.com/c/v8/v8/+3573784>)
 - [riscv64][wasm] Count direct calls (<https://chromium-review.googlesource.com/c/v8/v8/+3578235>)
 - [riscv64] Fix atomic timeout (<https://chromium-review.googlesource.com/c/v8/v8/+3578101>)
 - [wasm] flag_liftoff_only should disable wasm-dynamic-tiering in cctest (<https://chromium-review.googlesource.com/c/v8/v8/+3578109>)
 - [riscv64][osr] Add an install-by-offset mechanism (<https://chromium-review.googlesource.com/c/v8/v8/+3581535>)
 - WIP: fixing CI failure caused by introduction of wasm dynamic tiering-up
 - WIP: fixing CI failure Fix emit_u32_to_uintptr to be zero-extended
- RV32G Porting: in progressing
 - Finished some initial porting for macro-assembler (<https://github.com/riscv-collab/v8.git> branch RV32G)
- Node.js update: from Stewart X Addison (Node.js core collaborator):
 - working on an PR to make node.js run automatically on each release.(WIP)
 - trialled running RISC-V through the Node.js unofficial build processes now so there's a version up at <https://unofficial-builds.nodejs.org/download/release/v17.9.0/node-v17.9.0-linux-riscv64.tar.xz>
 - several test cases hangs at this version on Unleash (PLCT also recorded test result <https://github.com/v8-riscv/node/issues/19> , time out for some crypto related cases)

OpenJDK for RISC-V 更新 (RV64及upstream)

1、JDK-8283865: riscv: Break down -XX:+UseRVB into separate options for each bitmanip extension

<https://github.com/openjdk/jdk/pull/8032>

2、8283937: riscv: RVC: Fix c_beqz to c_bnez

<https://github.com/openjdk/jdk/pull/8034>

3、JDK-8284068: riscv: should call Atomic::release_store in JavaThread::set_thread_state

<https://github.com/openjdk/jdk/pull/8055>

OpenJDK for RISC-V 更新(RV32/PLCT)

解释器及公共代码部分:

1、目前各个测试集的支持进度如下: SPECjvm 100%(张定立), DaCapo 78%(章翔), jtreg 74%(曹贵), jctest 99%(曹贵)。

2、Make load_at/store_at atomically in barrierSetAssembler(张定立, 曹贵)

<https://github.com/openjdk-riscv/jdk11u/pull/368>

3、Fix pass double args in jniTypes_riscv32.hpp(曹贵)

<https://github.com/openjdk-riscv/jdk11u/pull/369>

4、Fix generate_fast_get_int_field0 on jniFastGetField_riscv32.cpp(章翔)

<https://github.com/openjdk-riscv/jdk11u/pull/372>

JIT部分:

1、Remove assertions not satisfied in current jdk version(张定立)

<https://github.com/openjdk-riscv/jdk11u/pull/365>

openEuler RISC-V

- 修包: +50个PR:
 - 详见: <https://github.com/isrc-cas/tarsier-oerv/blob/main/biweekly/2022-04-06.md>
- 镜像制作:
 - 增加生成tar格式系统压缩文件脚本: <https://gitee.com/openeuler/RISC-V/tree/master/tools/osmaker/qemuimg>
 - 文档更新: [镜像脚本使用说明](#)
- 22.03发布: <https://mirror.iscas.ac.cn/openeuler-sig-riscv/openEuler-RISC-V/22.03/>
- openEuler RISC-V 软件源&每日镜像计划:
 - 建立openEuler RISC-V 软件源暂定运行机制
: <https://gitee.com/openeuler/RISC-V/blob/master/proposal/ORSP003.md>
 - 建立软件源更新中间站, 并完成obsRepo→tarsierRepo→iscasRepo第一次同步:
obsRepo: http://119.3.219.20:82/openEuler:/Mainline:/RISC-V/standard_riscv64/
tarsierRepo: <https://repo.tarsier-infra.com/openEuler-RISC-V/development/>
iscasRepo: <https://mirror.iscas.ac.cn/openeuler-sig-riscv/openEuler-RISC-V/>
- Firefox移植: 完成基础移植, 能够展示非视频网页; 视频网站还未能展示, 问题分析和优化中
- 测试
 - [在openEuler RISC-V QEMU搭建XFCE环境](#)
 - [openEuler 22.03 RISC-V QEMU rootfs镜像预装包测试](#)

Gentoo for RISC-V 的情况更新

- 两周共计 48 个 keywording 提交: <https://rvk3b.plctlab.org/riscv/RISC-V-双周会/20220414/commits.txt>
 - net-libs/nodejs: ~riscv keyword finally pushed:
<https://github.com/gentoo/gentoo/commit/f793e2d3bb4eed77a39281766aec467a4fd1c317>
PR to upstream to fix timeout in riscv:
<https://github.com/nodejs/node/pull/42674>
- dev-util/valgrind: experimental support for riscv:
<https://github.com/gentoo/riscv/commit/40b1dc94e0b30a2a4a557f8b4d0249ab86dc037a>
- sys-kernel/sifive-sources dropped, switch to sys-kernel/gentoo-sources (>5.17.0)
- app-shells/fish fix atomic issue:
<https://github.com/fish-shell/fish-shell/pull/8851>
- Tool: bug-wrangler irc bot <https://github.com/ArchFeh/bug-wrangler>

Arch Linux RISC-V (东东)

1. 移植进度

[extra] 2540 / 2968 (85.57%)

[community] 6926 / 9102 (76.09%)

2. Archriscv-packages merged [51 PR](#). highlights

Fixpkg: [zlib](#)

3. Add blog: [A RISC-V gcc pitfall revealed by a glibc update](#)

Fedora for RISC-V

Debian for RISC-V

1. Debian-CI相关(特别感谢rvlab)

[修改分区表参数]

https://wiki.debian.org/InstallingDebianOn/SiFive/HiFiveUnmatched#Preparing_disk_image

[测试CI环境]

<https://lists.debian.org/debian-riscv/2022/04/msg00002.html>

[unmatched boot from nvme-Debian]

<http://www.aftermath.cn/2022/04/01/unmatched-boot-from-nvme-debian/>

2. RFS(Request For Sponsor)

<https://bugs.debian.org/cgi-bin/bugreport.cgi?bug=1009291>

FW相关更新（王翔）

❖ opensbi

- thead c9xx性能计数器和标准不兼容，通过添加厂商扩展来支持性能计数器
- linux 8205uart添加了一个属性reg-offset, 标识寄存器的相对基地址的偏移量，同步代码到opensbi
- 修正MSTATUS_VS的值
- pmu event bitmap编码问题

RISCV性能跟踪小队 - 陈小欧

- 在unmatched上运行: Embench, Dhrystone, FPMark, Linpack, Whetstone, Coremark
 - <https://github.com/mollybuild/RISCV-Measurement/blob/master/Embedded-Benchmarks-on-Unmatched.md>
 - **Embench**: only support rv32 now
 - **Dhrystone**: 2066115.8 dhrystones per second
 - **FPMark**: lu failed for verification.
 - **Linpack**: 92.8 MFLOPS (Array size 200*200)
 - **Whetstone**: 649.4 MIPS
 - **Coremark**: 12363 Iterations/Sec

香山开源RISC-V处理器 - ICT / PCL

- 南湖架构 FPGA 验证持续进行中
 - 最新修复 HuanCun 及 MMU 的若干功能性 Bug

MLIR RISC-V Vector (RVV) Dialect Proposal - 张洪滨

注: 提交者不在线 (hongbin2019@iscac.ac.cn)

完成 RISC-V Vector Dialect 集成测试

- RFC Patch - <https://reviews.llvm.org/D108536>
- Update Post - <https://discourse.llvm.org/t/rfc-add-risc-v-vector-extension-rvv-dialect/4146/32>
- LLVM Weekly - <https://discourse.llvm.org/t/llvm-weekly-431-april-4th-2022/61460>

相关资料

- MLIR + RVV 集成测试环境搭建文档 - <https://gist.github.com/zhanghb97/ad44407e169de298911b8a4235e68497>
- 关于统一集成测试配置的讨论 - <https://discourse.llvm.org/t/rfc-add-risc-v-vector-extension-rvv-dialect/4146/32>

面向 RISC-V 的 OpenCV 情况更新 - 韩柳彤

- 提交了一个 OpenCV 演进提案([OpenCV Evolution](#), OE) :

[issue#21829](#): Modify universal intrinsics for size-less architectures

在OE-27 - Wide Universal Intrinsics的基础上, 进一步扩展Universal Intrinsics的能力, 从而更好的支持可变长向量体系结构。

将与 OpenCV 核心团队和 ARM 团队讨论, 从而确保我们所提出的设计与其他可变长度架构兼容

- 示例项目: <https://github.com/hanliutong/rvv-ui>

列出了一些兼容性问题: 虽然需要修改现有的universal intrinsic API, 但目前看来是可行的

Chisel and Additional Technology / Sequencer

- @JACKLIAO0: LazyModule单元测试 <https://github.com/chipsalliance/diplomacy/pull/10>
- @wisszygh: SRT RTL prototyping
- @CircuitCoder: BitSetRange <https://github.com/chipsalliance/chisel3/pull/2449>
- @ndxsf: 同 sequencer 一起学习完CIRCT InstanceGraph 并移植到GAA上
- @ZenithalH: RocketChip 拆包工作 <https://github.com/chipsalliance/rocket-chip/pull/2956>
- @oceansen @dramforever @LucasWye @midnighter95 @SharzyL @yqszxx @seehowl @SingularityKChen 摸了

VM: 为Linux添加虚存拓展支持-潘庆霖

- (提交人不在线)
- 发送了新的Svnapot patchset, 在这里
: <https://patchwork.kernel.org/project/linux-riscv/cover/20220411141536.2461073-1-panqinglin2020@iscas.ac.cn/>
- 由于misa没有Svnapot的坑位且从硬件获取拓展支持信息的手段稍显混乱, 目前采用KConfig项来手动控制Svnapot的开启/关闭

Spidermonkey for RISC-V - 吴伟

- PLCT V8 小队开始用自由时间构建 Spidermonkey
 - 重新加入了 PLCT Roadmap 2022 计划
 - 但是这次并没有重新放入到 LFX Mentorship(专业对口的太少了)
 - <https://github.com/plctlab/gecko-dev-riscv/pull/3>
- 欢迎感兴趣移植的小伙伴通过实习、兼职或全职形式加入
 - <https://github.com/lazyparser/weloveinterns/blob/master/open-internships.md>
 -

RISC-V 笔记本计划的进展 / 吴伟

- 过去6周硬件部分没有观察到有新的动作
 - 香山处理器的性能很有希望
 - 只要有钱, 找对人, 目前深圳那边的工厂做个笔记本是确定性的
 - 所以目前的瓶颈还是在 CPU/SoC 部分的选型
- 软件部分, 目光开始看向 LibreOffice
 - 写入了 Roadmap 2022 而且已经有了一位全职员工加入! 掌声欢迎[钱耀津](#)同学!
 -

自由讨论 / AOB

- Tarsier Project 启动了, Tarsier Land 已经有111人成功登岛。