欢迎第一次加入的伙伴(开会时请从下一页开始展示)

- 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

2023年05月25日·第058次

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

Host: 廖春玉

Organizer: PLCT Lab plct-oss@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（没有的话就直接跳过）
- 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、全球开源社区八卦

1. 欢迎加入、关注“东亚时区RISCV双周会”群

RISC-V 韩语社区的同步与八卦

- 最近两周韩国社区没有新闻（主要是我忘了查了）

RISC-V 日语社区的同步与八卦

- 最近两周日语社区没有新闻

RISC-V 俄语社区的同步与八卦

俄语社区本次暂无更新(胜利日在放假)

AOSP for RISC-V 进展

- Google AOSP upstream PR
  - Android (RISC-V) Review 双周报 第 17 期(in Chinese): https://zhuanlan.zhihu.com/p/632017553
    - ART 部分继续进展，完成 assembler 的实现；"implement entrypoints sufficient to run a hello world test. Implement generic JNI trampoline and supporting code such as exception handling, so that the runtime can execute native methods during class initialization. Classes are initialized at the time when Java libraries are loaded by the runtime.";
    - binary_translation 项目和 native_bridge_support 项目继续
    - 其他都是一些日常的更新，包括 toolchain 升级到 17.0.2、内核的构建脚本改进、bionic 上一些小的维护性的更新。
  - RVI Android SIG 5 月会议纪要(in Chinese): https://zhuanlan.zhihu.com/p/630818409
    - 介绍在 Lichee Pi 4a dev board 上对 AOSP master 的支持进展。
    - 介绍开发进展，包括 ART、Android Studio，Security(Zisslpcfi support)以及 XTS 等。
    - RISC-V Europ 参会情况。
- RVI Android SIG upstream:
  - Chromium for Android apk 移植
    - 继续 ChromePublic apk 的移植，已定位 UKM 的 crash 问题，正在联系工具链查找原因。
    - RVI 仓库更新: https://github.com/aosp-riscv/chromium/pulls?q=is%3Apr+is%3Aclosed
    - Google upstream: https://chromium-review.googlesource.com/q/cc:unicornxw@gmail.com+AND+mergedbefore:2023-05-25
- 技术文章
  - Thread-safe 以及 Thread-Specific Data: https://zhuanlan.zhihu.com/p/631282001

RISC-V GCC进展

- Palmer组织了一个新的RISC-V GCC patchwork会议,用来讨论gcc上游的patch,每周二晚 10:30 - 11:30进行，介绍/纪要链接:
  https://docs.google.com/document/d/1bW2jgRmhYdHz7oVw5EUcXVAv4_cfuBaZ5bhVG1pUnIo/edit#heading=h.7d43oinlp937

- 水人时隔3年后发布了新的RISC-V ISA spec版本20230426:
  https://github.com/riscv/riscv-isa-manual/releases

- 最近陆续有RVV自动向量化的patch被合入GCC，进展比较顺利

- 廖仕华介绍了RV64-ILP32的实现:
  https://docs.google.com/presentation/d/1JbA5Zkq1F__wuaF5RYWK9XDIC-Lf9ZJLP-0jRF74a6A/edit#slide=id.p

- ZC扩展正在Rebase中，目前主要在讨论ZCMP的GCC实现

- Bf16的支持计划已加入riscv-dev-paterner,等待Jeff同步中:

  https://github.com/riscv-admin/dev-partners/issues/30

- RISC-V GNU toolchain东亚时区双周会会议slides链接:
  https://docs.google.com/presentation/d/1X0VPKsX00vj1QxdAx6Mm6l2FdpM6RimfUVTyqJ4Ev3M/edit#slide=id.g224e3a256b1_0_0

Clang/LLVM 进展 (PLCT)

【已合并】

- [RISCV][CodeGen] Support Zdinx on RV32 codegen https://reviews.llvm.org/D149743
- [RISCV] Enable signed truncation check transforms for i8 https://reviews.llvm.org/D150177
- [RISCV] Fold (select setcc, setcc, setcc) into and/or instructions https://reviews.llvm.org/D150286
- [LVI] Don't compute range on not guaranteed not to be undef condition in SelectInst https://reviews.llvm.org/D151295
- [ValueTracking][InstCombine] Add a new API to allow to ignore poison generating flags or metadatas when implying poison https://reviews.llvm.org/D149404

【审阅中】

- 将Zcmp拆分成三个独立的patch
  - https://reviews.llvm.org/D134599
  - https://reviews.llvm.org/D150416
  - https://reviews.llvm.org/D150415
- [RISCV][CodeGenPrepare] Select the optimal base offset for GEPs with large offset https://reviews.llvm.org/D150862

QEMU/Spike/Sail/ACT进展 (PLCT)

- QEMU
  - PMP修复更新
    - https://lists.gnu.org/archive/html/qemu-riscv/2023-05/msg00336.html
  - 冲突指令集disas 支持
    - https://lists.gnu.org/archive/html/qemu-riscv/2023-05/msg00441.html
  - 更新BF16支持
    - https://github.com/plctlab/plct-qemu/tree/plct-bf16-upstream-v2
  - PC relative translation以及pointer mask PR更新
    - https://lists.gnu.org/archive/html/qemu-riscv/2023-05/msg00459.html
    - https://lists.gnu.org/archive/html/qemu-riscv/2023-05/msg00476.html
- Spike
  - 更新BF16的支持
    - https://github.com/riscv-software-src/riscv-isa-sim/pull/1321

V8 for RISC-V 更新（邱吉、陆亚涵、荆培杨）

修复指针压缩过程中Port的一些改动

- 4553932: [riscv][masm] Improve Instance Type Checks in Builtins::Call/Construct | https://chromium-review.googlesource.com/c/v8/v8/+/4553932
- 4541408: [riscv] Unify pointer size | https://chromium-review.googlesource.com/c/v8/v8/+/4541408
- 4543857: [riscv][static-roots]Port static-root | https://chromium-review.googlesource.com/c/v8/v8/+/4543857
- 4541402: [riscv] Support acq/rel accesses and atomic accesses on tagged | https://chromium-review.googlesource.com/c/v8/v8/+/4541402

v8探测linux的mmu code属性，为后续适配sv57做准备

- 4525059: [riscv] Implement probe mmu mode | https://chromium-review.googlesource.com/c/v8/v8/+/4525059

Spidermonkey for RISC-V更新（邱吉、陆亚涵）

- **修复一个随机check failed** https://phabricator.services.mozilla.com/D178616

- **riscv开启 wasm huge memories特性** https://phabricator.services.mozilla.com/D177449

OpenJDK for RISC-V 更新(RV64及upstream) 杨飞

1. Reviewed jdk-mainline PRs:
- https://github.com/openjdk/jdk/pull/11996 (JDK-8299229: [JVMCI] add support for UseZGC)
- https://github.com/openjdk/jdk/pull/13794 (8303153: Native interpreter frame missing mirror)
- https://github.com/openjdk/jdk/pull/13771 (8307058: Implementation of Generational ZGC)
- https://github.com/openjdk/jdk/pull/13983 (8308091: Remove unused iRegIHeapbase() matching operand)
- https://github.com/openjdk/jdk/pull/13577 (8306667: RISC-V: Fix storeImmN0 matching rule by using zr register)
- https://github.com/openjdk/jdk/pull/13645 (8291550: RISC-V: jdk uses misaligned memory access when AvoidUnalignedAccess enabled)
- https://github.com/openjdk/jdk/pull/13684 (8306966: RISC-V: Support vector cast node for Vector API)
- https://github.com/openjdk/jdk/pull/13739 (8307150: RISC-V: Remove remaining StoreLoad barrier with UseCondCardMark for Serial/Parallel GC)
- https://github.com/openjdk/jdk/pull/13800 (8307446: RISC-V: Improve performance of floating point to integer conversion)
- https://github.com/openjdk/jdk/pull/13862 (8307609: RISC-V: Added support for Extract, Compress, Expand and other nodes for Vector API)
- https://github.com/openjdk/jdk/pull/13881 (8307651: RISC-V: stringL_indexof_char instruction has wrong format string)
- https://github.com/openjdk/jdk/pull/13882 (8307758: RISC-V: Improve bit test code introduced by JDK-8291555)
- https://github.com/openjdk/jdk/pull/14029 (8308277: RISC-V: Improve vectorization of Match.sqrt() on float)
- https://github.com/openjdk/jdk/pull/14102 (8308656: RISC-V: vstring_compare doesnt manifest usage of all vector registers)

2. Reviewed/Merged backport PRs for riscv-port-jdk17u repo:
- https://github.com/openjdk/riscv-port-jdk17u/pull/45 (8293566: RISC-V: Clean up push and pop registers)
- https://github.com/openjdk/riscv-port-jdk17u/pull/46 (8294012: RISC-V: get/put_native_u8 missing the case when address&7 is 6)
- https://github.com/openjdk/riscv-port-jdk17u/pull/47 (8294679: RISC-V: Misc crash dump improvements)
- https://github.com/openjdk/riscv-port-jdk17u/pull/48 (8296435: RISC-V: Small refactoring for increment/decrement)
- https://github.com/openjdk/riscv-port-jdk17u/pull/49 (8297359: RISC-V: improve performance of floating Max Min intrinsics)
- https://github.com/openjdk/riscv-port-jdk17u/pull/50 (8296916: RISC-V: Move some small macro-assembler functions to header file)
- https://github.com/openjdk/riscv-port-jdk17u/pull/51 (8306667: RISC-V: Fix storeImmN0 matching rule by using zr register)
- https://github.com/openjdk/riscv-port-jdk17u/pull/52 (8308089: [riscv-port-jdk17u] Intrinsify Unsafe.storeStoreFence)
- https://github.com/openjdk/riscv-port-jdk17u/pull/53 (8297697: RISC-V: Add support for SATP mode detection)
- https://github.com/openjdk/riscv-port-jdk17u/pull/54 (8301036: RISC-V: Factor out functions baseOffset & baseOffset32 from MacroAssembler)
- https://github.com/openjdk/riscv-port-jdk17u/pull/55 (8307150: RISC-V: Remove remaining StoreLoad barrier with UseCondCardMark for Serial/Parallel GC)

OpenJDK for RISC-V 更新（RV64及upstream）张定立

Merged & New JDK-mainline PRs:

- https://github.com/openjdk/jdk/pull/13862 | (8307609: RISC-V: Added support for Extract, Compress, Expand and other nodes for Vector API)(as co-authur)
- https://github.com/openjdk/jdk/pull/14138 | (8308817: RISC-V: Support VectorTest node for Vector API)(as co-authur)

Backport jdk17u:

- https://github.com/openjdk/riscv-port-jdk17u/pull/50 | (8296916: RISC-V: Move some small macro-assembler functions to header file)
- https://github.com/openjdk/riscv-port-jdk17u/pull/54 | (8301036: RISC-V: Factor out functions baseOffset & baseOffset32 from MacroAssembler)
- https://github.com/openjdk/riscv-port-jdk17u/pull/59 | (8301628: RISC-V: c2 fix pipeline class for several instructions)
- https://github.com/openjdk/riscv-port-jdk17u/pull/60 | (8301852: RISC-V: Optimize class atomic when order is memory_order_relaxed)

OpenJDK for RISC-V 更新（RV64及upstream）曹贵

Merged & New JDK-mainline PRs:

- https://github.com/openjdk/jdk/pull/13862 | (8307609: RISC-V: Added support for Extract, Compress, Expand and other nodes for Vector API)(as co-authur)
- https://github.com/openjdk/jdk/pull/14138 | (8308817: RISC-V: Support VectorTest node for Vector API)(as co-authur)

Backport jdk17u:

- https://github.com/openjdk/riscv-port-jdk17u/pull/53 | (8297697: RISC-V: Add support for SATP mode detection)
- https://github.com/openjdk/riscv-port-jdk17u/pull/61 | (8301153: RISC-V: pipeline class for several instructions is not set correctly)

openEuler RISC-V（周嘉诚）

- Early preparing for next major release (23.09)
- Some work（31+33 PRs）
  - nodejs upgraded (16.15 -> 18.16)
  - initialized many KDE and Qt6 packages
  - nano: an old issue fixed
  - webrtc-audio-processing: riscv64 patch applied
  - kexec-tools: riscv64 patch applied
  - many other packaging changes
  - And tons of fixes for the `LLVM parallel universe project`

Gentoo for RISC-V 的情况更新（Gentoo 小队）

- Support statistics (7808/18740, 41.66%)：https://whale.plctlab.org/riscv/support-statistics/
  - sys-devel/{clang,llvm} 14.0.6, 15.0.7, 16.0.4
  - sys-devel/gcc 10.4.1, 11.3.1, 12.3.0, 13.1.1
  - dev-lang/ghc 9.0.2
  - dev-lang/go 1.20.4
  - dev-lang/lua 5.1.5, 5.3.6, 5.4.4
  - dev-lang/perl 5.36.1
  - dev-lang/python 3.10.11, 3.11.3, 3.12.0_alpha7
  - dev-lang/ruby 3.0.6, 3.1.4, 3.2.2
  - dev-lang/rust 1.69.0
  - dev-java/openjdk 11.0.18_p10, 17.0.6_p10
  - dev-libs/libffi 3.4.4
  - sys-devel/binutils 2.38, 2.39, 2.40
  - sys-libs/glibc 2.37
  - app-office/libreoffice 7.5.3.2
  - gnome-base/gnome-desktop 44.0
  - gnome-extra/cinnamon 5.6.8
  - kde-plasma/plasma-meta 5.27.5
  - xfce-base/xfce4-meta 4.18
  - www-client/firefox 113.0.1

注：绿底表示在本周期内更新，*表示有更新修订版

- A total of 10 keywording commits: https://whale.plctlab.org/riscv/RISC-V-双周会/20230525/commits.txt
  - media-libs/mesa: re-keyword 23.1.0 riscv
  - dev-ruby/asciidoctor: re-keyword 2.0.20 riscv
  - net-libs/libiscsi: re-keyword 1.19.0_p20230208 riscv
- Gentoo wiki page for Sipeed Lichee PI 4A
  - https://wiki.gentoo.org/wiki/User:Dlan/RISC-V/TH1520
- User request riscv64 big endian support #907029, Tracker: #907135
  - User requested, but Gentoo will wait for stable software/hardware (qemu has no riscv64 big endian)
- VF2: `LLVM ERROR: Relocation type not implemented yet!` https://bugs.gentoo.org/905662

Arch Linux RISC-V（潘瑞哲）

Report generated on: 20230525
Package update count: 1163
Distinct package update count: 1116

[core] 258 / 264 (97.72%)
[extra] 12188 / 13230 (92.12%)
[community] 0 / 0 (%)

Highlight packages:

```
gcc - 12.2.1-2.2 --> 13.1.1-1
nodejs - 19.9.0-1 --> 20.2.0-1
docker-compose - 2.17.3-1 --> 2.18.0-1
mesa - 22.3.6-1 --> 23.0.3-1
imagemagick - 7.1.1.8-1 --> 7.1.1.9-1
sqlite - 3.41.2-1 --> 3.42.0-1
```

- Arch Linux RISC-V 中文社区
  https://t.me/+zTnGwO5zNKAyNmU1
- WIP: Arch Linux RISC-V lichee pi 4a 的 image 和文档
- gcc: 13.1.1
  - libitm-riscv64.patch has been merged and released
  - Adapt to format changes from upstream
- nodejs: 20.2.0
  - deps: V8: cherry-pick 1b471b796022
    nodejs/node#47399 `[riscv] Using s8 as backtrack_stackpointer reg and optimize BranchShortHelper`
- mesa: 23.0.3
  - enabled LTO
- Current status: merging community & extra

Fedora for RISC-V（傅炜）

- **RPM packaging**
  - Status: **Updating Fedora 38**
  - 18850/23118 [81.5%] srpm have been built.
  - Spin: Server/Workstation/Cloud
  - WIP Spin: IoT/CoreOS
- **main package version:**
  - **Toolchain(up-to-date for F38)**
    - **gcc-13.1.1-2[DONE]**→13.1.1-3[rawhide]
    - glibc-2.37.4[DONE]
    - Binutils 2.39-12[DONE] → 2.40-7[rawhide]
  - libffi-3.4.4-2(up-to-date)
  - java-latest-openjdk-19.0.2.0.7→**20** [ONGING]
  - **perl-5.36.1-496(up-to-date)**
  - Python 3.11.2-1(up-to-date) → 3.11.3-1/ 3.12
  - LLVM/Clang 15.0.7-2 →16.0.0-2 [ONGING]
  - golang-1.20.4-1(up-to-date)
  - **rust-1.69.0-2(up-to-date)**
- **Key App**
  - **firefox-113.0.1-3[DONE]**
  - **Libreoffice 7.5.3.2-2**[DONE] **MOCK**
  - **Thunderbird**[DONE]
  - Chromium-113.0.5672.63 [ONGING]
- **Image :**
  - **Sophgo SG2042 EVB/Milk-V[DONE]**
  - **TH1520 Light/BeagleV/LPi4A[DONE]**
  - StarFive JH7110 boards[ONGING]
- **ROS/ROS2 upgrading to F38**
- **Desktop support:**
  - **XFCE/LXDE/LXQT[pass]**
  - **GNOME/Budgie/Cinnamon/Mate[pass]**
  - **Sugar/Sway[pass]**
  - **KDE[Building]**
  - **Deepin[Building]**
- **function testing:**
  - **Podman[pass]**
  - **Ceph[pass]**
  - **K8s [testing by Sophgo]**

Debian for RISC-V（于波）

- Official porting update
  1. Full freeze(2023/05/24)
  2. Release team hopes official support riscv64 after Bookworm release(2023/06/10)
- Debci update

  britney's Job History

  1 packages with status alerts
- Some works
  1. Firefox 113.0
  2. [RFC] Port RV32 on Debian
  3. Debain RV32 rootfs
  4. fcntl issue on RV32
  5. Backport one commit to gcc-13

Deepin for RISC-V

- deepin-stage2
  - https://build.tarsier-infra.com/project/show/home:revy:deepin-riscv-stage2
  - succeeded: 5865 / failed: 29 / unresolvable: 760
  - 更新工具链 gcc12.2.0/glibc2.36/binutils2.40支持
  - 推进与deepin v23 beta版本的主线同步源码
- deepin-port-stage1
  - 已经集成4706软件包
  - 推进与deepin v23 beta版本的主线同步源码
- 推进板子支持
  - https://github.com/deepin-community/sig-deepin-riscv64/issues/22
  - 现已移除visionfive1/D1相关支持 因为没有GPU
  - 计划增加lpi4a的支持

FW相关更新（王翔）

- opensbi
  - 通过probe确认扩展是否是否该注册的补丁更新为为扩展添加一个注册方法，对于单个扩展id的扩展可以移除probe方法，之前说的多次调用probe的问题也规避了
  - 更新Makefile防止制作静态库时拷贝到符号链接
  - 添加th1520 soc支持，把pmu相关代码从d1的代码中一出来
  - 为thead移除复位时的内存屏障指令，清除cache的操作没有load/sotre操作
  - 修正thead的复位关联dts，并更新初始化代码

固件相关更新(洛佳)

- RustSBI主仓库更新
  - 支持SUSP和CPPC扩展(#48)，小修复(#49、#51)，原型设计系统在底层支持阶段
  - sbi-spec仓库:增加PMU常数(#13)，ci小修复(#14)
- RustSBI国产芯片支持系列更新
  - 博流物联网芯片ROM运行环境(bl-rom-rt):编译生成镜像头(!4)，拆分镜像头(!6)，entry宏(!7)，单元测试(!3、!5)，示例程序(!1、!2)
  - 博流芯片组件化外设驱动(bl-soc):组件化GPIO驱动(!1)
  - 博流芯片镜像烧录与补全工具(blri):参数解析、魔术数判断和镜像内容读取(!1)
  - 010 Editor 模板:全志D1芯片支持(!1、!4、!6)，博流BL808芯片支持(!2、!3、!5)
- 团队建设与发展状况
  - 小团队有全志组、博流组、开源工坊参与者，其余同学其它任 务或正在学 习，1位同学负责开源财务。
  - 成功举办第二届开源工坊4月25日，第三届开源工坊5月9日

RISCV性能跟踪小队 - 陈小欧

- SPEC CPU Tuning

1. 完善SPEC CPU自动化测试脚本（5.11）
   https://github.com/mollybuild/RISCV-Measurement/tree/master/scripts/Run-SPEC-CPU
2. SPEC CPU2017 compiler flags sort
   script：https://github.com/mollybuild/RISCV-Measurement/tree/master/scripts/getflags

Count	Clang
4435	-ffast-math
4435	-flto
4435	-O3
4435	-fremap-arrays
4162	-mllvm -inline-threshold=1000
4079	-mllvm -unroll-threshold=50
4079	-lamdlibm
3972	-Wl,-mllvm -Wl,-reduce-array-computations=3
3972	-lflang
3972	-mllvm -reduce-array-computations=3
3806	-z muldefs
3585	-ljemalloc
3229	-mllvm -enable-gvn-hoist
3229	-flv-function-specialization
3229	-mllvm -function-specialize
3171	-Wl,-mllvm -Wl,-function-specialize
3122	-Wl,-mllvm -Wl,-region-vectorize
2505	-m64
2505	-fveclib=AMDLIBM
2505	-Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
1808	-lomp
1808	-DSPEC_OPENMP
1808	-fopenmp=libomp
1808	-fopenmp
1655	-mllvm -enable-licm-vrp
1655	-march=znver3
1655	-mllvm -global-vectorize-slp=true
1655	-fstruct-layout=5
1574	-fstruct-layout=3
1467	-lmvec
1467	-Wl,-mllvm -Wl,-vector-library=LIBMVEC
1467	-march=znver2

Count	GCC
19	-mabi=lp64
19	-std=c99
17	-g
15	-ljemalloc
13	-funroll-loops
13	-mcpu=neoverse-n1
11	-O3
10	-L/home/amptest/ampere_spec2017/gcc/install/lib
10	-L/home/amptest/ampere_spec2017/jemalloc/install/lib
10	-L/home/amptest/ampere_spec2017/gcc/install/lib64
9	-flto
9	-fgnu89-inline
8	-Ofast
8	-flto=32
8	-fno-strict-aliasing
7	--param early-inlining-insns=96
7	--param max-inline-insns-auto=64
7	--param inline-unit-growth=96
6	-fomit-frame-pointer
6	-march=armv8.2-a+lse
6	-fno-PIE
6	-no-pie
4	-pipe
2	-L/home/jemalloc-5.2.1-setup/lib
2	-L/home/amptest/ampere_spec2017/spec2017/jemalloc/install/lib
2	-L/home/amptest/ampere_spec2017/spec2017/gcc/install/lib64
2	-L/home/amptest/ampere_spec2017/spec2017/gcc/install/lib
2	-z muldefs

Count	ICC
20428	-O3
17741	-ipo
17741	-no-prec-div
14071	-xCORE-AVX512
13085	-qopt-mem-layout-trans=4
12878	-Wl,-z,muldefs
9905	-DSPEC_OPENMP
9433	-qopt-prefetch
9378	-ffinite-math-only
9174	-ljemalloc
8825	-qopt-mem-layout-trans=3
8629	-qopenmp
7522	-xCORE-AVX2
6307	-m64
6307	-std=c11
6182	-L/usr/local/je5.0.1-64/lib
4299	-mbranches-within-32B-boundaries
4164	-funroll-loops
4164	-flto
4164	-mfpmath=sse
4099	-ffast-math
3704	-lqkmalloc
2446	-L/usr/local/jemalloc64-5.0.1/lib
2117	-w
1477	-Ofast
1334	-L/usr/local/IntelCompiler19/compilers_and_libraries_2019.1
1039	-L/opt/intel/oneapi/compiler/2021.1.1/linux/compiler/lib/in
1025	-qnextgen

香山开源RISC-V处理器 - ICT / PCL

- 前端
  - 添加 FDIP 预取到 L1I 功能
  - 修复 ITTAGE 遗漏基础预测 bug
- 后端
  - vset 功能单元添加 vill 输出
  - 检查点恢复重命名表的初版实现完成
- 访存
  - LQ 拆分 code review 与进一步优化
  - 继续实现和调试向量通路
  - 确认 sbuffer 的性能 bug 并修复
  - LQ 入队算法改进
  - 评估 Linux 开启 Transparent Huge Pages 的收益
- 缓存
  - 运行单核 SPEC 测试程序，性能相较南湖缓存有正向收益
  - 修复了若干双核情况下的bug
  - 完成基于 CHI 协议改造的任务分解，开始进行细节分析
  - 在 CHI 验证框架中设计 hazard 场景处理流程

MLIR 结合 RISC-V 相关工作 - 张洪滨

注：提交人不在线（hongbin2019@iscas.ac.cn）

在 EuroLLVM 2023 上的一些讨论：

- RVV 和 Arm SVE 向量化的统一设计
  - Arm SVE 不需要考虑 RVV 的动态 vector length 的支持
  - Arm SVE 不需要考虑 RVV 的基于 vsetvl 的 strip-mining 向量化方式
  - Arm SVE 目前没有 VP Intrinsic 的通路
  - 我们通过对 AXPY 和卷积向量化案例的评估，
    初步结论为在 RVV 上 strip-mining 向量化方式略优于 mask-based 的方式，正在进行更多案例的评估和分析
  - 相关链接：
    - https://discourse.llvm.org/t/eurollvm-2023-roundtable-targeting-cpus-from-ml-frameworks/69542/2
    - https://discourse.llvm.org/t/rfc-scalable-vectorisation-in-linalg/70419

Gemmini Dialect 进展

- Linalg Dialect 到 Gemmini Dialect 的转换
  - https://github.com/buddy-compiler/buddy-mlir/pull/138/files
- 对 ResNet 端到端推理的支持
  - https://github.com/buddy-compiler/buddy-benchmark/pull/62

Chisel and Additional Technology / Sequencer

- Vector Lane 流水重构
- Rocket 拆分
- Rocket standalone CI
- chisel-CIRCT binder prototyping
- 基于Nix的云原生EDA基建设施搭建）

提交人不在 线?

OpenHW & OpenHW Aisa Working Group

注:提交人不在线

- 本周五中关村论坛“RISC-V开源处理器芯片生态发展论坛”，有来自OpenHW的报告：“CORE-V：规模量产的开源RISC-V处理器核”

- 本周六上午8:30有AWG工作会议，欢迎大家参加（zoom link）

```
ubuntu@ubuntu:~$ /opt/rocm/bin/rocm-bandwidth-test
Segmentation fault (core dumped)
ubuntu@ubuntu:~$
```

ROCm bootstrapping for RISC-V (陆言, PLCT Tariser)

- AMD 深度学习框架（AMD表示暂时不会提供 riscv64 支持，out-of-tree维护）
- 目标: Ubuntu 22.04 LTS (+ amdkfd 手动开启 riscv64 选项), HiFive Unmatched and Vega 7nm
- rocm-smi, rocminfo, hipcc, amdgpu, etc. 可以正常工作
- rocm opencl runtime :非 x86 的指令问题 https://bugs.gentoo.org/895286
- rocm-bandwidth-test 和其他的一些包 SIGSEGV
- （尚不知道是包 / 内核 / Unmatched 的问题，需要继续测试）


```
ubuntu@ubuntu:~$ /opt/rocm/bin/rocm-smi


======================== ROCm System Management Interface ========================
================================== Concise Info ==================================
GPU  Temp (DieEdge)  AvgPwr  SCLK    MCLK    Fan     Perf  PwrCap  VRAM%  GPU%
0    38.0c           21.0W   808Mhz  350Mhz  19.61%  auto  250.0W    0%   0%
==========================================================================
==========================================================================
==========================  End of ROCm SMI Log  ==========================
```

自由讨论 / AOB

-

BACKUP

准备加入更多的国际开源组织进行同步观测

欢迎追加或提议