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09月28日·第065次

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

Host: 陈逸轩

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

- GNU Tools Cauldron 2023 (陈逸轩、陈嘉炜、吴伟、Kito、Palmer 等参会）
  - David给 gcc 新手的教程：https://gcc-newbies-guide.readthedocs.io/en/latest/index.html
- OSEEU 2023 上 openEuler RISC-V 带着 Milk-V Pioneer 和 Sipeed LicheePi 4A

RISC-V 韩语社区的同步与八卦

- 最近两周没有韩国本土社群的新闻
- 但是韩国媒体对华为Mate 60 Pro进行了广泛的报道
  - 内容上主要提及华为在美国制裁，没有EUV等设备的情况下解决了7nm代工的困难
  - 提到7nm是18年TSMC已经可以量产的技术
  - 韩媒“华为的技术自立成功成为其他中国企业的催化剂”

RISC-V 日语社区的同步与八卦

- Codasip 和美国硬件安全公司 Verilock 宣布了合作实现多种应用于RISCV SoC的安全功能，包括设备身份验证、固件签名、基于EED 的 OTP 。

RISC-V 俄语社区的同步与八卦

最近没有八卦

RISC-V GCC进展

RISC-V BoF in GNU Cauldron 2023

- 介绍了过去一年里RISC-V GNU社区的进展，Intel, Ventana,Eswin等新的开发者伙伴加入社区
- 介绍了GCC13至目前GCC upstream的更新，包括自动向量化，RVV intrinsic工作，inline sub-word atomics, Zc*，Zicond,Ztso,Xthead等扩展的支持
- 讨论了GCC14支持的新特性：
  - 更全面的RVV intrinsic支持（zvfh,zvfbf,rounding mode）
  - 消除不必要的符号扩展
  - 添加新的cost model支持（Zicond, RVV）
  - 对已有的cost model进行优化（RVV）
  - 长跳转分支支持
  - 指令融合支持
  - 更多的厂商自定义扩展(已规范Binutils中厂商自定义扩展添加的行为)
  - Profiles支持

Clang/LLVM 进展 (PLCT)

- upstream 合并的patch
  - 进一步优化D156238中当谓词为==/!=时的折叠
    [InstCombine] Fold icmp eq/ne min|max(X, Y), Z https://github.com/llvm/llvm-project/pull/67087
  - 将icmp eq/ne (A ^ Cst), B规范化为icmp eq/ne (A ^ B), Cst以暴露更多优化机会，修复
    https://github.com/llvm/llvm-project/issues/65968 [InstCombine] Canonicalize icmp eq/ne (A ^ C), B to icmp eq/ne (A ^ B), C https://github.com/llvm/llvm-project/pull/67273

- RVV 0.7.1 , 第一个instrinsic patch
  - [LLVM] [RVV 0.7.1] add vsetvl and vsetvlmax intrinsic
    https://github.com/ruyisdk/llvm-project/pull/12

QEMU/Spike/Sail/ACT进展 (PLCT)

V8 for RISC-V 更新（邱吉、陆亚涵、荆培杨）

Port 上游更新

1. 4895850: [riscv][interpreter] Cache FBV in the stack frame | https://chromium-review.googlesource.com/c/v8/v8/+/4895850
2. 4884597: [riscv][wasm] Use Builtin ids instead of RuntimeStubId ids for calls | https://chromium-review.googlesource.com/c/v8/v8/+/4884597
3. 4868010: [riscv][compiler] Generalize InstructionSelectorT for Turboshaft (part 17) | https://chromium-review.googlesource.com/c/v8/v8/+/4868010

删除maglev公共代码里的condtion code, 以便port maglev到riscv上

1. 4876814: [maglev] Replace CompareInt32 by CompareInt32AndJumpIf | https://chromium-review.googlesource.com/c/v8/v8/+/4876814

Spidermonkey for RISC-V更新（邱吉、陆亚涵）

修复fixfox wasm相关问题，以下patch扔在review中

1. [riscv]wasm: Generalize load/store instructions for multiple memories. r=jseward
https://phabricator.services.mozilla.com/D188222
2. [riscv]Port wasm return calls implementation. r=jseward
https://phabricator.services.mozilla.com/D187967
3. [riscv]Fix register conflict in Mull64.r=jseward https://phabricator.services.mozilla.com/D188068
4. [riscv]wasm: Generalize load/store instructions for multiple memories. r?jseward
https://phabricator.services.mozilla.com/D187968

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

1. Reviewed JDK-mainline PRs:
- https://github.com/openjdk/jdk/pull/14991 (8312569: RISC-V: Missing intrinsics for Math.ceil, floor, rint)
- https://github.com/openjdk/jdk/pull/15119 (8313592: RISC-V: Link libatomic statically)
- https://github.com/openjdk/jdk/pull/15156 (8313779: RISC-V: use andn / orn in the MD5 instrinsic)
- https://github.com/openjdk/jdk/pull/15226 (8314117: RISC-V: Incorrect VMReg encoding in RISCV64Frame.java)
- https://github.com/openjdk/jdk/pull/15356 (8314618: RISC-V: -XX:MaxVectorSize does not work as expected)
- https://github.com/openjdk/jdk/pull/15437 (8315070: RISC-V: Clean up platform dependent inline headers)
- https://github.com/openjdk/jdk/pull/15464 (8315206: RISC-V: hwprobe query is_set return wrong value)
- https://github.com/openjdk/jdk/pull/15465 (8315195: RISC-V: Update hwprobe query for new extensions)
- https://github.com/openjdk/jdk/pull/15211 (8314020: Print instruction blocks in byte units)
- https://github.com/openjdk/jdk/pull/15285 (8314268: Missing include in assembler_riscv.hpp)
- https://github.com/openjdk/jdk/pull/15248 (8313419: Template interpreter produces no safepoint check for return bytecodes)
- https://github.com/openjdk/jdk/pull/15428 (8315020: The macro definition for LoongArch64 zero build is not accurate)
- https://github.com/openjdk/jdk/pull/15443 (8315073: Zero build on macOS fails after JDK-8303852)
- https://github.com/openjdk/jdk/pull/15468 (8315069: Relativize extended_sp in interpreter frames)

2. Finished building & regression testing of the initial jdk11u riscv port from Alibaba:
- https://github.com/openjdk/riscv-port-jdk11u/pull/3 (8276799: Implementation of JEP 422: Linux/RISC-V Port)

3. Proposed JDK11u upstream backport PRs:
- https://github.com/openjdk/jdk11u-dev/pull/2099 (8292407: Improve Weak CAS VarHandle/Unsafe tests resilience under spurious failures)
- https://github.com/openjdk/jdk11u-dev/pull/2125 (8292713: Unsafe.allocateInstance should be intrinsified without UseUnalignedAccesses)

4. Proposed riscv-port-jdk11u backport PRs:
- https://github.com/openjdk/riscv-port-jdk11u/pull/4 (8283929: GHA: Add RISC-V build config)

5. Fei Yang is nominated as JDK Updates Reviewer:
- https://mail.openjdk.org/pipermail/jdk-updates-dev/2023-July/023701.html
- https://mail.openjdk.org/pipermail/jdk-updates-dev/2023-August/024467.html

6. OpenJDK Committer Voting:
- https://mail.openjdk.org/pipermail/jdk-updates-dev/2023-July/024067.html
- https://mail.openjdk.org/pipermail/jdk-dev/2023-August/008056.html

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

JDK11U for RV32G 更新（RV32及upstream）曹贵

Merged & New JDK-mainline PRs:

- https://github.com/openjdk/jdk/pull/15911 | 8316933: RISC-V: compiler/vectorapi/VectorCastShape128Test.java fails when using RVV

Backport jdk21u:

- https://github.com/openjdk/jdk21u/pull/165 | 8315931: RISC-V: xxxMaxVectorTestsSmokeTest fails when using RVV

JDK11U for RV32:

1. **修复 C2 调用 intrinsics 过程中栈帧错位的问题**
2. **修复 C2 Long 类型数据左移节点逻辑**

openEuler RISC-V（周嘉诚）

- Preparing the latest release of 23.09
  - Ironing out final details and procedures of release
- Approaching milestones of the “LLVM Parallel Universe Project”
- Brief work recap
  - qt5-qtwebkit: add riscv64 enablement patch [distro] [merged]
  - iotop: add a fix for riscv64 [distro] [merged]
  - kubernetes: refresh enablement patch [distro] [open]
  - kubeedge: add a patch for riscv64 support [distro] [merged]
  - mailit-framework: add a upstream fix [distro] [merged]
  - kf5-kirigami2-addons: init package [distro] [merged]
  - Many other packaging changes, and more fixes for the “LLVM Parallel Universe Project”

Gentoo for RISC-V 的情况更新（Gentoo 小队）

- 暂无更新

Arch Linux RISC-V（潘瑞哲、Felix）

[core] 256 / 263 (97.34%)
[extra] 12578 / 13365 (94.11%)

Package update count: 5590
Distinct package update count: 3788

Arch	[core]			[extra]		
	Up-to-date (Ratio%)	Outdated	Missing	Up-to-date (Ratio%)	Outdated	Missing
x86_64	263	0	0	13359	0	0
i486	142 (53.99%)	113	8	3920 (29.34%)	5541	3898
i686	169 (64.26%)	89	5	6004 (44.94%)	5899	1456
pentium4	169 (64.26%)	89	5	5880 (44.02%)	5931	1548
aarch64	239 (90.87%)	12	12	10902 (81.61%)	296	2161
armv7h	240 (91.25%)	10	13	10611 (79.43%)	412	2336
riscv64	248 (94.3%)	7	8	11262 (84.3%)	1265	832
loong64	150 (57.03%)	110	3	6697 (50.13%)	3543	3119

```
linux - 6.4.10.arch1-1.1 --> 6.5.2.arch1-1
glibc - 2.37-3 --> 2.38-3.1
gcc - 13.1.1-2 --> 13.2.1-3.2
clang - 15.0.7-9 --> 16.0.6-1
firefox - 116.0.3-1 --> 118.0-1
jre-openjdk - 20.0.2.u9-3 --> 21.u35-3
rust - 1:1.71.1-1 --> 1:1.72.1-1
libreoffice-fresh - 7.5.5-1 --> 7.6.1-1
electron24 - 24.8.0-1 --> 24.8.3-1
electron25 - 25.5.0-1 --> 25.6.0-1
electron - never been built --> 1:25-1
code - 1.81.1-1 --> 1.82.2-2
chromium - 116.0.5845.96-1 --> 117.0.5938.92-2
```

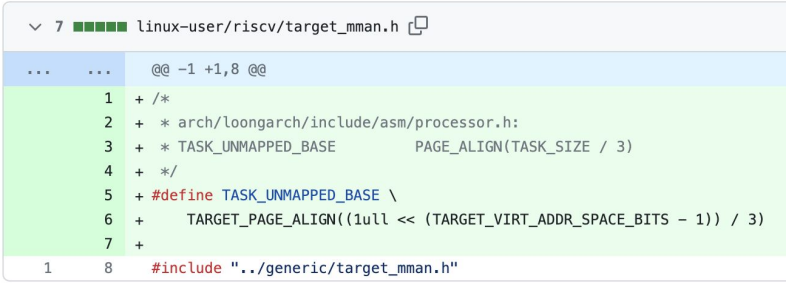
Arch Linux RISC-V（潘瑞哲、Felix）

125 PRs merged: ref

- Code OSS
- Chromium 117.0.5938.92
- OpenSSL: reconfigure to enable RISC-V optimization codes
- Electron 25
- Electron 24
- Linux 6.5.2.arch1
- go 2:1.21.1 - Workaround AUIPC+JALR mis-optimized
- rust 1.72.1
- gcc 13.2.1 - cherry-pick for fixing glibc compatibility

Arch Linux RISC-V（潘瑞哲、Felix）

- openssl: SSL related tests are failing with high HARNESS_JOBS
  https://github.com/openssl/openssl/issues/22166
- cockatrice: qemu-user segfaults in tcg interval_tree_insert
  - qemu 8.1.0 regression, bisect:
  - commit 2d708164e



- rust 1.72:
  https://github.com/felixonmars/archriscv-packages/pull/2950
- Pin cc dependency of src/bootstrap to 1.0.77. src/bootstrap/llvm.rs relies on internal implementation details of cc crate and cc 1.0.78 contains a change that breaks llvm.rs's assumptions.

- code:
  https://github.com/felixonmars/archriscv-packages/pull/3022
- need to build native node extensions in debug mode or they still segfaults even in electron25

Fedora for RISC-V status update（20230928）

- **RPM packaging**
  - Status: **Updating Fedora 38**
    - **22816/23293 [97.95%] srpm have been built.**
  - Spin: Server/Workstation/Cloud
  - WIP Spin: IoT/**CoreOS** [ONGING]
- **main package version:**
  - Toolchain(up-to-date for F38)
    - **gcc-13.2.1 -1[DONE]**
    - glibc-2.37.4[DONE]
    - **Binutils 2.39-15**[DONE]
  - libffi-3.4.4-2(up-to-date)
  - java-latest-openjdk-19.0.2.0.7
  - perl-5.36.1-497(up-to-date)
  - Python 3.11.4-1(up-to-date) → 3.12
  - LLVM/Clang 16.0.6-2(up-to-date)
  - golang-1.20.7-1(up-to-date)
  - **rust-1.72.0-1(up-to-date)**
- Desktop support:
  - DONE：XFCE/LXDE/LXQT/GNOME/ Budgie/Cinnamon/Mate/Sugar/Sway/KDE
  - Building：Deepin(will try to maintain it)
  - Key Desktop App
    - firefox-116.0-1[DONE]
    - Libreoffice 7.5.5.2-2[DONE]
    - Thunderbird 102.12.0[DONE]
    - **Chromium 116[DONE]**
- Image :
  - Sophgo SG2042 EVB/Milk-V[DONE]
  - TH1520 BeagleV/LPi4A/***[DONE]
  - StarFive JH7110 boards[ONGOING]
- ROS/ROS2 upgraded to F38
  - ROS2 packaging is ongoing
- function testing:
  - Podman[pass], Image：fedora-rv64
  - Ceph[pass]
  - K8s [pass]demo in RISC-V summit

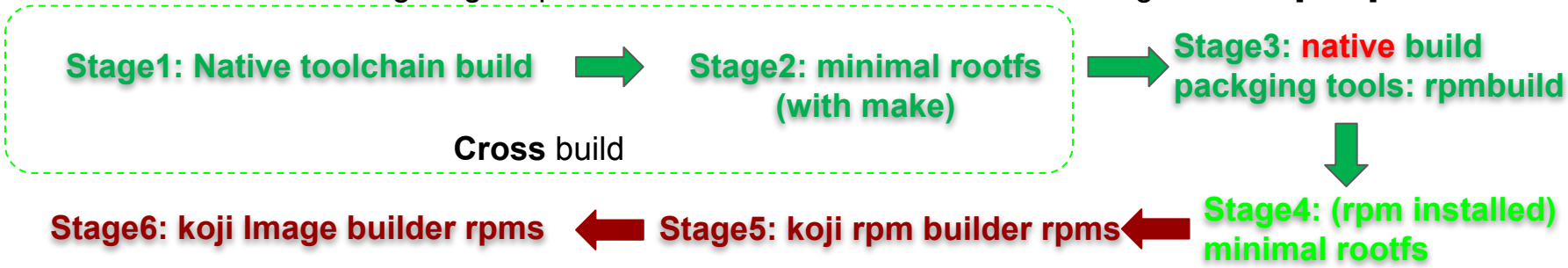
Fedora for RV32（20230928）working on 64ILP32

- Create a new bootstrap framework, target on multi-arch rpm-based Linux distro bootstrap
  - https://github.com/fedora-riscv/bootstrap
- Download srpm automatically by a given list
  - https://github.com/fedora-riscv/srpm-get
- Automated build script using yaml
  - https://github.com/fedora-riscv/rpm-builder
- All the documents for this bootstrap
  - https://github.com/fedora-riscv/bootstrap-development-log
  - https://github.com/fedora-riscv/rpmbuild-fedora-log

Core group DONE!

DNF works well !!

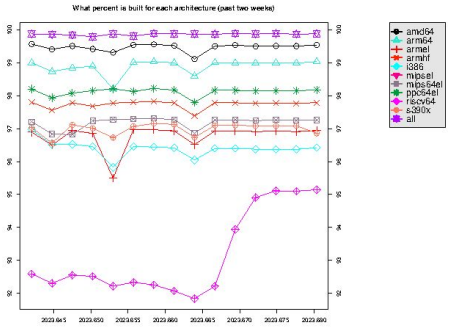
The current status: building stage4 rpms for the standard Fedora minimal image，84/149[56%]。

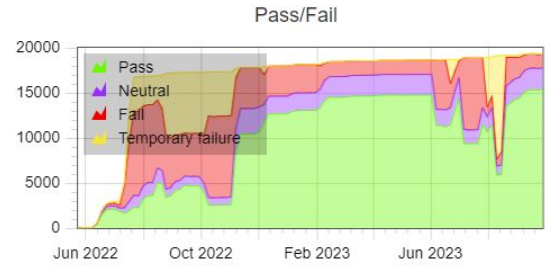


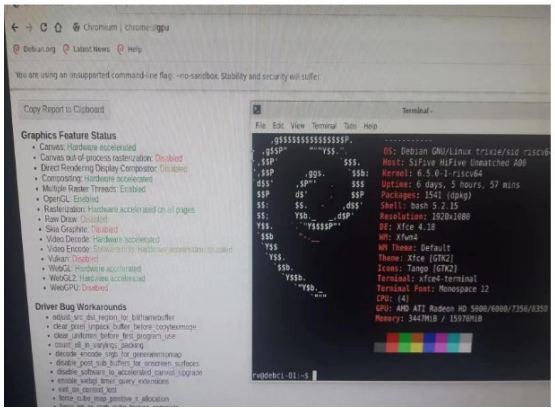
Debian for RISC-V（于波）

- Official porting update
  1. Installed: >16K
  2. BD-Uninstablled: < 500
  3. Architecture percent: > 95%
  4. testing suite will be coming
- Debci update

  Over 25K binary for britney's job
- Some works
  1. Chromium 116.0.5845.180-1 [Debian upstream]
  2. python-pyface, ceph, libobd, yubioath-desktop [ftbfs done]
  3. nodejs(18.18.0) MR, golang-github-zyedidia-tcell/terminal/micro
  4. python filecheck package







FW相关更新（王翔）

- opensbi
  - 离散hartid支持合并，重构 last_hartindex_having_scratch/hartindex_to_hartid_table/hartindex_to_scratch_table 节约一些内存开销
  - 修正文档fw_payload.md
  - 对sbi_pmu_ctr_cfg_match添加索引检查防止溢出
  - 修复sbi_domain_get_assigned_hartmask中的整数移位溢出问题
  - 简化dt_parse_isa_extensions，移除判断sbi_scratch_offset_ptr返回值为空
  - 修正SET_ISA_EXT_MAP,do ... while的包裹使得continue无效

固件相关更新(洛佳)

- 本周暂无更新

RISCV性能跟踪小队 - 陈小欧

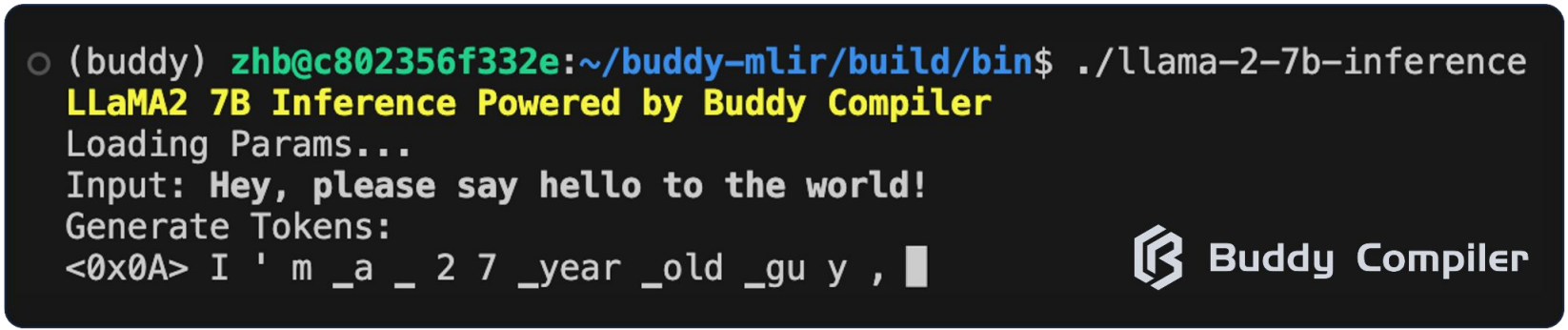
- 暂无更新

香山开源RISC-V处理器 - ICT / PCL

- 取指前端
  - 修复 Predecode 部分时序问题（#2291）
  - 修复 IFU 的 redirect 的 predecode 检查指令有效性问题（#2300）
  - 修复 BPU 模块的 target 通路时序问题（#2324）
  - 实现 FTQ 中提前一拍接收后端的 redirect 信号，减少 redirect penalty（#2329）
- 乱序调度&向量
  - 实现推测 BusyTable，以支持快速唤醒和取消（#2290）
  - 重构 PcTargetMem，修复 Jump 误预测问题（#2318）
  - 实现提前一拍反馈重定向信号给前端（#2329）
- 访存
  - 完成向量访存 Load Flow Queue 的代码、向量访存测试环境的搭建，向量 Store 新方案正在开发中
  - 完成 TLB 结构变化的修改（#2289）
  - 完成 BOP with delay queue 的代码（#2239）
  - 实现 SMS 预取优化（#2314）
- 缓存
  - 定位并解决请求融合的性能 bug，请求融合合入主线（#2337）

MLIR 结合 RISC-V 相关工作 - 张洪滨

- **Buddy Compiler 端到端 LLaMA2-7B 推理**
  - 自定义 Torch Dynamo 编译后端
  - 优化: Vector Dialect, OMP Dialect, Affine Dialect, …
  - WIP: 修复已知 Bug，打磨代码合入主线
  - WIP: RVV Specific Optimization, Gemmini Accelerator Support
  - Authors: @weilinquan, @xTayEx, @EllisLambda, @Lester-1, @qingqing12138
  - Mentors: @zhanghb97, @xlinsist, @SForeKeeper, @LHY-24



Chisel and Additional Technology / Sequencer

暂无更新

OpenHW & OpenHW Aisa Working Group

-

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

- 本周暂无更新

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