# 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

2025年03月06日·第 98 次

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

Host: 廖仕华

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（陈逸轩）

- [sig-advocate]Andes，Coadsip和RVI即将在四月份举办在线Hackathon，国内也将举办线下同期活动。报名链接
- [sig-vector]提案了zvw扩展并进行讨论
- [sig-fp]对-fflags在向量中的实用性进行讨论
- [privileged-software]启动委员会评选程序，点击链接投票
- [tech-attached-matrix-extension]委员会评选程序结束，点击链接查看结果
- [sig-perf-analysis]对perf的标准指标进行讨论

# RISC-V 中文社区的同步与八卦（张宇溪）

- 2025中国RISC-V生态大会成功召开
- 协作定胜 · 共启明天丨“开放·连接”2025 玄铁 RISC-V 生态大会圆满落幕！

  开源的胜利！RISC-V与AI今日全面「会师」

  RISC-V高性能时代已来，玄铁再亮剑

  DeepSeek，带动RISC-V！
- 2025年RISC-V中国峰会将在上海 举行
- 中国拟推政策鼓励使用RISC-V芯片：市场即将爆发？

  开源优势凸显！RISC-V引领计算架构变革 巨头已纷纷入场

# RISC-V 韩语社区的同步与八卦

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# RISC-V 德语社区的同步与八卦（罗云翔）

- Embedded world 2025, 11–13 March, 2025 in Nürnberg
- Quintauris launches the first RISC-V profile for today's real-time automotive applications
- 论文
    - IPolynomial Formal Verification of a RISC-V Processor
      Department of Computer Science, University of Bremen, Germany
    - NLU: An Adaptive, Small-Footprint, Low-Power Neural Learning Unit for Edge and IoT Applications
      TU Dresden, Germany

# RISC-V 日语社区的同步与八卦

-

# RISC-V 中国峰会进展（吴伟）

# Clang/LLVM 进展 (PLCT)

- Qualcomm 厂商拓展 Xqcilia, Xqccmp 支持

  https://github.com/llvm/llvm-project/commit/538b898a836a

  https://github.com/llvm/llvm-project/commit/5066d7b60186

- Rivos 厂商拓展 XRivosVizip, XRivoxVisni 支持

  https://github.com/llvm/llvm-project/commit/aef63c506be7

  https://github.com/llvm/llvm-project/commit/8039f8e139aa

- [RISCV] Add a pass to remove ADDI by reassociating to fold into load/store address.

  https://github.com/llvm/llvm-project/commit/26e375046dbd

- [Exegesis][RISCV] Add initial RVV support

  https://github.com/llvm/llvm-project/commit/c253e5c9917b

# GCC 进展

- psABI2.0计划在今年内正式release

  https://docs.google.com/document/d/1Q5p4gXa23gf78u8oTR4fSFZg3jFHG_ABj6vJE2Gm4Ns/edit?tab=t.0

- 更新了riscv-gnu-toolchain的binutils子模块，目前使用浅克隆会导致工具链构建失败，正在解决中（目前可以通过关闭浅克隆来完成构建）

  https://github.com/riscv-collab/riscv-gnu-toolchain/pull/1678

- 支持了Qualcomm 厂商拓展 Xqccmp

  https://sourceware.org/pipermail/binutils/2025-February/139615.html

- 修复了testsuite中发现的一个错误

  https://gcc.gnu.org/git/?p=gcc.git;a=commit;h=316eaca17ee11f575fc72e139e8cc3f9f5ccb067

# QEMU/Spike 进展（呼唤志愿者）

# Sail/ACT进展 (PLCT)

- Extension
  - Add Zilsd/Zclsd Support #765
  - add infrastructure for Zvkned #752
- Feature
  - Replace ad-hoc model configuration with Sail-native configuration #758
  - Self Test
    - Add first party C tests #764
    - Add first party C tests using Zig for cross-compilation #759
  - Build most of the C simulator as C++ #762
  - Big endianness Support added #637

- ACT 近期暂无更新

# V8 for RISC-V 更新（邱吉、陆亚涵）

1. 6302834: [riscv][turbofan] Untemplatize riscv instruction selector | https://chromium-review.googlesource.com/c/v8/v8/+/6302834
2. 6281670: [riscv] Optimise mulOverflow32 | https://chromium-review.googlesource.com/c/v8/v8/+/6281670
3. 6320155: [riscv][regalloc] Add DCHECK Special Vector register | https://chromium-review.googlesource.com/c/v8/v8/+/6320155

Port Upstream

4. 6308441: [riscv][turbofan] Inline Adapter's ConstantView into instruction selectors | https://chromium-review.googlesource.com/c/v8/v8/+/6308441
5. 6301734: [riscv] Port JSPI to riscv32 | https://chromium-review.googlesource.com/c/v8/v8/+/6301734
6. 6282737: [riscv][maglev] Faster NewConsStringMap | https://chromium-review.googlesource.com/c/v8/v8/+/6282737

# Spidermonkey for RISC-V更新（邱吉、陆亚涵）

# OpenJDK on RISC-V (PLCT 杨飞)

1. Authored/Co-authored JDK-mainline PRs:
- https://github.com/openjdk/jdk/pull/23053 (8347489: RISC-V: Misaligned memory access with COH)
- https://github.com/openjdk/jdk/pull/23631 (8350093: RISC-V: java/math/BigInteger/LargeValueExceptions.java timeout with COH)

2. Reviewed JDK-mainline PRs:
- https://github.com/openjdk/jdk/pull/23903 (8351145: RISC-V: only enable some crypto intrinsic when AvoidUnalignedAccess == false)
- https://github.com/openjdk/jdk/pull/23130 (8347794: RISC-V: Add Zfhmin - Float cleanup)
- https://github.com/openjdk/jdk/pull/23565 (8349851: RISCV: Call VM leaf can use movptr2)
- https://github.com/openjdk/jdk/pull/23291 (8348554: Enhance Linux kernel version checks)
- https://github.com/openjdk/jdk/pull/23256 (8348384: RISC-V: Disable auto-enable Vector on buggy kernels)
- https://github.com/openjdk/jdk/pull/22901 (8346922: TestVectorReinterpret.java fails without the rvv extension on RISCV fastdebug VM)
- https://github.com/openjdk/jdk/pull/22902 (8346924: TestVectorizationNegativeScale.java fails without the rvv extension on RISCV fastdebug VM)
- https://github.com/openjdk/jdk/pull/22925 (8347042: Remove an extra parenthesis in macro definition in jfrTraceIdMacros.hpp)
- https://github.com/openjdk/jdk/pull/23368 (8349070: Fix riscv and ppc build errors caused by JDK-8343767)

3. Authored JDK24/24u backport PRs:
- https://github.com/openjdk/jdk/pull/22944 (8346838: RISC-V: runtime/CommandLine/OptionsValidation/TestOptionsWithRanges.java crash with debug VMs)
- https://github.com/openjdk/jdk24u/pull/15 (8346868: RISC-V: compiler/sharedstubs tests fail after JDK-8332689)

# Go community work update (PLCT 蒙卓)

1. Authored/Co-authored Go-mainline CLs:
   - 647596: runtime: unify C -> Go ABI transitions on riscv64 | https://go-review.googlesource.com/c/go/+/647596
   - all: add race support for riscv64 | https://github.com/mengzhuo/go/commit/a1b9b0d4faae07a31c599e00ee73aa6b4f882068 https://github.com/golang/go/issues/64345 https://github.com/llvm/llvm-project/pull/127295 [merged]

1.

2. Reviewed Go-mainline CLs:
   - 648855: internal/bytealg: clean up and simplify the riscv64 equal implementation | https://go-review.googlesource.com/c/go/+/648855
   - 631937: cmd/internal/obj/riscv: implement vector load/store instructions | https://go-review.googlesource.com/c/go/+/631937
   - 646775: cmd/internal/obj/riscv: add support for vector integer arithmetic instructions | https://go-review.googlesource.com/c/go/+/646775
   - 646736: internal/bytealg: vector implementation of equal for riscv64 | https://go-review.googlesource.com/c/go/+/646736
   - 646737: internal/bytealg: vector implementation of compare for riscv64 | https://go-review.googlesource.com/c/go/+/646737
   - 646777: cmd/internal/obj/riscv: add support for vector floating-point instructions | https://go-review.googlesource.com/c/go/+/646777
   - 646776: cmd/internal/obj/riscv: add support for vector fixed-point arithmetic instructions | https://go-review.googlesource.com/c/go/+/646776
   - 630518: cmd/internal/obj/riscv: add riscv64 CSR map | https://go-review.googlesource.com/c/go/+/630518 [merged]

总结:
   - race detector代码已完成，支持待合入
   - rvv 汇编支持推进中，runtime优化待review

# RuyiSDK (Xi Jing, PLCT)

- RuyiSDk 包管理器发布v0.28版本：
  - RuyiSDK 包管理器：
    - 运行不依赖软件源的命令时，如软件源仓库尚未拉取到本地，现在不会多余做拉取动作了。
    - `ruyi list` 现在支持基本的过滤查询了：使用 `--category-is` 查询某个分类下的软件包，使用 `--name-contains` 查询名称中包含特定字样的软件包。

      考虑到软件包的数量持续增加，不带任何参数的 `ruyi list` 不再受到支持。如果您有依赖先前行为的脚本等，请按照提示修改使用方式。
  - RuyiSDK 软件源：
    - 新增了以下软件包：
      - `source/wiringx`: wiringX 项目的官方源码。wiringX 是模块化的 GPIO 支持组件。
    - 更新了以下软件包：
      - `board-image/bianbu-bpi-f3`
      - `board-image/revyos-milkv-meles`
      - `board-image/revyos-sg2042-milkv-pioneer`
    - 修复了 `board-image/revyos-milkv-meles` 的 `boot` 分区的文件类型标记。
- RuyiSDK IDE Plugins 插件 v0.0.2 发布，增加启动时执行 `ruyi update` 命令，并展示未读的 `ruyi news` 信息。
- 官网：增加数据统计功能
- 操作系统支持矩阵
  - meles/revyos: update to 20250123
  - CI: Fix: Bump python version
  - Updator: Add milkv-meles, milkv pioneer revyos
  - Fix: exclude u-boot from boot
  - Refactor: Use ruyi's minifest defination
  - Updator: Add plugin for bpi-f3 ok and pioneer ok
  - Megrez: update RockOS 20250219
  - VisionFive2,LicheeRV Dock: update to Ubuntu 24.04.2 LTS
  - Add TTGO T-Display-GD32 board & Add µC/OS-II
  - Icicle: Ubuntu 24.04.2 LTS
  - PIC64GX: Ubuntu 24.04.2
  - Mars: Ubuntu 24.04.2
  - Unmatched: Ubuntu 24.04.2

详见RuyiSDK双周进展报告：https://github.com/ruyisdk/wechat-articles

# openEuler RISC-V (周嘉诚)

*Status / 20240306*

- openEuler 25.03:
  - mass-rebuilding & bug-fixing
- openEuler 24.03 LTS Service Pack 1:
  - Official (RVA20): Released 🎉 [DL Link]
  - Preview (RVA22+V): Released 🎉 [DL Link]

Updates

- isa-l: implemented riscv dispatcher & added RVV support
- testing: finished a thorough test failure analysis for the mugen testsuite on oERV 24.03-series
- RVCK: reviewing enablement patches for K1/M1
- toolchain: fixed llvm-toolset-19 packaging issues as system llvm for Preview builds
- RVCI: Alpha image for oERV 25.03 available now

Following releases in 1H'25

- Late Q1 - openEuler 25.03
- Late Q2 - openEuler 24.03 SP2

Features:

- 6.6-based common kernel for QEMU, SG2042 (Pioneer) & TH1520 (LPi4A)
- UEFI-supported Hardware & QEMU images
- Penglai TEE-enabled firmware variants

Images:

- UEFI ISO
- UEFI qcow2 Image w/ Penglai TEE
- Legacy-boot Images for Pioneer & LPi4A

# Gentoo for RISC-V 的情况更新（Gentoo 小队）

# Arch Linux RISC-V (Felix & PRZ)

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# Arch Linux RISC-V (Felix & PRZ) - Electron

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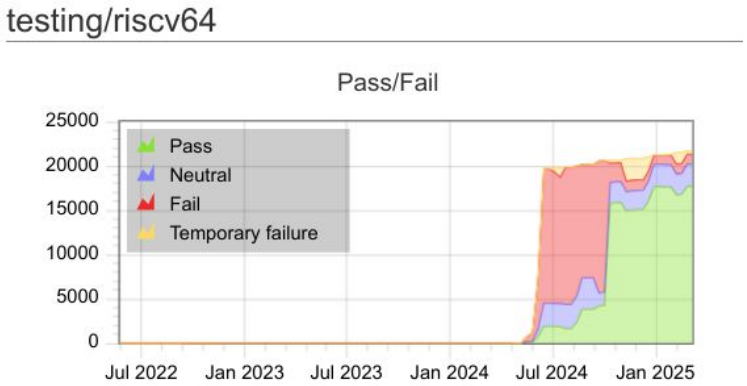
# Fedora on RISC-V status update（20250220）

- **RPM packaging**
  - Koji Status: **F41, GA on Nov 12**
    - **F41: 23952/24320[98.48%] srpm**
    - **Rawhide/F42: 14684/24571 [59.76%] srpm**
    - **https://www.fedoravforce.com**
- **main package version:**
  - Toolchain: gcc-15.0.1-0.3、glibc-2.40.9000-27.0、binutils-2.43.50-11
  - **libffi-3.4.6-5**
  - java-21-openjdk
  - java-latest-openjdk
  - perl-5.40.1-515
  - python3.13-3.13.1-3
  - llvm-19.1.7-5.0
  - golang-1.23.3-1
  - rust-1.84.1-2

- Desktop support Fedora 42:
  - **DONE:**
  - building:**XFCE/LXDE/LXQT/Cinnamon/Sway/Budgie/Sugar/GNOME/Mate/KDE/Deepin**
  - **Key Desktop App**
    - firefox-131.0-2
    - libreoffice-24.8.3.2-2
    - Thunderbird-115.11.1-1
    - chromium-126.0.6478.182-2
- Image and REPOs :
  - **https://images.fedoravforce.com**
  - Images: rsync://mirror.iscas.ac.cn/fedora-riscv/releases/41/Spins/
  - REOP: rsync://mirror.iscas.ac.cn/fedora-riscv/releases/41/Everything
  -
- ROS/ROS2 upgraded to F42
- Sail for rawhide[UPSTREAMING]
- function testing for F41:
  - **Podman, Image: fedorariscv/base**
  - Ceph[ONGOING]
  - K8s[ONGOING]

# Debian for RISC-V（于波）

- Official port update
  0. Debian Trixie initial freeze is coming
  1. Revert "[arm64, riscv64] Enable EFI_ZBOOT"
- Debci
  0. Running well
  1. Prepare one p550 at OUOSL
- Some works
  1. lintian [MR for 4.7.2], eclipse [RC +1], chromium[129]
  2. librep on rv64 [debian, upstream], apparmor timeout on rv64[MR]
  3. ovn timeout on rv64[upstream, debian], fossil [bug]
  4. python-indexed [new upload], go-jose [CVE fixed]



# RevyOS (郑景坤)

- New Images (本周无更新)
  - Lichee Pi 4A: 20250123 : https://mirror.iscas.ac.cn/revyos/extra/images/lpi4a/20250123/
  - Milk-V Meles: 20250123 https://mirror.iscas.ac.cn/revyos/extra/images/meles/20250123/
  - New kernel (6.6.73 & 6.6.77), new SDK (2.0.2)
  - Milk-V Pioneer: 20241230

    https://mirror.iscas.ac.cn/revyos/extra/images/sg2042/20241230/
- Community Additions
  - 文档更新: 内核构建
  - wishlist / 许愿清单
  - known compatibility issue / 已知兼容性问题列表
- ROS2
  - RevyOS maintains two ROS2 distributions: Humble and Jazzy.
  - jazzy build 1388/1481 > 1389/1481 (93.79%)
  - humble build 1548/1719 -> 1561/1740 (89.71%)
  - CI test results:

    Pass: 39,323/39,578 > 39437/39696 (99.35%)

    Failed: 153, Skipped:1106

    Total time: 6.02 hours

# RevyOS supported devices

Image download directory

1、Lichee Pi 4A

2、Lichee Cluster 4A

3、BeagleV-Ahead

4、Milk-V Pioneer

5、Milk-V Meles

6、Lichee Console 4A

7、RISC-V Book

8、Lichee Book

SD card support

1、Lichee Pi 4A

2、beaglev-ahead

3、Milk-V Meles

4、Lichee Console 4A

Mainline support

1、LicheePi 4A

2、Milk-V Meles

2、Milk-V Pioneer

# Sophgo Linux Upstream Status Update（汪辰）

https://github.com/sophgo/linux/wiki [Last updated: Mar/05/2025]

- CV18XX Series
  - https://lore.kernel.org/linux-riscv/20250213215655.2311793-1-alexander.sverdlin@gmail.com/ RTC 补丁第 12 版，Alexander Sverdlin 接手继续
- SG2042
  - https://lore.kernel.org/linux-riscv/20250211051801.470800-1-inochiama@gmail.com/ PinCtrl 第 2 版，已经被 for-next 收录，有希望进入 v6.15
  - https://lore.kernel.org/linux-riscv/cover.1740535748.git.unicorn_wang@outlook.com MSI 中断控制器第 5 版补丁，已经被 for-next 收录，有希望进入 v6.15
  - https://lore.kernel.org/linux-riscv/20250228-sfg-spi-v2-1-8bbf23b85d0e@gmail.com SPI 控制器补丁 第 2 版
- SG2044
  - https://lore.kernel.org/linux-clk/20250226232320.93791-1-inochiama@gmail.com 时钟第 3 版
  - https://lore.kernel.org/linux-riscv/20250305063920.803601-1-inochiama@gmail.com 以太网控制器第 6 版
  - https://lore.kernel.org/linux-riscv/20250304071239.352486-1-inochiama@gmail.com/ PCIe 控制器，第 2 版
  - https://lore.kernel.org/lkml/20250303111648.1337543-1-inochiama@gmail.com MSI 控制器，第 1 版
  - https://lore.kernel.org/linux-riscv/20250304083548.10101-1-looong.bin@gmail.com/ SPI FMC，第 2 版

# RT-Thread (RISC-V) Upstream Status Update（汪辰）

PR list：

- [libcpu][riscv] add a doc for wch saving the irq stack as stack-512: https://github.com/RT-Thread/rt-thread/pull/10063
- [libcpu][risc-v]add comments for rv64 sv39 mmu APIs: https://github.com/RT-Thread/rt-thread/pull/10053
- [bsp/k230] 修复Kconfig中由RTT_DIR路径错误引起的无法编译问题: https://github.com/RT-Thread/rt-thread/pull/10033
- [bugfix][risc-v]fix the PPN length error in GET_PPN(pte).: https://github.com/RT-Thread/rt-thread/pull/10020
- [lwp/riscv]修正用户态参数空间占用堆地址空间的问题: https://github.com/RT-Thread/rt-thread/pull/10014

RFC discussion

- N/A

# Box64 RISC-V 进展

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# opensbi（王翔）

- 对只实现了zalrsc的设备提供支持，通过lr/sc实现一些原子操作。
  https://lists.infradead.org/pipermail/opensbi/2025-February/008158.html
- 修正构建脚本，在构建前清理构建目录。
  https://lists.infradead.org/pipermail/opensbi/2025-February/008106.html
- 一些关于hart id/index的优化。
  https://lists.infradead.org/pipermail/opensbi/2025-February/008112.html
- 在初始化时缓存一些cpu相关的dt信息到scratch，来加速dt的处理。
  https://lists.infradead.org/pipermail/opensbi/2025-February/008118.html
- 添加PXA uart支持。
  https://lists.infradead.org/pipermail/opensbi/2025-February/008124.html
- 原本的Zicntr检测只检测time，现在执行完整的三个寄存器检测，并动态修正dt中的riscv,isa-extensions。
  https://lists.infradead.org/pipermail/opensbi/2025-February/008136.html
- 修正中断重定向到低特权等级的BUG，从STVEC/VSTVEC获取返回地址时需要去除低位的模式位。
  https://lists.infradead.org/pipermail/opensbi/2025-March/008164.html

# RustSBI团队进展（洛佳）

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# RustSBI团队进展（洛佳）

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# 香山开源RISC-V处理器 - ICT / PCL（提交人不在线）

香山开源技术讨论群：879550595（QQ）

- **前端**
  - 调整 RAS 溢出的处理逻辑，避免潜在的卡死风险 (#4317)
- **后端**
  - 修复相邻中断/异常触发时，xtval 以及 epc 更新错误的问题 (#4307)
  - 修复 mhpmevent 寄存器备份信息更新不一致的问题 (#4321)
  - 修复对 debugmodule 的 mmio 访问，错误排除 debugmodule 地址空间的问题 (#4324)
  - 删除新版 dispatch 冗余模块，以及相关硬件性能计数器的冗余接口 (#4288)
  - 修复 Spike 模拟器中，未根据 hgatp.mode 做写 vsatp 限制的问题 (Spike #86)
  - 在新版 dispatch 模块，支持通过 vlbusytable 进行 oldvd 消除 (#4198)
  - 支持更多 CSRR 读指令乱序执行 (#4128)
- **访存与缓存**
  - 修复非对齐访存在违例检测和写回唤醒上有关的遗留问题 (#4333)
  - 修复 uncache 请求在地址不对齐的情况下未报异常的 Bug (#4304)
  - 修复 uncache 冲刷处理有误导致卡死的 Bug (#4300)
  - 修复 LR 指令提前释放对后续 LR 的阻塞的 Bug (#4337)
  - 设置 ECC 校验报错触发 NMI_31 中断 (#4335)
  - 修复 ECC 故障注入指令导致 DCache 出现多重命中的 Bug (#4285)
  - 修复无效的 DCache MSHR 向 LDU 转发 corrupt 的 Bug (#4292)
  - 补充一系列 L2 Cache 中被遗漏的错误处理 (CoupledL2 #355, CoupledL2 #357, CoupledL2 #368)
  - 补充 CMO 事务对 Snoop 的阻塞情况 (CoupledL2 #370)
  - 修复一系列与 Snoop 相关的嵌套问题 (CoupledL2 #351, CoupledL2 #358, CoupledL2 #369)
  - 添加对 CHI Issue C 版本的基本支持 (#4298)

# banshanjdk-8 让你的 java8 程序在 RISC-V 平台极限加速

# Chisel and Additional Technology / Sequencer

- T1 dramsim3 Support by @CircuitCoder
- Zaozi SMT Support by @Clo91eaf
  - Zaozi Paper accepted in LATTE workshop, colocated with ASPLOS
- T1-ZVMA
  - Based on SiFive Proposal
  - uArch Finished
  - implementing RTL
  - presenting uarch in the next AME tech meeting

# OpenHW & OpenHW Aisa Working Group

# 甲辰计划进展(吴伟)

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# 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