Masking known issues across six kernel CI systems

FOSDEM 2022

Nikolai Kondrashov
Nikolai Kondrashov
fn spbnick
Sr. Software Engineer, Red Hat, CKI Project
KernelCI KCIDB maintainer
Electronics and embedded enthusiast
Born in Russia, living in Finland
Kernel contribution workflow

- Send patches by email to maillists and maintainers
- Get reviews in response
- Repeat until everyone is satisfied
- Get patches merged into a subtree
- Get subtree merged into the mainline
- Maybe get a report from a testing system at some point
Kernel testing systems

- LKFT
- KernelCI
- Intel 0-Day
- Google syzbot
- CKI
- ...
stable-rc/linux-4.9.y build: 197 builds: 1 failed, 196 passed, 4 warnings (v4.9.232)

kernel.org bet hot at kernel.org
Sat Aug 1 08:45:50 UTC 2020

- Previous message: [PATCH] stable: SMP: Lessons: Introduction and use (apprise, for adol)
- Modules loaded by: [LIGHT] [LIGHT] [LIGHT] [LIGHT]

stable-rc/linux-4.9.y build: 37 builds: 1 failed, 36 passed, 4 warnings (v4.9.232)

Full build history: http://lkml.org/lkml.org/log/linus.stallard@codecdn.org/32279-1000

Time: 08:45:50.970
Build: Linus 4.9.4

Build failed

KMSAN: kernel-usb-infoleak in hif_usb_send

PASS: Test report for kernel 5.7.12-3ff3d4f.cki (stable-queue)

Cris Project Book at android.com
Thu Aug 1 20:57:47 UTC 2020

- Previous message: [PATCH] stable: SMP: Lessons: Introduction and use (apprise, for adol)
- Modules loaded by: [LIGHT] [LIGHT] [LIGHT] [LIGHT]

Re: [PATCH V4] hwmon: add fan/pwm driver for cors

- By: [author] <author@example.com>, [date]
- Subject: [PATCH V4] hwmon: add fan/pwm driver for cors

- From: kernel list [mailto:林少富@linus] [date]
- To: [author] <author@example.com>
- Cc: [cc]

Hi [author],

Thank you for the patch. Perhaps something to improve:
- Pass build test without any environment
- I'd like to see how the kernel runs on a single core, briefly drop in a sysctl
- But when switching patches, we support --base as documented in
- https://github.com/linus/linus#patches

Best,
[author]
### Dashboards

#### KernelCI

**Test Results**

<table>
<thead>
<tr>
<th>Test Results</th>
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**LKFT 2.0 Build Status**

Our continuous integration and continuous deployment practices are enabled with LKFT 2.0 Build Status.

**LKFT Build Status**

The LKFT builds are tracked in a dashboard interface, along with the latest build and third-party build definitions.

---

### Build

- **Build ID**: r8095661
- **Build**: Passed

#### Build Details

- **Build ID**: r8095661
- **Build Status**: Passed
- **Build URL**: [Link](http://example.com/build)
What is KCIDB?
The Smaller Picture

Submitter A
Submitter B
Submitter C
Submitter D

JSON
Checkouts
Builds
Tests
Checkouts
Builds
Tests
Checkouts

DB

Dashboard
Subscriptions
It's all JSON

```json
{
    "tests": [
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            "origin": "kernelci",
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                "misc": {
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                    "roots_url": "http://storage.kernelci.org/images/rootsfs/debian/bullseye/20211126.0/arch/hf/initrd.cpio.gz",
                    "lab": "lab-haylibre",
                    "tags": "allwinner",
                    "instance": "sun7i-a20-cubiebrick-sea"
                }
            },
            "path": "baseline-nfs.deep-emergency",
            "comment": "baseline-nfs on cubiebrick in lab-haylibre",
            "status": "PASS",
            "waived": false,
            "start_time": "2021-12-07T12:18:12.598000+00:00",
            "output_files": [
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                {
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                {
                    "name": "lava.json",
                }
            ],
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                "plan_variant": "baseline-nfs"
            }
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            },
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                {
                    "name": "txt",
                },
                {
                    "name": "lava.json",
                }
            ],
            "misc": {
                "kernelci_status": "PASS",
                "plan": "Baseline-nfs",
                "plan_variant": "baseline-nfs"
            }
        }
    ]
}
```
Report volume so far

[Graph showing reports over time with three lines representing Revisions, Builds, and Tests]
Below is the summary of results Kernel CI database has recorded for this revision so far. See complete and up-to-date report at:

https://kcidb.kernelci.org/#/revision/revisions/ogxid=java-yct commit_hash=900025380824286312753bac9d307e97014a5e2e6f3e8af4

**OVERVIEW**

| Build(s): | FAIL |
| Test(s):  | FAIL |

**REVISION**

<table>
<thead>
<tr>
<th>Status</th>
<th>MESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comment</td>
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</tr>
<tr>
<td>Name</td>
<td>v5.16-c7.108-g899f2030201b</td>
</tr>
<tr>
<td>Hash</td>
<td>900025380824286312753bac9d307e97014a5e2e6f3e8af4</td>
</tr>
</tbody>
</table>

Checked out from

https://git.kernelci.org/driver/os/kernel/git/kt-raspberry-pi/java-yct master

By kernelci, redhat, sydbot, txsbot

**BUILD(S)**

<table>
<thead>
<tr>
<th>Status</th>
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<tbody>
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<td>mips</td>
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<td>86</td>
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<tr>
<td>aarch64</td>
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<td>sh</td>
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<tr>
<td>x86</td>
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</tr>
<tr>
<td>parisc</td>
<td>1</td>
<td>32</td>
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<tr>
<td>sparc</td>
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<td>32</td>
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<tr>
<td>armv64</td>
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<td>2</td>
</tr>
<tr>
<td>s390x</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

**Failures**

- x86 ulongconfig
- x86 ulongconfig "v5.16-c7.108-g899f2030201b"
- X86_64 ulongconfig "v5.16-c7.108-g899f2030201b"
- X86_64 ulongconfig "v5.16-c7.108-g899f2030201b"
- X86_64 ulongconfig "v5.16-c7.108-g899f2030201b"

By kernelci, redhat, sydbot, txsbot

See complete and up-to-date report at:

https://kcidb.kernelci.org/#/revision/revisions/ogxid=java-yct commit_hash=900025380824286312753bac9d307e97014a5e2e6f3e8af4

**LEGEND**

- **ERROR** - Aborted. Test, tested code, or both might be faulty.
- **FAIL** - Failed. Tested code is likely faulty.
- **MNG** - Pending. Tested code is likely correct.
- **DONE** - Finished. Status of tested code is unknown.
- **SKIPPED** - Skipped. Flawed, but didn’t execute.
- **RUNNING** - In progress, or status unknown.
- **WAIVED** - Waived result. Test is too new or shows known failures.
- **BLANK** - No data, zero.

https://kcidb.kernelci.org/
The Testing Problem
Tests are flaky

- Results depend on hardware, timing, prior state, etc.
- Each run can be different
- A broken change might pass and a healthy change might fail
- Automated pre-merge testing is still rare
- Nobody stops development to fix CI
Issue masking across CI systems
Linaro Tuxsuite

Build capacity is a problem of the past

TuxSuite™ delivers on-demand APIs and tools for building Linux kernels in parallel and at scale.

A mass build service, not really a CI
Linaro Tuxsuite

Supported Architectures and Toolchains

Architectures Supported
- arc
- arm
- arm 64
- i386
- mips
- parisc
- powerpc
- risc
- s390
- sh
- sparc
- x86_64

Toolchains Supported
- gcc-8
- gcc-9
- gcc-10
- clang-10
- clang-11
- clang-12
- clang-nightly
- clang-android

TuxBuild and TuxMake endeavor to support all upstream Linux supported toolchain and architecture combinations.

A mass build service, not really a CI

https://tuxsuite.com/
Linaro Tuxsuite

A mass build service, not really a CI

Queued: powerpc (tinyconfig) with gcc-10 @ https://builds.tuxbuild.com/1lRAiVKFVGcDZaLKiMnVzq7qyvb9/
Queued: sparc (tinyconfig) with gcc-10 @ https://builds.tuxbuild.com/1lRAiSMOTw9WnTjYlbLZhiXG/
Queued: parisc (tinyconfig) with gcc-10 @ https://builds.tuxbuild.com/1lRAiPR4AS9SHSnuYupgNCAnBCW/

Building: bbfs5c979011a ("Linux 5.9") arm64 (allmodconfig) with gcc-9 @ https://builds.tuxbuild.com/1lRAiRK34olLZzwXLXAJ9K7Xg/
Building: bbfs5c979011a ("Linux 5.9") arm64 (defconfig) with gcc-8 @ https://builds.tuxbuild.com/1lRAiPmTlRyc1lG6Yi1OA5jXAm/
Building: bbfs5c979011a ("Linux 5.9") arm (allmodconfig) with gcc-10 @ https://builds.tuxbuild.com/1lRAiPTwJ3Jf9M0nvBUDa60AsM/
Building: bbfs5c979011a ("Linux 5.9") arm64 (allyesconfig) with gcc-10 @ https://builds.tuxbuild.com/1lRAiTcW1Nevr6QjT7BHEQqdB/
Building: bbfs5c979011a ("Linux 5.9") x86 (allmodconfig) with gcc-10 @ https://builds.tuxbuild.com/1lRAiQeTSCsLd46YrWdKLQb2ge/

Building: bbfs5c979011a ("Linux 5.9") mips (tinyconfig) with gcc-10 @ https://builds.tuxbuild.com/1lRAiTFU4ZPLKtkKceB1w08ncTBE/
Building: bbfs5c979011a ("Linux 5.9") arm64 (tinyconfig) with clang-11 @ https://builds.tuxbuild.com/1lRAiVxHJBeEhQrTjDForIClyK/
Building: bbfs5c979011a ("Linux 5.9") x86 (allmodconfig) with clang-nightly @ https://builds.tuxbuild.com/1lRA1uEnyztcu9XAOsMBajTERF/
Building: bbfs5c979011a ("Linux 5.9") i386 (allmodconfig) with gcc-9 @ https://builds.tuxbuild.com/1lRAITbeYAVRSGjxrh6rnrg2H4tp/
Building: bbfs5c979011a ("Linux 5.9") riscv (tinyconfig) with gcc-9 @ https://builds.tuxbuild.com/1lRAIVoOQza1ofWruYyC7tCQBL/
Linaro Tuxsuite

No "known issue" tracking
Gentoo GKernels
Running builds and kselftests
Gentoo GKernelCI

Running builds and kselftests

https://gkernelci.gentoo.org/
Post- and pre-merge testing 🎉

### Post- and pre-merge testing

#### Commits on Oct 13, 2021
- **sys-kernel/gentoo-sources: Linux patch 4.19.2.11**
  - alecmcule committed on Oct 13, 2021
  - All checks have passed

#### Commits on Sep 17, 2021
- **app-benchmarks/lisobench: bump to v0.5.0**
  - alecmcule committed on Sep 17, 2021

- **kernel-2-eclipse: Update PYTHON_COMPAT to drop python 3.7**
  - alecmcule committed on Sep 17, 2021

- **sys-kernel/ft-sources: drop old ebuild**
  - alecmcule committed on Sep 17, 2021

- **sys-kernel/ft-sources: fix filename**
  - alecmcule committed on Sep 17, 2021

- **sys-kernel/ft-sources: Bump r-it-sources-4.9.282 p187**
  - alecmcule committed on Sep 17, 2021

- **sys-kernel/ft-sources: Bump revision of 4.4.277_p224 to EAPI=8**
  - alecmcule committed on Sep 17, 2021

---

[https://gkernelci.gentoo.org/](https://gkernelci.gentoo.org/)
No "known issue" tracking
ARM Kernel CI
ARM Kernel CI

- Post-merge testing
- Running perftool and LTP
- No known issue tracking?
- Switching to an instance of Kernel CI Native
PASS: Test report for kernel 5.15.13 (stable-queue, 7fb4d82f)

- Subject: PASS: Test report for kernel 5.15.13 (stable-queue, 7fb4d82f)
- From: CKI Project <cki-project@xxxxxxxxx>
- Date: Tue, 11 Jan 2022 14:28:34 -0000

Check out this report and any autotriaged failures in our web dashboard:
https://datawirehouse.ckl-project.org/kzidb/checkouts/28172

Hello,

We ran automated tests on a recent commit from this kernel tree:
Commit: 7fb4d82f360 - drm/avdpcm: keep the BACO feature enabled for suspend

The results of these automated tests are provided below.

- Overall result: PASSBD
  Merge: OK
  Compile: OK
  Tests: OK
  Targeted tests: NO

All kernel binaries, config files, and logs are available for download here:

Please reply to this email if you have any questions about the tests that we ran or if you have any suggestions on how to make future tests more effective.
Red Hat CKI

and pre-merge testing 🎉
KernelCI

Running lots of test suites...
Red Hat CKI

on several architectures and lots of hardware
Each test suite can be manually disabled or waived...
depending on kernel tree, architecture, or build
Red Hat CKI

Known issues are manually maintained,...
and link test suite, output file regex, and bug
Known test issues are ignored
Red Hat CKI

as well as known build issues
Kernel CI Native

KernelCI Dashboard

Welcome to the KernelCI web dashboard for the upstream Linux kernel.
You'll find here all the results for kernel builds and tests run natively by KernelCI on mainline, linux-next, stable and a variety of maintainer branches.

To find out more about the project, see the main kernelci.org website.

- View kernel branches and their latest build and test results
- View latest kernel build results
- View latest test results
- View results per SoC or hardware family
- View statistics about all the data

Post-merge testing
## Available Builds

The results shown here cover the last 14 days of available data starting from Sat, 15 Jan 2022 (time in UTC based).

<table>
<thead>
<tr>
<th>Tree</th>
<th>Branch</th>
<th>Kernel</th>
<th>Dconfig</th>
<th>Arch</th>
<th>Compiler</th>
<th>Date</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>mainline</td>
<td>master</td>
<td>v5.16-9473-ga335c380...</td>
<td>dconfreg+kexectest</td>
<td>riscv</td>
<td>riscv64-linux-gnu-gcc (Debian 10.2.1-4) 10.2.1 20210110</td>
<td>2022-01-15</td>
<td>✔</td>
</tr>
<tr>
<td>mainline</td>
<td>master</td>
<td>v5.16-9473-ga335c380...</td>
<td>riscv32_dconfreg</td>
<td>riscv</td>
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<tr>
<td>mainline</td>
<td>master</td>
<td>v5.16-9473-ga335c380...</td>
<td>nommu_k210_dconfreg</td>
<td>riscv</td>
<td>riscv64-linux-gnu-gcc (Debian 10.2.1-4) 10.2.1 20210110</td>
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<tr>
<td>next</td>
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</table>

**Running builds,**
Available Test Results

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<table>
<thead>
<tr>
<th>Tree</th>
<th>Branch</th>
<th>Kernel</th>
<th>Test Plan</th>
<th>Test Results</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>mainline</td>
<td>master</td>
<td>v5.16-9673-ga33f5c380c04b</td>
<td>baseline</td>
<td>0 1</td>
<td>2022-01-15</td>
</tr>
<tr>
<td>mainline</td>
<td>master</td>
<td>v5.16-9673-ga33f5c380c04b</td>
<td>lp-timers</td>
<td>0 0</td>
<td>2022-01-15</td>
</tr>
<tr>
<td>mainline</td>
<td>master</td>
<td>v5.16-9673-ga33f5c380c04b</td>
<td>baseline-ci-nfs</td>
<td>0 0 0</td>
<td>2022-01-15</td>
</tr>
<tr>
<td>mainline</td>
<td>master</td>
<td>v5.16-9673-ga33f5c380c04b</td>
<td>lp-mm</td>
<td>0 0 0</td>
<td>2022-01-15</td>
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<tr>
<td>mainline</td>
<td>master</td>
<td>v5.16-9673-ga33f5c380c04b</td>
<td>usb</td>
<td>0 1</td>
<td>2022-01-15</td>
</tr>
<tr>
<td>mainline</td>
<td>master</td>
<td>v5.16-9673-ga33f5c380c04b</td>
<td>lp-fcmt-locks</td>
<td>0 0</td>
<td>2022-01-15</td>
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<tr>
<td>next</td>
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<td>baseline-nil</td>
<td>0 0</td>
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</tr>
<tr>
<td>mainline</td>
<td>master</td>
<td>v5.16-9673-ga33f5c380c04b</td>
<td>cros-ec</td>
<td>0 1</td>
<td>2022-01-15</td>
</tr>
<tr>
<td>mainline</td>
<td>master</td>
<td>v5.16-9673-ga33f5c380c04b</td>
<td>smc</td>
<td>0 0 0</td>
<td>2022-01-15</td>
</tr>
<tr>
<td>next</td>
<td>pending-fix</td>
<td>v5.16-9798-g01303e90d818</td>
<td>baseline-nil</td>
<td>0 0 0 0</td>
<td>2022-01-15</td>
</tr>
<tr>
<td>mainline</td>
<td>master</td>
<td>v5.16-9673-ga33f5c380c04b</td>
<td>igt-kms-tgfra</td>
<td>0 0</td>
<td>2022-01-15</td>
</tr>
<tr>
<td>mainline</td>
<td>master</td>
<td>v5.16-9673-ga33f5c380c04b</td>
<td>baseline-nil</td>
<td>0 0 0</td>
<td>2022-01-15</td>
</tr>
<tr>
<td>tip</td>
<td>master</td>
<td>irq-core-2022-01-13-320-g...</td>
<td>baseline</td>
<td>0 0</td>
<td>2022-01-15</td>
</tr>
</tbody>
</table>

and several test suites
Available SoCs

The results shown here cover the last 14 days of available data starting from Sat, 15 Jan 2022 (time in UTC based).

<table>
<thead>
<tr>
<th>SoC</th>
<th>Total Unique Labs</th>
<th>Total Unique Boards</th>
<th>Total Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>allwinner</td>
<td>3</td>
<td>23</td>
<td>3,279,823</td>
</tr>
<tr>
<td>alpine</td>
<td>1</td>
<td>1</td>
<td>26,892</td>
</tr>
<tr>
<td>amlogic</td>
<td>2</td>
<td>17</td>
<td>2,331,749</td>
</tr>
<tr>
<td>arc</td>
<td>1</td>
<td>1</td>
<td>108,946</td>
</tr>
<tr>
<td>at91</td>
<td>1</td>
<td>1</td>
<td>29,311</td>
</tr>
<tr>
<td>broadcom</td>
<td>8</td>
<td>4</td>
<td>493,584</td>
</tr>
<tr>
<td>davinci</td>
<td>1</td>
<td>1</td>
<td>108,946</td>
</tr>
<tr>
<td>exynos</td>
<td>3</td>
<td>1</td>
<td>1,127,433</td>
</tr>
<tr>
<td>freescal</td>
<td>3</td>
<td>1</td>
<td>2,227,323</td>
</tr>
<tr>
<td>hisilicon</td>
<td>2</td>
<td>1</td>
<td>231,562</td>
</tr>
<tr>
<td>imx</td>
<td>8</td>
<td>21</td>
<td>3,872,240</td>
</tr>
<tr>
<td>mediatek</td>
<td>1</td>
<td>2</td>
<td>507,600</td>
</tr>
<tr>
<td>mediatek</td>
<td>2</td>
<td>2</td>
<td>182,062</td>
</tr>
<tr>
<td>omap2</td>
<td>3</td>
<td>1</td>
<td>1,419,333</td>
</tr>
</tbody>
</table>

on a lot of (mostly embedded) hardware

https://kernelci.org/
Using Linaro's test definitions and "skipfiles"
Kernel CI Native

kernelci/staging-mainline sleep: 11 runs, 2 regressions (staging-mainline-20220115.0)

Regressions Summary
----------------------------------------
<table>
<thead>
<tr>
<th>platform</th>
<th>arch</th>
<th>lab</th>
<th>compiler</th>
<th>defconfig</th>
<th>regressions</th>
</tr>
</thead>
<tbody>
<tr>
<td>rk3288-rock2-square</td>
<td>arm</td>
<td>lab-collabora</td>
<td>gcc-10</td>
<td>multi_v7_defconfig</td>
<td>2</td>
</tr>
</tbody>
</table>

Details: [https://staging.kernelci.org/test/job/kernelci/branch/staging-mainline/kernel/staging-mainline-20220115.0/plan/sleep/](https://staging.kernelci.org/test/job/kernelci/branch/staging-mainline/kernel/staging-mainline-20220115.0/plan/sleep/)

Test: sleep
Tree: kernelci
Branch: staging-mainline
Describe: staging-mainline-20220115.0
URL: [https://github.com/kernelci/linux.git](https://github.com/kernelci/linux.git)
SHA: a590212437a74dc0549f79c18242b3bb598de091

Test Regressions
-----------------
<table>
<thead>
<tr>
<th>platform</th>
<th>arch</th>
<th>lab</th>
<th>compiler</th>
<th>defconfig</th>
<th>regressions</th>
</tr>
</thead>
<tbody>
<tr>
<td>rk3288-rock2-square</td>
<td>arm</td>
<td>lab-collabora</td>
<td>gcc-10</td>
<td>multi_v7_defconfig</td>
<td>2</td>
</tr>
</tbody>
</table>

Details: [https://staging.kernelci.org/test/plan/id/61e227ee60f8c8e4d7217884](https://staging.kernelci.org/test/plan/id/61e227ee60f8c8e4d7217884)

Reporting only new build/test failures
Looking at status only
Breaking commit found:

commit 9971c9bd0f1def95bcefed915b3941cba97c0c95
Author: kernelci.org bot <bot@kernelci.org>
Date: Fri Jan 14 00:04:12 2022 +0000

    staging-mainline-20220114.0

diff --git a/staging-mainline b/staging-mainline
new file mode 100644
index 00e00e000000..4f7d4a113381
--- /dev/null
+++ b/staging-mainline
@@ -0,0 +1 @@
+staging-mainline-20220114.0
\ No newline at end of file

Git bisect log:

    git bisect start
# good: [fb3b0673b7d5b477ed104949455cd511337ba3c6] Merge tag 'mailbox-v5.17' of git://git.llvm.org/landing-teams/working/ubuntufree/integration
    git bisect good fb3b0673b7d5b477ed104949455cd511337ba3c6
# bad: [9971c9bd0f1def95bcefed915b3941cba97c0c95] staging-mainline-20220114.0
    git bisect bad 9971c9bd0f1def95bcefed915b3941cba97c0c95
# first bad commit: [9971c9bd0f1def95bcefed915b3941cba97c0c95] staging-mainline-20220114.0
# bad: [9971c9bd0f1def95bcefed915b3941cba97c0c95] staging-mainline-20220114.0
    git bisect bad 9971c9bd0f1def95bcefed915b3941cba97c0c95
# first bad commit: [9971c9bd0f1def95bcefed915b3941cba97c0c95] staging-mainline-20220114.0

Bisecting automatically...
...but reviewing bisection reports before sending
### Available lists

<table>
<thead>
<tr>
<th>LIST</th>
<th>DESCRIPTION</th>
<th>ACTIVITY IN THE PAST 36 DAYS</th>
</tr>
</thead>
<tbody>
<tr>
<td>kbuild-all</td>
<td>kbuild-all holds all the reports from the 0-day linux kernel build test robot, including compile error/warnings and sparse/sematch /cocinelle static check warnings.</td>
<td>140 participants          1418 discussions</td>
</tr>
<tr>
<td>LKP</td>
<td>Linux Kernel Performance</td>
<td>51 participants              56 discussions</td>
</tr>
<tr>
<td>ofono</td>
<td></td>
<td>34 participants              35 discussions</td>
</tr>
<tr>
<td>SPDK</td>
<td>Storage Performance Development Kit</td>
<td>9 participants               6 discussions</td>
</tr>
<tr>
<td>tpm2</td>
<td>tpm2</td>
<td>9 participants               10 discussions</td>
</tr>
<tr>
<td>Celadon</td>
<td>An Android Open Source Platform for Intel Architecture</td>
<td>7 participants               6 discussions</td>
</tr>
<tr>
<td>iwdd</td>
<td></td>
<td>7 participants               36 discussions</td>
</tr>
</tbody>
</table>

**Post-merge testing**

[https://lists.01.org/hyperkitty/](https://lists.01.org/hyperkitty/)
Running static analysis,
Hi Xin,

url: https://github.com/0day-ci/linux/commit/Xin-Yin/ext4-fix-issues-when-Tas...
base: https://git.kernel.org/pub/scm/linux/kernel/git/tys04/ext4.git
dev config: x86_64-randconfig-m001-20220107
(http://download.01.org/0day-ci/archive/20220109/202101091544.WSHEXAp-1k...)
compiler: gcc-9 (Debian 9.3.0-22) 9.3.0

If you fix the issue, kindly add following tag as appropriate
Reported-by: kernel test robot <khp(a)intel.com>&gt;
Reported-by: Dan Carpenter &lt;dan.carpenter(a)oracle.com&gt;

New snatch warnings:
fs/ext4/inode.c:340 ext4_evict_inode() error: uninitialized symbol 'handle'.

093fccc3ee2f0a Al Viro 2010-06-07 167 void ext4_evict_inode(struct inode
*inode)
ac27aaee112a00 Dave Kleikamp 2006-10-11 168 { }

Running static analysis,
Running static analysis,
Intel 0-Day builds,
Intel 0-Day

<table>
<thead>
<tr>
<th>Year</th>
<th>Description</th>
</tr>
</thead>
</table>
| 2020 | Greeting. FVI, we noticed the following commit (built with clang-14):
|      | commit: aa93e2ed74c464f005a5ffddde63916f86d50c (*x86/entry_32: Remove .Fixup usage*)
|      | [https://git.kernel.org/git/linux/kernel/git/tip.git tip x86/core](https://git.kernel.org/git/linux/kernel/git/tip.git tip x86/core) |
| 2017 | In testcase: kernel-selftests version with following parameters:
| 2016 | group: x86
| 2015 | test-description: The kernel contains a set of "self tests" under the tools/testing/selftests/ directory. These are intended to be small unit tests to exercise individual code paths in the kernel.
| 2013 | on test machine: qemu-system-x86_64 -enable-kvm -cpu SandyBridge -smp 2 -m 16G
|      | caused below changes (please refer to attached dmesg/kasg for entire log/backtrace):

```
| boot_successes | 16617d05e | aa93e2ed74 |
| boot_failures  | 0         | 0          |
| NMI: kernel hang in test stage |
```
Intel 0-Day

Greeting,

FYI, we noticed a -10.3% regression of will-it-scale.per_process_ops due to commit:

commit: 59ec71575ab440dc80a0a33b2a2985b3639fa04d4 ("ucounts: Fix rlimit max values check")
https://git.kernel.org/git/cgit/linux/kernel/git/torvalds/linux.git master

in testcase: will-it-scale
on test machine: 144 threads 4 sockets Intel(R) Xeon(R) Gold 5318H CPU @ 2.50GHz with 128G memory
with following parameters:

nr_task: 100%
mode: process
test: signal

cpufreqGovernor: performance
ucode: Ox7002302

test-description: Will It Scale takes a testcase and runs it from 1 through to n parallel copies to see if the testcase will scale. It builds both a process and threads based test in order to see any differences between the two.

test-url: https://github.com/antombianchard/will-it-scale

If you fix the issue, kindly add following tag
Reported-by: kernel test robot <oliver.sang(a)intel.com>

including performance tests!
Looking at build and test output,
Intel 0-Day

in testcase: xfstests
version: xfstests-x86_64-972d710-1_20211221
with following parameters:
  disk: 4HDD
  fs: xfs
  test: xfs-group-01
  ucode: 0x21

test-description: xfstests is a regression test suite for xfs and other file systems.
test-url: git://git.kernel.org/pub/scm/fs/xfs/xfstests-dev.git

on test machine: 4 threads 1 sockets Intel(R) Core(TM) i3-3220 CPU @ 3.30GHz with 8G memory

caused below changes (please refer to attached dmesg/kmsg for entire log/backtrace):

and reporting new issues only (regressions)
Failures are bisected and reported automatically
Intel GFX CI
(CI Bug Log)
Post-merge testing...
Intel GFX CI (CI Bug Log)

<table>
<thead>
<tr>
<th>#</th>
<th>Name</th>
<th>Submitter</th>
<th>State</th>
<th>TC</th>
<th>A</th>
<th>F</th>
<th>R</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>drm3915: Lock timeline mutex directly in error path of eb_pin_timeline</td>
<td>Matthew Brost</td>
<td>New</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td>[1]</td>
</tr>
</tbody>
</table>

Tests

- **FL.C.I.BAT**
  - **success**  (See full logs)
  - Updated Jan. 11, 2022, 8:11 p.m.
- **FL.C.I.CHECKPATCH**
  - **success**
  - Updated Jan. 11, 2022, 7:39 p.m.
- **FL.C.I.DOC**
  - **success**
  - Updated Jan. 11, 2022, 7:44 p.m.
- **FL.C.I.GIT**
  - **success**  (See full logs)
  - Updated Jan. 12, 2022, 2:05 a.m.
- **FL.C.I.SPARSE**
  - **success**
  - Updated Jan. 11, 2022, 7:40 p.m.

and pre-merge testing 🎉

https://intel-gfx-ci.01.org/
Static checks...
Results for igt@feature_discovery@psr2

Machine description: shard-iclb2

Result: Pass

integration-manifest git-log-online i915_display_info12 igt_runner12 run12 runtimes12 results12 json boot12 dmesg12

...and graphics tests
A test blacklist is maintained manually
Only regressions are considered...
Known issues

Here are the changes found in Patchwork_22000_full that come from known issues:

IGT changes
Issues hit
- @feature_discovery/prad:
  - shard-icb: PASS -> SKIP ([915#4650])
  - @gem_exec_balancer@parallel-ibc-first:
    - shard-icb: PASS -> SKIP ([915#4255])
  - @gem_exec_fair@basic-deadline:
    - shard-sk: NOTRUN -> FAIL ([915#2840])
    - @gem_exec_fair@basic-none-ru/lrcst:
      - shard-icb: NOTRUN -> FAIL ([915#2852])
    - shard-sk: NOTRUN -> FAIL ([915#2842])
  - @gem_exec_fair@basic-vecst0:
    - shard-sk: PASS -> FAIL ([915#2842])
  - @gem_mem_swapring@basic:
    - shard-sk: NOTRUN -> SKIP ([915#19071] / [915#4613]) +2 similar issues
    - @gem_mem_swapring@random-engines:
      - shard-sk: NOTRUN -> SKIP ([915#19071] / [915#4613])
    - @gem_prpsp@reject-modify-context-protection-off-3:
      - shard-sk: NOTRUN -> SKIP ([915#4270])
    - @gem_render_copy@y-tiled-mc-ocs-to-vebox-y-tiled:
      - shard-icb: NOTRUN -> SKIP ([915#766])
    - @gem_userptr_bits@dmabuf-sync:
Issues are maintained manually,...
Intel GFX CI (CI Bug Log)

and link machines, tests, outcomes,...
stdout/stderr/dmesg regexes, and bugs

https://intel-gfx-ci.01.org/
Bugs are updated automatically
## Linaro LKFT

**Post-merge testing**

<table>
<thead>
<tr>
<th>Test Case</th>
<th>Build Age</th>
<th>Passed</th>
<th>Failed</th>
<th>Skipped</th>
<th>View Builds</th>
</tr>
</thead>
<tbody>
<tr>
<td>linux-stable-rc-linux-4.4.y</td>
<td>56 hours ago</td>
<td>46302</td>
<td>269</td>
<td>9665</td>
<td>View Builds</td>
</tr>
<tr>
<td>linux-stable-rc-linux-4.9.y</td>
<td>56 hours ago</td>
<td>62817</td>
<td>599</td>
<td>13457</td>
<td>View Builds</td>
</tr>
<tr>
<td>linux-stable-rc-linux-4.14.y</td>
<td>56 hours ago</td>
<td>63888</td>
<td>774</td>
<td>12746</td>
<td>View Builds</td>
</tr>
<tr>
<td>linux-stable-rc-linux-4.19.y</td>
<td>50 hours ago</td>
<td>1644</td>
<td>234</td>
<td>673</td>
<td>View Builds</td>
</tr>
<tr>
<td>linux-stable-rc-linux-5.4.y</td>
<td>6 hours ago</td>
<td>2302</td>
<td>234</td>
<td>661</td>
<td>View Builds</td>
</tr>
<tr>
<td>linux-stable-rc-linux-5.10.y</td>
<td>6 hours ago</td>
<td>3322</td>
<td>312</td>
<td>655</td>
<td>View Builds</td>
</tr>
<tr>
<td>linux-stable-rc-linux-5.14.y</td>
<td>1323 hours ago</td>
<td>80775</td>
<td>1080</td>
<td>12788</td>
<td>View Builds</td>
</tr>
<tr>
<td>linux-stable-linux-5.15.y</td>
<td>727 hours ago</td>
<td>61297</td>
<td>788</td>
<td>8000</td>
<td>View Builds</td>
</tr>
<tr>
<td>linux-mainline-master</td>
<td>0 hours ago</td>
<td>48</td>
<td>6</td>
<td>0</td>
<td>View Builds</td>
</tr>
<tr>
<td>linux-next-master</td>
<td>12 hours ago</td>
<td>77092</td>
<td>1281</td>
<td>11248</td>
<td>View Builds</td>
</tr>
</tbody>
</table>

https://lkft.linaro.org/
Linaro LKFT

Runs lots of builds and tests on ARM hardware

**June 3, 2021, 11:39 a.m.**

<table>
<thead>
<tr>
<th>Build Description</th>
<th>Tests</th>
<th>Pass</th>
<th>Skip</th>
<th>Fail</th>
</tr>
</thead>
<tbody>
<tr>
<td>linux-stable-rc v4.14.235 on OE</td>
<td>11526</td>
<td>52682</td>
<td>10421</td>
<td>2192</td>
</tr>
<tr>
<td>linux-stable-rc v4.4.271 on OE - sanity</td>
<td>323</td>
<td>720</td>
<td>193</td>
<td>127</td>
</tr>
<tr>
<td>linux-stable-rc v4.4.271 on OE</td>
<td>1668</td>
<td>29764</td>
<td>5501</td>
<td>997</td>
</tr>
<tr>
<td>linux-stable-rc linux-5.16.y on OE - sanity</td>
<td>64</td>
<td>54</td>
<td></td>
<td></td>
</tr>
<tr>
<td>linux-stable-rc linux-5.16.y on OE</td>
<td>203</td>
<td>3501</td>
<td>760</td>
<td>520</td>
</tr>
<tr>
<td>linux-stable-rc linux-5.15.y on OE - sanity</td>
<td>64</td>
<td>54</td>
<td></td>
<td></td>
</tr>
<tr>
<td>linux-stable-rc linux-5.15.y on OE</td>
<td>603</td>
<td>3063</td>
<td>639</td>
<td>202</td>
</tr>
<tr>
<td>linux-stable-rc linux-5.14.y on OE - sanity</td>
<td>234</td>
<td>1224</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>linux-stable-rc linux-5.14.y on OE</td>
<td>203</td>
<td>8077</td>
<td>1273</td>
<td>1089</td>
</tr>
<tr>
<td>linux-stable-rc linux-5.13.y on OE - sanity</td>
<td>231</td>
<td>1217</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Linux-stable on Linux-5.12.4 on OE</td>
<td>231</td>
<td>8077</td>
<td>1273</td>
<td>1089</td>
</tr>
</tbody>
</table>

[https://lkft.linaro.org/](https://lkft.linaro.org/)
"Skipfiles" are manually maintained,...
and link kernel trees, tests, environments, and bugs
Known issues are manually maintained,...
YAML file format

Main key in the YAML file is projects. Each file may contain a list of projects. Each project is identified by its name.

Project should also define:

- projects - list of group/project names from SQUAD instance
- url - location of the SQUAD instance
- environments - list of names and architectures from SQUAD. Since SQUAD doesn't currently support architectures, it's just a convenient way of defining groups of environments. Environment slugs should come from SQUAD instance
- known_issues - list of actual tests to highlight. Each known issue should contain the following fields:
  - environments - list of environments to apply known issue to
  - projects - list of projects to apply known issue to
  - matrix_apply - list of projects/environments to apply known issue to
  - notes - free form text
  - url - optional URL to be used in SQUAD UI
  - test_name - name of the test to highlight. It should include the suite name
  - test_names - list of test names. May be used instead of test_name.
  - active - boolean field which can disable the highlight in SQUAD UI
  - intermittent - boolean field which can signal the flaky test
and link kernel trees, tests, environments, and bugs
Linaro LKFT

Results from Linaro’s test farm.
No regressions on arm64, arm, x86_64, and 1386.

Tested-by: Linux Kernel Functional Testing <lkft@xxxxxxxxxx>

## Build
- kernel: 5.10.88-rc1
  * git branch: linux-5.18.9
  * git commit: 2bc35955c37f96e7b9f7c1cb8c1813fb9d4ec9c
  * git describe: v5.10.88-100-g22cc3cd8d6c3f
- Test details:
  https://perf-reports.linaro.org/lkft/linux-stable-rc:linux-5.10.ybuild/v5.10.88-100-g22cc3cd8d6c3f

## No Test Regressions (compared to v5.18.0-128-g24961377899e)

## No Test Fixes (compared to v5.10.84-128-g24961377899e)

## Test result summary
- total: 25,844, pass: 25,026, fail: 519, skip: 12006, xfail: 953

### Build Summary
- arm: 20 total, 10 passed, 0 failed
- arm64: 23 total, 21 passed, 2 failed
- armv8: 27 total, 27 passed, 0 failed
- dragonboard-410c: 1 total, 1 passed, 0 failed
- hikeres-1x1u: 1 total, 1 passed, 0 failed
- j3086: 36 total, 6 passed, 0 failed
- juno-r2: 1 total, 1 passed, 0 failed
- nips: 34 total, 30 passed, 4 failed
- parsix: 12 total, 12 passed, 0 failed
- powerpc: 52 total, 46 passed, 6 failed
- riscv: 24 total, 22 passed, 2 failed
- x86: 30 total, 28 passed, 2 failed
- x86: 30 total, 28 passed, 2 failed
- x86: 1 total, 1 passed, 0 failed
- x86: 1 total, 1 passed, 0 failed
- x86: 1 total, 1 passed, 0 failed
- x86: 64: 37 total, 37 passed, 0 failed

### Test suites summary

Only new failures/fixes are reported

https://lkft.linaro.org/
Linaro LKFT

Results from Linaro’s test farm.
No regressions on arm64, arm, x86_64, and 1386.

Tested-by: Linux Kernel Functional Testing <lkft@xxxxxxxxx>

## Build
* kernel: 5.10.88-rc1
  * git branch: linux-5.18.y
  * git commit: 2b2c0c95b3c3790e7897c12bfc1813fbc0d4ec9c
  * git describe: v5.10.87-100-g22eccde#d6d3f
  * Test details: https://qa-reports.linaro.org/lkft/linux-stable-rc/linux-5.10.y/build/v5.10.87-100-g22eccde#d6d3f

## No Test Regressions (compared to v5.10.84-128-g2496377899e)

## No Test Fixes (compared to v5.10.84-128-g2496377899e)

## Build Summary
* arm64: 10 total, 10 passed, 0 failed
  * arm: 259 total, 255 passed, 4 failed
  * arm64: 37 total, 37 passed, 0 failed
  * dragonboard-410c: 1 total, 1 passed, 0 failed
  * hjs2200-hxkey: 1 total, 1 passed, 0 failed
  * j3066: 36 total, 36 passed, 0 failed
  * ipoo-r2: 1 total, 1 passed, 0 failed
  * nips: 34 total, 30 passed, 4 failed
  * parisc: 12 total, 12 passed, 0 failed
  * powerpc: 52 total, 46 passed, 6 failed
  * riscv: 24 total, 24 passed, 0 failed
  * x86: 18 total, 18 passed, 0 failed
  * x86-64: 39 total, 37 passed, 2 failed
  * x86_64: 10 total, 10 passed, 0 failed

## Test suites summary

But most reports are still manually curated
Google Syzbot (Syzkaller)

Post-merge testing
### Fuzzing syscalls in several (instrumented) OS'es

**Google Syzbot (Syzkaller)**

- **Submitter**: [https://syzkaller.appspot.com/](https://syzkaller.appspot.com/)
- **Instances**:

<table>
<thead>
<tr>
<th>Instance</th>
<th>Active</th>
<th>Uptime</th>
<th>Corpus</th>
<th>Coverage</th>
<th>Crashes</th>
<th>Execs</th>
<th>Kernel build</th>
<th>syzkaller build</th>
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</tbody>
</table>
Google Syzbot (Syzkaller)

Captures crashes, extracts identifying patterns,...
Google Syzbot (Syzkaller)

and groups them into bugs automatically
Google Syzbot (Syzkaller)

Generates reproducers automatically, if possible

https://syzkaller.appspot.com/

Submitter
Google Syzbot (Syzkaller)

Bisects to breaking/fixing commits, if possible
Google Syzbot (Syzkaller)

Automatically closes bugs,...
Google Syzbot (Syzkaller)

but creates new ones on regressions,...
Google Syzbot (Syzkaller)

**Communication with syzbot**

If you fix a bug reported by syzbot, please add the provided `Reported-by` tag to the commit. You can also communicate with syzbot by replying to its emails. The commands are:

- to attach a fixing commit to the bug (if you forgot to add `Reported-by` tag):

  ```
  #syz fix: exact-commit-title
  ```

It's enough that the commit is merged into any tree or you are reasonably sure about its final title, in particular, you don't need to wait for the commit to be merged into upstream tree. syzbot only needs to know the title by which it will appear in tested trees. In case of an error or a title change, you can override the commit simply by sending another `#syz fix` command.

- to undo a previous fix command and remove any fixing commits:

  ```
  #syz unfix
  ```

- to mark the bug as a duplicate of another syzbot bug:

  ```
  #syz dup: exact-subject-of-another-report
  ```

- to undo a previous dup command and turn it into an independent bug again:

and also has email interface to manipulate them
Summary
What is an issue?

- An issue is something that prevents a test from passing
- It could be identified using various means, widely or narrowly
- It could appear in one or more revisions
- It's augmented by a description and a bug
- It could be created manually, or automatically
- It could be used to waive a failure after running, or to avoid running a test altogether
It follows that...

- Only reporting new failures (regressions), is essentially creating an issue and applying it to waive failures in the next revision
- Skipfiles, disabled tests, etc. are essentially special issues used to avoid running tests
### Avoiding running tests

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<tr>
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# Reporting regressions

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## Waiving failures

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## All purposes

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Ideas for KCIDB
Why?

- Produce useful reports
- Collect known issues in KCIDB
- Share with everyone
- Save time for everybody
Define "issues"

- Accept automated and manual submissions of "known issues":
  - ID
  - test name pattern
  - output name
  - output pattern
  - environment pattern (TBD)
  - bug URLs
  - human-readable comment

- Aggregate using bug URLs
Define "incidents"

- Accept automated and manual submissions of "incidents", linking issues and test runs:
  - test run ID
  - issue ID
**Triaging on KCIDB side**

- When new test results arrive
  - Search for issues in them
- When new issues arrive
  - Search for them in test results
- Submit results as "incidents"
Triaging on KCIDB side

- We won't be able to look for all issues in all test results
- How to define applicability and optimize?
  - Define likelihood of issue appearing
  - Prioritize triage of most likely issues
  - Define triage cut-off point before reporting
  - Allow manual override
Challenges

- Test results come in any order
  - We gotta know commit connectivity
    - Does this commit have parents with this issue?
    - Which commits introduce/fix this issue?
    - Which issues parent commits have?
  - Graph database, perhaps?
  - Scan repos on KCIDB side?
  - Accept submissions of connectivity data?
Challenges

● How do we deal with different test versions?
  ○ Across CI systems?
  ○ Over time?
Oh, and also…

- Build issues?
- Static analyzer issues?
Thank you
Join Us!
Main repos on GitHub

[Image of GitHub page showing repositories]

- **kcida**
  - kernelci.org common database tools
  - Python
  - Updated 6 days ago

- **kcida-io**
  - kernelci.org common reporting - I/O data library
  - Python
  - Updated 8 days ago

- **kcida-grafana**
  - KCIDB Grafana docs and files
  - Updated on Jan 13

[Link to GitHub page: https://github.com/kernelci/?q=kcida]
A bunch of "good first issues"

https://github.com/search?q=is:issue...
Maillist

KernelCI

Discussion mailing list for the KernelCI project and kernelci.org
See also the wiki on GitHub

Group Information
- [https://kernelci.org](https://kernelci.org)
- 75 Members
- 331 Topics, Last Post: Feb 9
- Started on 17.03.2018
- Feed

Group Email Addresses
- Post: kernelci@groups.io
- Subscribe: kernelci-subscribe@groups.io
- Unsubscribe: kernelci-unsubscribe@groups.io
- Group.Owner: kernelci-owner@groups.io
- Help: kernelci-help@groups.io

Top Hashtags [See All]
- [kernelci.org team meeting minutes](https://groups.io/g/kernelci/)
- [wiki](https://groups.io/g/kernelci/)

Group Settings
- All members can post to the group.
- Posts to this group do not require approval from the moderators.
- Posts from new users require approval from the moderators.
- Messages are not to reply to group and sender.
- Subscriptions to this group do not require approval from the moderators.
- Archive is visible to anyone.
- Wiki is visible to members only.
- Members cannot edit their messages.
- Members can set their subscriptions to no email.
KernelCI discussion mailing list for the KernelCI project and kernelci.org.

See also the wiki on GitHub.

**Group Information**
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- [Subscribe: kernelci+subscribe@groups.io](mailto:kernelci+subscribe@groups.io)
- [Unsubscribe: kernelci+unsubscribe@groups.io](mailto:kernelci+unsubscribe@groups.io)

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- Members can edit their messages.
- Members can set their subscriptions to no email.

[https://groups.io/g/kernelci/](https://groups.io/g/kernelci/)
Group Email Addresses

Post: kernelci@groups.io
Subscribe: kernelci+subscribe@groups.io
Unsubscribe: kernelci+unsubscribe@groups.io
IRC channel

#kernelci at freenode.net