Common Test Report
Database
(KCIDB)
Linux Plumbers 2021
Nikolai Kondrashov
Nikolai Kondrashov

Sr. Software Engineer, Red Hat, CKI Project
KernelCI KCIDB maintainer
DIGImend maintainer
Electronics and embedded enthusiast

Born in Russia, living in Finland
Open the slides and click the links!

https://docs.google.com/presentation/d/1ASgUNlj13b1OHvReBF2LWTJMcAVByixpdEm2AJNTYk/
Describes upcoming v9 release
Testing reports

stable-rc/linus-4.9.y build: 197 builds: 1 failed, 196 passed, 4 warnings (v4.9.232)

core.org bet hot at kernel-ci
Sat Aug 1 08:24:50 UTC 2020
- Previous message: [PATCH] stable-MIPS, Linux on ppc64le and arm64: fix probe for adl
- Next message: [PATCH] Stable-4.9: both build: 1 failed, 196 passed, 4 warnings (v4.9.232)
- Messages sorted by: Date | Author | Thread | Subject

stable-rc/linus-4.9.y build: 197 builds: 1 failed, 196 passed, 4 warnings (v4.9.232)


Time: 16h 06m
Build: Linus 4.9.0-1
Build: Linus 4.9.0-2
Build: Linus 4.9.0-5

Build Steps:
- Build modules
- Build firmware
- Build kernel
- Build drivers
- Build test drivers
- Build test Kernel

Building: all

Build failures kernel
- Model: Intel(R) Xeon(R) E5-2699 v4 (39M Cache, 2.30GHz)
- Kernel: 4.9.0-2
- Dmesg warnings:
- None

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

CRI Project at https://cri-project.com
Test Day 4 22:27:07 UTC 2020


Next message: [PATCH] Stable-4.9: both build: 1 failed, 196 passed, 4 warnings (v4.9.232)

General section: kernel
- Date: 2020-08-01

All kernel binaries, target scripts, and logs are available for download here:
https://kernel-ci.org/test-day/5.7.12-3ff3d4f.cki/stable-queue

Please reply to this mail if you have any questions about the tests that are run or if you have any suggestions on how to make future tests more effective.

---

KMSAN: kernel-usb-infoleak in hif_usb_send

[Data Pre/Thread Next] [Thread Prev/Thread Next] [Date Index] [Thread Index]

- The: googleaaaaaaaaaa, google2aaaaa, google3aaaaaa, google4aaaaaa, google5aaaaaa
- Subject: KMSAN kernel-usb-infoleak in hif_usb_send
- From: Xxxxxxxxxxx@xxxxxxxxxx.com
- Date: 2020-08-01 15:52:35

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

CRI Project at https://cri-project.com
Test Day 4 22:27:07 UTC 2020


Next message: [PATCH] Stable-4.9: both build: 1 failed, 196 passed, 4 warnings (v4.9.232)
Native tests from kernelci-core

LAVA labs

Static checks

Custom labs

KernelCI Backend

kci_data

Your system here

work in progress

Intel 0-Day

SONY Fuego

yocto PROJECT

GKernelCI

arm

Google syzbot

TuxML

KCIDB
Report volume so far

![Graph showing report volume over time for revisions, builds, and tests. The x-axis represents dates from 8/25 to 9/21, and the y-axis represents counts in millions (1.00 Mil), hundreds of thousands (100 K), tens of thousands (10 K), thousands (1 K), hundreds (100), and tens (10). The graph shows trends in the number of revisions, builds, and tests.]
Welcome to the KernelCI dashboard (MONRE dashboard). Here, you can track testing reports aggregated from multiple CI systems (repositories). This work is in progress, so we welcome contributions and feedback. See the source code for this collection dashboard, and for the dashboard script for links to the code. You can submit issues or pull requests if you want to see automatic notifications of testing results.

https://kcdb.kernelci.org
Dashboard

https://kcida.kernelci.org/
Command-Line Tools

 nkondras@ruby:~$ kcidb-
kcidb-count kcidb-ingest kcidb-oo-query
kcidb-db-cleanup kcidb-merge kcidb-query
kcidb-db-complement kcidb-monitor-spool-wipe kcidb-schema
kcidb-db-dump kcidb-mq-io-publisher kcidb-submit
kcidb-db-init kcidb-mq-io-subscriber kcidb-summarize
kcidb-db-load kcidb-mq-pattern-publisher kcidb-tests-validate
kcidb-db-query kcidb-mq-pattern-subscriber kcidb-upgrade
kcidb-describe kcidb-notify kcidb-validate

 nkondras@ruby:~$ kcidb-
class Client:

    """Kernel CI reporting client""

    def __init__(self, database=None, project_id=None, topic_name=None):
        """
        Initialize a reporting client
        """
        Args:
        database: The database specification string to use for
                  accessing the report database.
                  Can be None to have querying disabled.
        project_id: ID of the Google Cloud project hosting the message
                    queue accepting submissions.
                    Can be None to have submitting disabled.
        topic_name: Name of the message queue topic to publish
                    submissions to. The message queue should be
                    located within the specified Google Cloud project.
                    Can be None, to have submitting disabled.
Tests failed for linux.git.master@228a65d4544a
Below is the summary of testing results Kernel CI database has recorded for this revision so far. See complete and up-to-date report at: https://staging.kernelci.org:3000/d/revision/revision?org6=1
By staging.kernelci.org bot - #5966 - Jan 25

Builds failed for linux.git.master@f8dc80bdcc436
Below is the summary of testing results Kernel CI database has recorded for this revision so far. See complete and up-to-date report at: https://staging.kernelci.org:3000/d/revision/revision?org6=1
By staging.kernelci.org bot - #5965 - Jan 24

Tests failed for linux.git.master@e68061375f79
Below is the summary of testing results Kernel CI database has recorded for this revision so far. See complete and up-to-date report at: https://staging.kernelci.org:3000/d/revision/revision?org6=1
By staging.kernelci.org bot - #5964 - Jan 24

Tests failed for linux.git.master@... v5.11-rc4-202-gfe75a21824e7 on linux/master
Below is the summary of testing results Kernel CI database has recorded for this revision so far. See complete and up-to-date report at: https://staging.kernelci.org:3000/d/revision/revision?org6=1
By staging.kernelci.org bot - #5961 - Jan 24

Builds failed for linux.git.master@e1ae4b0be158
Below is the summary of testing results Kernel CI database has recorded for this revision so far. See complete and up-to-date report at: https://staging.kernelci.org:3000/d/revision/revision?org6=1
By staging.kernelci.org bot - #5959 - Jan 23

Builds failed for linux.git.master@fe75a21824e7
Below is the summary of testing results Kernel CI database has recorded for this revision so far. See complete and up-to-date report at: https://staging.kernelci.org:3000/d/revision/revision?org6=1
By staging.kernelci.org bot - #5958 - Jan 23

Builds failed for linux.git.master@faba877b3bcc
Below is the summary of testing results Kernel CI database has recorded for this revision so far. See complete and up-to-date report at: https://staging.kernelci.org:3000/d/revision/revision?org6=1
By staging.kernelci.org bot - #5947 - Jan 23

Builds failed for linux.git.master@83d99ad4b950
Below is the summary of testing results Kernel CI database has recorded for this revision so far. See complete and up-to-date report at: https://staging.kernelci.org:3000/d/revision/revision?org6=1
By staging.kernelci.org bot - #5941 - Jan 22

Builds failed for linux.git.master@36eada2502635
Below is the summary of testing results Kernel CI database has recorded for this revision so far. See complete and up-to-date report at: https://staging.kernelci.org:3000/d/revision/revision?org6=1
By staging.kernelci.org bot - #5940 - Jan 22
## Alternative Implementation by CKI

This page showcases the latest checkouts available on the CKI platform. The checkouts are listed with their corresponding IDs, trees, branches, start times, and validation status. The table below demonstrates the details:

<table>
<thead>
<tr>
<th>ID</th>
<th>Tree</th>
<th>Branch</th>
<th>Start Time</th>
<th>Valid</th>
<th>Builds</th>
<th>Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>redhat:374324880</td>
<td>net-next</td>
<td>master</td>
<td>Sept. 21, 2021, 9:28 a.</td>
<td>✓</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>redhat:374228059</td>
<td>stable</td>
<td>linux-5.14.y</td>
<td>Sept. 21, 2021, 7:01 a.</td>
<td>✓</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>redhat:374223329</td>
<td>stable-queue</td>
<td>queue/5.14</td>
<td>Sept. 21, 2021, 6:51 a.</td>
<td>✓</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>redhat:374111090</td>
<td>bpf-next</td>
<td>master</td>
<td>Sept. 21, 2021, 12:33 p.</td>
<td>✓</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>redhat:374033479</td>
<td>mainline.kernel</td>
<td>master</td>
<td>Sept. 20, 2021, 8:26 p.</td>
<td>✓</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>redhat:374033441</td>
<td>mainline.kernel</td>
<td>master</td>
<td>Sept. 20, 2021, 8:26 p.</td>
<td>✓</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

For more detailed information, visit the CKI platform at [https://datawarehouse.cki-project.org/kcidb/checkouts](https://datawarehouse.cki-project.org/kcidb/checkouts).
### selinux-policy: Cannot download Packages/d/dosfstools-4.2-2.fc35.x86_64.rpm: All mirrors were tried

<table>
<thead>
<tr>
<th>ID</th>
<th>Tree</th>
<th>Branch</th>
<th>Start Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>redhat:361953890</td>
<td>mainline.kernel master</td>
<td>Aug. 30, 2021, 5:21 p.m.</td>
<td></td>
</tr>
<tr>
<td>redhat:360321446</td>
<td>mainline.kernel master</td>
<td>Aug. 26, 2021, 8:36 p.m.</td>
<td></td>
</tr>
</tbody>
</table>

### BUG: non-zero pgtables_bytes on freeing mm: -4096

<table>
<thead>
<tr>
<th>ID</th>
<th>Tree</th>
<th>Branch</th>
<th>Start Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>redhat:365427185</td>
<td>ark-rawhide-ct,ark-latest</td>
<td>Sept. 5, 2021, 11:26 a.m.</td>
<td></td>
</tr>
</tbody>
</table>

### Podman test: no image found in manifest list for architecture arm64

<table>
<thead>
<tr>
<th>ID</th>
<th>Tree</th>
<th>Branch</th>
<th>Start Time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
I/O Schema
Main checkout fields

- id
- origin
- git_repository_url
- git_repository_branch
- git_commit_hash
- git_commit_name
- patchset_files
- patchset_hash
- start_time
- log_url
- log_excerpt
- valid
- misc
- comment

# Main build fields

<table>
<thead>
<tr>
<th>id</th>
<th>architecture</th>
<th>start_time</th>
</tr>
</thead>
<tbody>
<tr>
<td>origin</td>
<td>compiler</td>
<td>duration</td>
</tr>
<tr>
<td>checkout_id</td>
<td>command</td>
<td>log_url</td>
</tr>
<tr>
<td></td>
<td>config_name</td>
<td>log_excerpt</td>
</tr>
<tr>
<td></td>
<td>config_url</td>
<td>valid</td>
</tr>
<tr>
<td></td>
<td>input_files</td>
<td></td>
</tr>
<tr>
<td></td>
<td>output_files</td>
<td>misc</td>
</tr>
<tr>
<td></td>
<td>comment</td>
<td></td>
</tr>
</tbody>
</table>

## Main test fields

<table>
<thead>
<tr>
<th>id</th>
<th>path</th>
<th>start_time</th>
</tr>
</thead>
<tbody>
<tr>
<td>origin</td>
<td>environment</td>
<td>duration</td>
</tr>
<tr>
<td>build_id</td>
<td>status</td>
<td>log_url</td>
</tr>
<tr>
<td></td>
<td>waived</td>
<td>log_excerpt</td>
</tr>
<tr>
<td></td>
<td>output_files</td>
<td>misc</td>
</tr>
<tr>
<td></td>
<td></td>
<td>comment</td>
</tr>
</tbody>
</table>


v9 - due Autumn 2021
Poll!
Submission Interface
nkondras@bard:~$ export GOOGLE_APPLICATION_CREDENTIALS=~/.kernelci-production-ci-cki.json
nkondras@bard:~$ kcldb-submit -p kernelci-production -t kernelci_new <<"EOF"
> {  
>     "version": {  
>         "major": 3,  
>         "minor": 0  
>     }  
> }  
> EOF
nkondras@bard:~$
#!/usr/bin/env python3

import kcldb

client = kcldb.Client(project_id="kernelci-production",
                      topic_name="kernelci_new")

report = dict(
    version=dict(major=3, minor=0)
)

client.submit(report)
nkondras@ruby:~:/projects/github.com/GKernelCI/Ghelper/kciddb$ wc -l *
136 create_object.py
  0 get_kernel_hash.py
  5 get_kernel_hash.sh
 18 get_patches.py
  5 get_patch_hash.sh
  3 requirements.txt
 12 send.sh
 14 sendtokciddb
193 total
nkondras@ruby:~:/projects/github.com/GKernelCI/Ghelper/kciddb$
GKernelCI/Ghelper

nkondras@ruby:~ /projects/github.com/GKernelCI/Ghelper/kciddb$ wc -l  *
136  create_object.py
  0  get_kernel_hash.py
  5  get_kernel_hash.sh
 18  get_patches.py
  5  get_patch_hash.sh
  3  requirements.txt
 12  send.sh
 14  sendtokciddb
193  total

nkondras@ruby:~ /projects/github.com/GKernelCI/Ghelper/kciddb$
HOWTO

Submission HOWTO

How to submit reports with KCIDB

Here's what you need to do.
1. Get submission credentials and parameters.
2. Install KCIDB.
3. Generate some report data.
4. Submit report data.
5. Go to 3, if you have more.

You don't need to run a daemon, just execute command-line tools (or use the Python library, if you're feeling fancy).

1. Get submission credentials and parameters

Write to kernelci@groups.io, introduce yourself, and explain what you want to submit (better, show preliminary report data). Once your request is approved, you will get a JSON credentials file, which you can use to authenticate yourself with KCIDB tools/library.

Export the file location (here ~/.kcidb-credentials.json) into environment like this:

```
export GOOGLE_APPLICATION_CREDENTIALS=~/.kcidb-credentials.json
```

You will also need to specify some or all of the following to the tools/library (using current production parameters from here on):

- Google Cloud project: kernelci-production
- Submission queue topic: kernelci-new
- Database name: kernelci

Finally, we'll need to agree on the "origin" string identifying your system among other submitters. We'll use submitter: in examples below.

2. Install KCIDB

Pick a KCIDB release. Latest would normally be best.

Let's say you picked v8. Run this:

```
https://github.com/kernelci/kcidb/blob/main/SUBMISSION_HOWTO.md
```
Playground

https://kcidb.kernelci.org/d/home/home?var-dataset=playground_kernelci04
Subscriptions and Notifications
Developers in Control

Submitter A
Submitter B
Submitter C
Submitter D

Subscription
repo: scsi
branch: master
test: blktests
email: linux-scsi

Subscription
repo: stable-queue
repo: linux-stable
repo: linux-stable-rc
email: stable

DB
```python
from kcidb.monitor.output import NotificationMessage as Message

REPO_URL = "https://git.kernel.org/pub/scm/linux/kernel/git/torvalds/linux.git"
RECIPIENTS = ["Linux Kernel Mailing List <linux-kernel@vger.kernel.org>"]

def match_revision(revision):
    """Match revisions of interest to stable tree developers""
    if REPO_URL not in revision.repo_branch_checkouts:
        return ()
    if not revision.builds_valid:
        return (Message(RECIPIENTS, "Builds failed for "),)
    for test in revision.tests:
        # Ignore syzbot until we have issues/incidents
        if test.origin == "syzbot":
            continue
        if test.status == "FAIL" and not test.waived:
            return (Message(RECIPIENTS, "Tests failed for "),)
    return ()
```

WIP Condensed Reports

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://staging.kernelci.org:3000/d/checkout/checkout?orgId=1&var-git_commit_hash=7a

OVERVIEW

Builds: ✗ FAIL
Tests: ✗ FAIL

REVISION

Status
☑ PASS

Commit
name: v5.12-rc1-19-g7a7fd0de4a9b
hash: 7a7fd0de4a9b0429793e564a555a49c1fc924cb
Checked out from
https://git.kernel.org/pub/scm/linux/kernel/git/torvalds/linux.git master
By
kernelci, redhat, syzbot, tuxsuite
## WIP Condensed Reports

### BUILD Summary

**Status**
- **X 1**  
  - 858

**Architectures**
- **arm**
  - **X 1**
  - 331
- **arm64**
  - 116
- **x86_64**
  - 115
- **mips**
  - 85
- **powerpc**
  - 62
- **riscv**
  - 36
- **i386**
  - 32
- **s390**
  - 29
- **sh**
  - 18
- **arc**
  - 10
- **sparc**
  - 9
- **parisc**
  - 9
- **aarch64**
  - 2
- **ppc64le**
  - 2
- **s398x**
  - 2

**Failures**
- **X 1** arm allnoconfig

**By**
- kernelci, redhat, syzbot, tuxsuite
WIP Condensed Reports

TESTS

Status

- 15
- 27
- 12
- 7
- 3

Failures

- baseline
- ltp-crypto
- baseline-nfs
- usb
- sleep
...

By

kernelci, redhat, syzbot

See complete and up-to-date report at:

https://staging.kernelci.org:3000/d/checkout/checkout?orgId=1&var-git_commit_hash=7a

---

ERROR - Aborted. Test, tested code, or both might be faulty.
FAIL - Failed. Tested code is likely faulty.
PASS - Passed. Tested code is likely correct.
DONE - Finished. Status of tested code is unknown.
SKIP - Skipped. Planned, but didn't execute.
UNKNOWN - In progress, or status unknown.
WAIVED - Waived result. Test is too new or shows known failures.
BLANK - No data, zero.
Thoughts?
Questions?
Join Us!
Main repos on GitHub

[Image of GitHub page with repositories: kcidb, kcidb-io, kcidb-grafana]

- **kcidb**: kernelci.org common database tools
  - Language: Python
  - Updated 6 days ago

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

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

[GitHub link: https://github.com/kernelci/?q=kcidb]
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 17.03.2016
- [Feed](https://groups.io/g/kernelci)

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](https://groups.io/g/kernelci)
- team meeting minutes

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.

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

46
Group Email Addresses

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

https://groups.io/g/kernelci/
Thank you