



# 7 WAYS TO MAKE KERNEL DEVELOPERS LIKE COOKIES

DevConf 2020





# Continuous Kernel Integration

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**IÑAKI  
MALERBA**

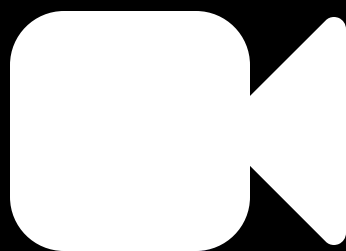
**Software Engineer @ Red Hat**

**TESTING KERNEL  
PATCHES IS NOT EASY**

0

# Arcade Volleyball

0



**KERNEL DEVELOPMENT NEEDED**  
**CONTINUOUS INTEGRATION**

# CONTINUOUS INTEGRATION

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Continuous Integration is the practice of building and testing each change automatically, as early as possible.

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Continuous Integration is the practice of building and testing each change automatically, as early as possible.

Okay... but how?



**7 WAYS TO MAKE  
KERNEL DEVELOPERS  
LIKE COOKIES**

A hand is shown balancing a stack of approximately 12 round, golden-brown cookies on a small, dark wooden plate. The background is a dark, textured surface. The text "#1 PROVIDE VALUE" is overlaid on the image in white, bold, sans-serif font. The "#1" is positioned above the top cookie, and "PROVIDE VALUE" is written across the middle of the stack.

#1  
**PROVIDE VALUE**

**PROVIDE VALUE**

**PROVIDE VALUE**

**HARDWARE**

# PROVIDE VALUE

## HARDWARE

x86\_64

aarch64

ppc64

ppc64le

s390x

VMs

Laptops

PCs

Servers

Mainframes

GPUs

NICs

Storage controllers

Audio cards

Infiniband adapters

# PROVIDE VALUE

## HARDWARE

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s390x

VMs  
Laptops  
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Mainframes

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Audio cards  
Infiniband adapters

## TESTS

# PROVIDE VALUE

## HARDWARE

x86\_64

aarch64

ppc64

ppc64le

s390x

VMs

Laptops

PCs

Servers

Mainframes

GPUs

NICs

Storage controllers

Audio cards

Infiniband adapters

## TESTS

iSCSI params

Thinpool sanity

PCI utils sanity

kdump

Socket fuzzing

Routing tests

Firewall tests

xfstests

Realtime kernel tests

LTPLite

Connectathon NFS

KVM Unit Tests

KVM Self Tests

stress-ng

And more !

# PROVIDE VALUE

```
[ 947.381898] page->mem_cgroup:ffff80bf39c28000
[ 947.386272] -----[ cut here ]-----
[ 947.390876] kernel BUG at mm/filemap.c:171!
[ 947.395049] Internal error: Oops - BUG: 0 [#1] SMP
[ 947.399828] Modules linked in: sctp tun brd fuse btrfs xfs
libcrc32c ast i2c_algo_bit drm_kms_helper syscopyarea sy
[ 947.436498] CPU: 220 PID: 154292 Comm: mmap1 Not tainted
[ 947.443619] Hardware name: HPE Apollo 70 /C01
[ 947.453345] pstate: 40400089 (nZcv daIf +PAN -UA0)
[ 947.458138] pc : unaccount_page_cache_page+0x17c/0x1a0
[ 947.463263] lr : unaccount_page_cache_page+0x17c/0x1a0
[ 947.468387] sp : ffff00002d4a3950
[ 947.471689] x29: ffff00002d4a3950 x28: ffff7e02fa37e480
[ 947.476988] x27: ffff80be3d678ab8 x26: ffff0000116baf38
[ 947.482286] x25: ffff00001128f018 x24: ffff00002d4a3b80
[ 947.487585] x23: 0000000000000000 x22: 0000000000000000
[ 947.492884] x21: ffffffff00000000 x20: ffff80be3d678ab0
[ 947.498182] x19: ffff7e02fa37e480 x18: 0000000000000000
[ 947.503480] x17: 0000000000000000 x16: 0000000000000000
[ 947.508778] x15: 0000000000000000 x14: ffffffff00000000
[ 947.514077] x13: ffff0000ad4a364f x12: ffff00002d4a3657
[ 947.519375] x11: ffff0000116e5000 x10: ffff000010ef08b8
[ 947.524673] x9 : ffff0000118da000 x8 : 000000000000085a6
[ 947.529972] x7 : 0000000000000000 x6 : ffff0000118d9be8
[ 947.535270] x5 : 0000000000000000f x4 : ffff80bf5ce56248
[ 947.540568] x3 : ffff80bf5ce56248 x2 : 00000000000000007
[ 947.545866] x1 : 00000000000000006 x0 : 0000000000000021
```



# PROVIDE VALUE

```
[ 947.381898] page->mem_cgroup:ffff80bf39c28000
[ 947.386272] -----[ cut here ]-----
[ 947.390876] kernel BUG at mm/filemap.c:171!
[ 947.395049] Internal error: Oops - BUG: 0 [#1] SMP
[ 947.399828] Modules linked in: sctp tun brd fuse btrfs xo
xfs libcrc32c ast i2c_algo_bit drm_kms_helper syscopyarea sy
[ 947.436498] CPU: 220 PID: 154292 Comm: mmap1 Not tainted
[ 947.443619] Hardware name: HPE Apollo 70 /C01
[ 947.453345] pstate: 40400089 (nZcv daIf +PAN -UA0)
[ 947.458138] pc : unaccount_page_cache_page+0x17c/0x1a0
[ 947.463263] lr : unaccount_page_cache_page+0x17c/0x1a0
[ 947.468387] sp : ffff00002d4a3950
[ 947.471689] x29: ffff00002d4a3950 x28: ffff7e02fa37e480
[ 947.476988] x27: ffff80be3d678ab8 x26: ffff0000116baf38
[ 947.482286] x25: ffff00001128f018 x24: ffff00002d4a3b80
[ 947.487585] x23: 0000000000000000 x22: 0000000000000000
[ 947.492884] x21: ffffffff00000000 x20: ffff80be3d678ab0
[ 947.498182] x19: ffff7e02fa37e480 x18: 0000000000000000
[ 947.503480] x17: 0000000000000000 x16: 0000000000000000
[ 947.508778] x15: 0000000000000010 x14: ffffffff00000000
[ 947.514077] x13: ffff0000ad4a364f x12: ffff00002d4a3657
[ 947.519375] x11: ffff0000116e5000 x10: ffff000010ef08b8
[ 947.524673] x9 : ffff0000118da000 x8 : 000000000000085a6
[ 947.529972] x7 : 0000000000000017 x6 : ffff0000118d9be8
[ 947.535270] x5 : 000000000000000f x4 : ffff80bf5ce56248
[ 947.540568] x3 : ffff80bf5ce56248 x2 : 0000000000000007
[ 947.545866] x1 : 0000000000000006 x0 : 000000000000021
```

```
[ 947.551164] Call trace:
[ 947.553599] unaccount_page_cache_page+0x17c/0x1a0
[ 947.558382] delete_from_page_cache_batch+0xa0/0x300
[ 947.563345] truncate_inode_pages_range+0x1b8/0x640
[ 947.568209] truncate_inode_pages_final+0x88/0xa8
[ 947.572905] evict+0x1a0/0x1d8
[ 947.575948] iput+0x150/0x240
[ 947.578914] dentry_unlink_inode+0x120/0x130
[ 947.583172] __dentry_kill+0xd8/0x1d0
[ 947.586822] dentry_kill+0x88/0x248
[ 947.590298] dput+0x168/0x1b8
[ 947.593256] __fput+0xe8/0x208
[ 947.596297] ___fput+0x20/0x30
[ 947.599437] task_work_run+0xc0/0xf0
[ 947.603003] do_notify_resume+0x2b0/0x328
[ 947.607002] work_pending+0x8/0x10
[ 947.610392] Code: f0006441 9113a021 f90013f5 9400e378 (d4
[ 947.616473] ---[ end trace 5070a013679ed7ef ]---
```

# PROVIDE VALUE

```
author      🧑 Jan Stancek <jstancek@redhat.com> 2019-07-18 10:51:25 +0200
committer  🧑 Ingo Molnar <mingo@kernel.org> 2019-07-25 15:39:23 +0200
commit     e1b98fa316648420d0434d9ff5b92ad6609ba6c3 (patch)
tree       a618506f2c00131a3eb9e764ee4422311a2b2f4c
parent     78134300579a45f527ca173ec8fdb4701b69f16e (diff)
download   linux-e1b98fa316648420d0434d9ff5b92ad6609ba6c3.tar.gz
```

## **locking/rwsem: Add missing ACQUIRE to read\_slowpath exit w**

LTP mtest06 has been observed to occasionally hit "still mapped when deleted" and following BUG\_ON on arm64.

# PROVIDE VALUE

```
author      🧑 Jan Stancek <jstancek@redhat.com> 2019-07-18 10:51:25 +0200
committer  🧑 Ingo Molnar <mingo@kernel.org> 2019-07-25 15:39:23 +0200
commit     e1b98fa316648420d0434d9ff5b92ad6609ba6c3 (patch)
tree       a618506f2c00131a3eb9e764ee4422311a2b2f4c
parent     78134300579a45f527ca173ec8fdb4701b69f16e (diff)
download   linux-e1b98fa316648420d0434d9ff5b92ad6609ba6c3.tar.gz
```

## **locking/rwsem: Add missing ACQUIRE to read\_slowpath exit w**

LTP mtest06 has been observed to occasionally hit "still mapped when deleted" and following BUG\_ON on arm64.

Thanks for fixing this old problem.

This problem does not apply to x86 and we do our testing mostly on x86. That is why we seldom notice this kind of issue. Maybe we should be doing more testing on ARM64 and PPC.

Cheers,  
Longman

# PROVIDE VALUE

We are seeing a timeout failure when the timer test of kvm-unit-test is running

I am able to reproduce it on upstream 5.1.0-rc1 kernel. The test stalls at the end.

# PROVIDE VALUE

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Hardware:

# PROVIDE VALUE

```
# ./arm-run ./arm/timer.flat
/usr/libexec/qemu-kvm -nodefaults -machine virt,gic-version=host,accel=kvm
./arm/timer.flat # -initrd /tmp/tmp.zRkD0zlwKv
CNTFRQ_EL0   : 0x000000000002faf080
CNTPCT_EL0   : 0x000000003a36a73ee
CNTP_CTL_EL0 : 0x00000000000000004
CNTP_CVAL_EL0: 0x00000000000000000
CNTVCT_EL0   : 0x00000000000ac748c
CNTV_CTL_EL0 : 0x00000000000000000
CNTV_CVAL_EL0: 0x00000000000000000
PASS: vtimer-busy-loop: not pending before
PASS: vtimer-busy-loop: interrupt signal pending
INFO: vtimer-busy-loop: After timer: 0x00000000000b573a6
INFO: vtimer-busy-loop: Expected   : 0x00000000000b573a6
INFO: vtimer-busy-loop: Difference : 0 us
PASS: vtimer-busy-loop: latency within 10 ms
PASS: vtimer-busy-loop: interrupt received
PASS: vtimer-busy-loop: interrupt received after TVAL/WFI
PASS: vtimer-busy-loop: timer has expired (-752)
PASS: ptimer-busy-loop: not pending before
PASS: ptimer-busy-loop: interrupt signal pending
```

# PROVIDE VALUE

```
author      ✨ Wei Huang <wei@redhat.com>          2019-03-29 15:12:53 -0500
committer   🟡 Marc Zyngier <marc.zyngier@arm.com>    2019-03-30 10:06:00 +0000
commit      8fa76162487143d202db20ce84e12061b671a058 (patch)
tree        09aa11fc53786a4e0079683f16752899f4fd875b
parent      8324c3d518cfd69f2a17866b52c13bf56d3042d8 (diff)
download    linux-8fa76162487143d202db20ce84e12061b671a058.tar.gz
```

## **KVM: arm/arm64: arch\_timer: Fix CNTP\_TVAL calculation**

Recently the generic timer test of kvm-unit-tests failed to complete (stalled) when a physical timer is being used. This issue is caused by incorrect update of CNTP\_CVAL when CNTP\_TVAL is being accessed, introduced by 'Commit 84135d3d18da ("KVM: arm/arm64: consolidate arch timer trap handlers)". According to Arm ARM, the read/write behavior of accesses to the TVAL registers is expected to be:

# PROVIDE VALUE

```
On Mon, Feb 04, 2019 at 01:26:40AM -0500, CKI wrote:
> Hello,
>
> We ran automated tests on a patchset that was proposed for merging into this
> kernel tree. The patches were applied to:
>
>     Kernel repo: git://git.kernel.org/pub/scm/linux/kernel/git/stable/linux.git
>     Commit: 65f42a73e553 Linux 4.20.6
>
> The results of these automated tests are provided below.
>
>     Overall result: FAILED (see details below)
>     Patch merge: OK
>     Compile: FAILED
```

Should be fixed now, sorry about that. Your failure message came back faster than my internal build systems caught this. I think I need to upgrade my build system :)

thanks,

greg k-h



# PROVIDE VALUE

```
>
> The results of these automated tests are provided below.
>
>     Overall result: FAILED (see details below)
>         Merge: FAILED
>
>
> When we attempted to merge the patchset, we received an error:
>
> error: patch failed: drivers/md/md.c:9227
> error: drivers/md/md.c: patch does not apply
> hint: Use 'git am --show-current-patch' to see the failed patch
> Applying: md: add a missing endianness conversion in check_sb_changes
> Patch failed at 0001 md: add a missing endianness conversion in check_sb_
```

My fault, this should be dropped, my build scripts don't error out, they just ignore this type of problem. I should fix that...

I'll go fix this now, thanks.

greg k-h

# PROVIDE VALUE

```
>
> Overall result: FAILED (see details below)
> Merge: OK
> Compile: FAILED
>
>
> We attempted to compile the kernel for multiple architectures, but the compile
> failed on one or more architectures:
>
> ppc64le: FAILED (see build-ppc64le.log.xz attachment)

My fault, I added a patch that should not have been backported to 4.19.
I've now dropped it, hopefully this should resolve the error.

Thanks for the report, much appreciated!

greg k-h
```

# PROVIDE VALUE

```
>
> The results of these automated tests are provided below.
>
>   Overall result: FAILED (see details below)
>       Merge: FAILED
>
>
>
>
>
>
> When we attempted to merge the patchset, we received an error:
>
>   error: patch failed: net/ipv6/ip6_flowlabel.c:254
>   error: net/ipv6/ip6_flowlabel.c: patch does not apply
>   hint: Use 'git am --show-current-patch' to see the failed patch
>   Applying: ipv6: flowlabel: fl6_sock_lookup() must use atomic_inc_r
>   Patch failed at 0001 ipv6: flowlabel: fl6_sock_lookup() must use a
```

Looks like Sasha's last push had a bunch of duplicates in it. I've fixed this up for the 5.1 queue now and will go work on the others...

thanks,

greg k-h

# PROVIDE VALUE

We ran automated tests on a recent commit from this kernel tree:

Kernel repo: [git://git.kernel.org/pub/scm/linux/kernel/git/stable/linux-stable-rc.git](https://git.kernel.org/pub/scm/linux/kernel/git/stable/linux-stable-rc.git)  
Commit: 5592f5bf010b Linux 4.20.4-rc1

The results of these automated tests are provided below.

Overall result: FAILED (see details below)  
Patch merge: OK  
Compile: OK  
Kernel tests: FAILED

One or more kernel tests failed:

s390x: FAILED  
Test name: Boot test

powerpc64le: FAILED  
Test name: Boot test

aarch64: FAILED  
Test name: Boot test

# PROVIDE VALUE

```
[ 2.942634] Kernel panic - not syncing: boot canary hit
[ 2.947836] CPU: 0 PID: 1 Comm: swapper/0 Not tainted 4.20.4-rc1.cki+
[ 2.954503] Hardware name: www.apm.com American Megatrends/American Megatrends
[ 2.963850] Call trace:
[ 2.966286]  dump_backtrace+0x0/0x158
[ 2.969930]  show_stack+0x24/0x30
[ 2.973228]  dump_stack+0x90/0xb4
[ 2.976526]  panic+0x12c/0x294
[ 2.979565]  _cpu_down+0x0/0x228
[ 2.982776]  ret_from_fork+0x10/0x18
[ 2.986337] SMP: stopping secondary CPUs
[ 2.990241] Kernel Offset: disabled
[ 2.993711] CPU features: 0x0,20802000
[ 2.997439] Memory Limit: none
[ 3.000481] ---[ end Kernel panic - not syncing: boot canary hit ]---
```

# PROVIDE VALUE

```
+ /*  
+ * If you notice this, your test infrastructure succeeded in finding a  
+ * failure, congratulations  
+ */  
+ panic("boot canary hit");  
+
```

# PROVIDE VALUE

## Compile bugs

- ppc64le compilation failing on 4.19.44-rc1 stable kernels
  - See [email thread](#) for details
  - Not present in mainline, commit [42e2acde1237](#) was backported into 4.19.44 release to resolve the issue

## Bugs found by boot testing

- Firmware issue with Ampere systems causing SATA errors
  - [Bug 1738660](#)
  - Bug resolved with firmware version 4.9.18, workaround created for systems with older firmware
- Firmware issue with Cavium and Gigabyte systems causing IOMMU and SATA issues
  - [Bug 1734557](#)
  - Problems determined to start with kernel 5.2 (commit [954a03be033](#)), firmware needs to be updated to account for changes (kernel command line workarounds can be used in the meanwhile)

## Bugs found by LTP

- s390 panics due to usage of stale vm\_area\_struct
  - Fixed with commit [fc8efd2ddfe](#) in 5.1
- hugetlb page migration/fault race
  - Fixed with commit [4643d67e8cb](#) in v5.3-rc5
- Hugepage migration bug found with [move\\_pages12](#) test
  - NULL pointer dereference with 4.20+ kernels
  - See [email thread](#) for details
  - Fixed with commit [ddeaab32a89](#) in 5.0-rc2
- Userspace getting stuck on 4.20+ kernels on aarch64 with [mtest06](#) test
  - See [email thread](#) for details
  - Fixed with commit [7a30df49f63ad](#) in 5.2-rc5
- Ooops hit on aarch64 with [mtest06](#) on 4.20+
  - See [email thread](#) and initial [GitHub issue](#) for details
  - Fixed with [e1b98fa31664](#) in 5.3-rc2
- Corrupted directory during [statx04](#)
  - Patch proposed in [this thread](#), no resolution yet
- OpenPosix test suite detected a [serious regression in ARM ABI](#) in 5.4.0-rc2
- [pt\\_test](#) found issues in 5.4.0-rc3, possibly caused by commit [38bb8d77d0b9](#)
- [preadv2](#) found issue with [string routines](#) in ARM-next
- [memfd\\_create04](#) fails on arm64 devices, see [email thread](#)
- [futexp\\_cmp\\_requeue01](#) currently doesn't take into account spurious wakeups
- [pipeio\\_1](#) test is hanging with v5.5-rc2-385-gb8e382a185eb see [email thread](#)

## Bugs found by blktests

- block/001 and block/023 triggering a warning in [fs/block\\_dev.c](#)
  - Issue started with 5.3-rc3, determined to be caused by commit [89e524c04f](#)
  - See the [mail thread](#) for details of block/001 failure (aarch64)
  - See [this Fedora bug](#) for the details of block/023 failure (ppc64le)
  - Fixed with commit [e91455bad5](#) in 5.3-rc4
- NULL pointer dereference triggered by block/006 on aarch64 with 4.18 and 5.0 kernels
  - See [mail thread](#) with v1 of the proposed fix and [this one](#) with v2
  - Fixed with [e6d1fa584e0dd](#) in 5.1-rc3
- block/006 triggering a page fault on 5.2-rc3 kernels
  - Seem [email thread](#) for details
  - Fixed with [c3e2219216](#) in 5.2-rc4

## Bugs found by networking tests

- NULL pointer dereference in stable queue, fixed by removal of patches that caused the issue from the queue
  - See the [email thread](#) for more details

## Bugs found by KVM tests

- Timer test failing on 5.1-rc1 on aarch64
  - [Patch](#) posted and merges as commit [8fa761624871](#) in v5.1
- apic-split and apic tests failing TMCCT check on Xeon CPUs
  - Originally discovered on 4.18 kernels
  - Fixed with commit [3d82c565a7a2](#) in 5.0-rc1
- [vmware\\_backdoor](#) test failing, regression introduced in 5.1-rc6
  - No resolution yet (that I know of), [internal BZ](#)
- svm test failing on AMD on 5.2-rc3 kernels
  - See [email thread](#) with proposed fix for details
  - Fixed with [8f38302c0be](#) in 5.3-rc1



<https://gitlab.com/cki-project/found-bugs>



#2

**USE PROPER EQUIPMENT**



# USE PROPER EQUIPMENT

- **LTP**
  - regression and conformance tests
- **Gitlab**
  - used for CI, runners in OpenShift
- **Beaker**
  - running tests
- **tests-beaker**
  - tests (Open Source) that are run in Beaker
- **KPET-DB**
  - test metadata
- **Patchwork**
  - patch tracking software
- Koji/Brew

**#3**

# **WRITE COOKBOOKS**



# WRITE COOKBOOKS

KPET-DB

# WRITE COOKBOOKS

## Arches

x86\_64

aarch64

ppc64le

+2

KPET-DB

# WRITE COOKBOOKS

## Arches

x86\_64

aarch64

ppc64le

+2

## Host Types

bare\_metal

megaraid

rdma

+...

KPET-DB

# WRITE COOKBOOKS

## Arches

x86\_64

aarch64

ppc64le

+2

## Host Types

bare\_metal

megaraid

rdma

+...

## Trees

rhel7

rhel8

stable

+15

KPET-DB

# WRITE COOKBOOKS

## Arches

x86\_64

aarch64

ppc64le

+2

## Host Types

bare\_metal

megaraid

rdma

+...

## Trees

rhel7

rhel8

stable

+15

## Comps

headers

devel

debug

+2

KPET-DB



# WRITE COOKBOOKS

## Arches

x86\_64

aarch64

ppc64le

+2

## Host Types

bare\_metal

megaraid

rdma

+...

## Trees

rhel7

rhel8

stable

+15

## Comps

headers

devel

debug

+2

## Sets

net

fs

mem

+5

KPET-DB

# WRITE COOKBOOKS

## Arches

x86\_64

aarch64

ppc64le

+2

## Host Types

bare\_metal

megaraid

rdma

+...

## Trees

rhel7

rhel8

stable

+15

## Comps

headers

devel

debug

+2

## Sets

net

fs

mem

+5

## Suites

LTPLite

USEX

blocktests

xfstests

realtime

KVM

kdump

stress-ng

firewall

+66

KPET-DB

#4

**YOU GOTTA KEEP THE  
KITCHEN CLEAN**



# KEEP THE KITCHEN CLEAN

Mailing lists are too crowded for bugs to be walking around.

**KEEP THE KITCHEN CLEAN**

# KEEP THE KITCHEN CLEAN

## Waived Tests

Identify tests likely to fail and prevent them from affecting the main result.

# KEEP THE KITCHEN CLEAN

## Waived Tests

Identify tests likely to fail and prevent them from affecting the main result.

## Hosts Blacklist

Keep a dynamic list of hosts likely to generate failures.

# KEEP THE KITCHEN CLEAN

## Waived Tests

Identify tests likely to fail and prevent them from affecting the main result.

## Hosts Blacklist

Keep a dynamic list of hosts likely to generate failures.

## Report Review

Certain failures are reviewed manually before the results are sent



**#5**

**SHIP THEM READY TO EAT**

# SHIP THEM READY TO EAT

Not fancy packages.

Highlight the problems.

Provide all the necessary information.

**#6**

**SERVE EXTRA SPRINKLES**

# SERVE EXTRA SPRINKLES

Fast interaction.

Acknowledge feedback.

Help developers to find the issues.

**#7**

# **BUILD A BAKERY**

# BUILD A BAKERY

Other people are also baking their own cookies.

We are constantly generating a lot of data.

We don't want to keep the cookies for ourselves.

# BUILD A BAKERY

## Data Warehouse

- Dashboard
- Metrics
- PIPELINES
- Running
- Summary
- Failures
- PATCHES
- Summary
- Submitter
- CONFIDENCE
- Tests
- Hosts

### Dashboard

PIPELINES RUN <sup>24 HS</sup>

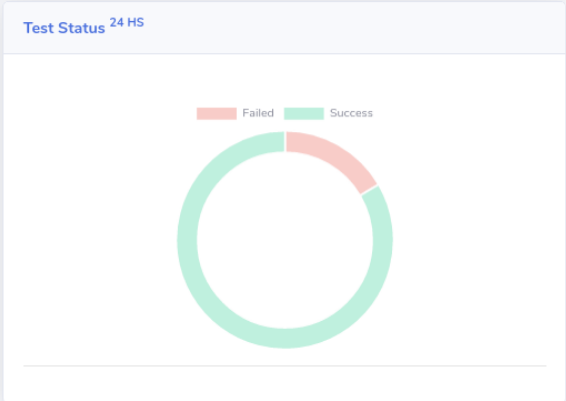
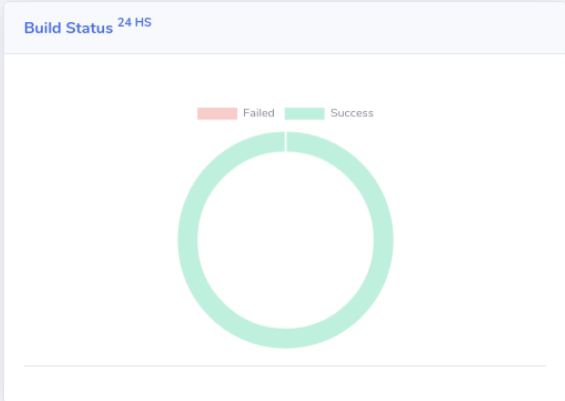
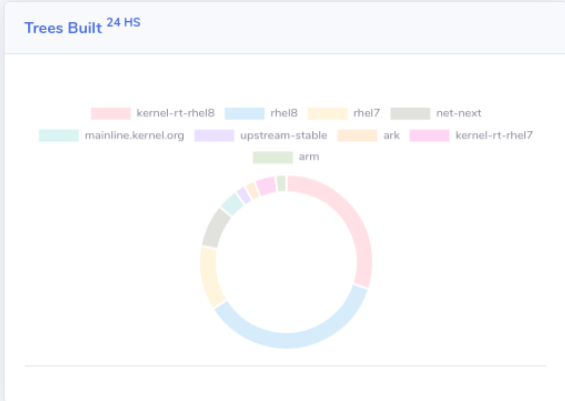
**50**

BUILDS RUN <sup>24 HS</sup>

**138**

TESTS RUN <sup>24 HS</sup>

**3299**



### Latest Pipelines

ID	Git Tree	Commit	Version	Lint	Merge	Build	Test
397874	kernel-rt-rhel8	88c04a0	4.18.0-172.rt13.29.el8.cki	✓	✓	✓	—
397873 🚩	rhel8	dd668ac	4.18.0-172.el8.cki <span>Infra Unidentified</span>	✓	✓	✓	🚩
397872	rhel8	f94cc06	4.18.0-172.el8.cki	✓	✓	✓	🚩
397871 🚩	rhel8	f221c56	4.18.0-172.el8.cki <span>Infra Unidentified</span>	✓	✓	✓	🚩
397870 🚩	rhel8	8203065	4.18.0-172.el8.cki <span>Infra</span>	✓	✓	✓	🚩
397863 🚩	rhel8	821d08b	4.18.0-172.el8.cki <span>Infra</span>	✓	✓	✓	🚩
397856	kernel-rt-rhel8	21ec9fa	4.18.0-172.rt13.29.el8.cki	✓	✓	✓	✓
397855	kernel-rt-rhel8	b695951	4.18.0-172.rt13.29.el8.cki	✓	✓	✓	✓
397848	kernel-rt-rhel8	d7e3902	4.18.0-172.rt13.29.el8.cki	✓	✓	✓	✓

# BUILD A BAKERY

## KernelCI DB

arch All origin All rev All

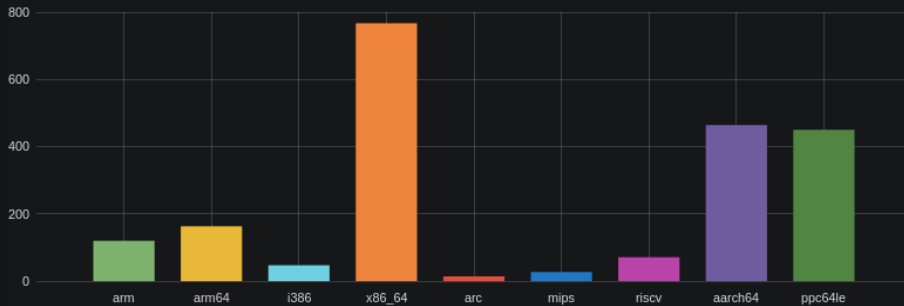
Builds

2123

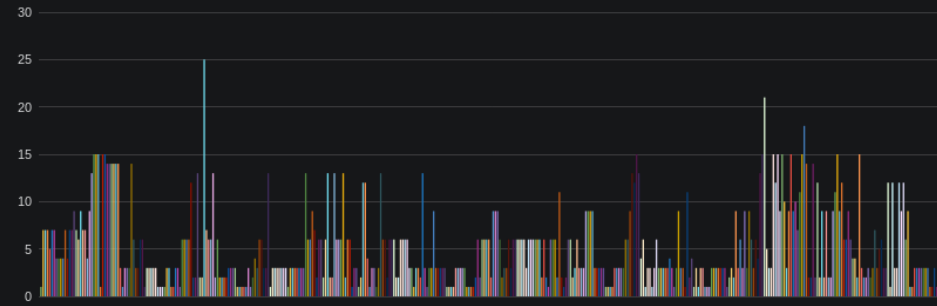
Success rate

98.49%

Builds per arch



Builds per revisions



Revisions

Origin

Architecture

Date

Builds

Success

Fail

<https://git.kernel.org/pub/scm/linux/kernel/git/torvalds/linux.git@dbab40bdb42c03ab12096d4aaf2dbef3fb55282c>

redhat

x86\_64

2020-01-22T17:47:23+01:00

1

1

0

[git://git.kernel.org/pub/scm/linux/kernel/git/sasha/linux-stable.git@e3bcbf7e97eb319d86708c341942b35421f846ea](https://git.kernel.org/pub/scm/linux/kernel/git/sasha/linux-stable.git@e3bcbf7e97eb319d86708c341942b35421f846ea)

redhat

ppc64le

2020-01-22T15:01:40+01:00

1

1

0

[git://git.kernel.org/pub/scm/linux/kernel/git/sasha/linux-stable.git@e3bcbf7e97eb319d86708c341942b35421f846ea](https://git.kernel.org/pub/scm/linux/kernel/git/sasha/linux-stable.git@e3bcbf7e97eb319d86708c341942b35421f846ea)

redhat

aarch64

2020-01-22T15:01:40+01:00

1

1

0

[git://git.kernel.org/pub/scm/linux/kernel/git/sasha/linux-stable.git@e3bcbf7e97eb319d86708c341942b35421f846ea](https://git.kernel.org/pub/scm/linux/kernel/git/sasha/linux-stable.git@e3bcbf7e97eb319d86708c341942b35421f846ea)

redhat

x86\_64

2020-01-22T15:01:40+01:00

1

1

0

[git://git.kernel.org/pub/scm/linux/kernel/git/arm64/linux.git@ae2b4b8eca96d473698cde211897e6dc4ce33fc7](https://git.kernel.org/pub/scm/linux/kernel/git/arm64/linux.git@ae2b4b8eca96d473698cde211897e6dc4ce33fc7)

redhat

aarch64

2020-01-22T12:45:51+01:00

1

1

0

[git://git.kernel.org/pub/scm/linux/kernel/git/stable/linux-stable-rc.git@8045d34c9af0cfa13922e1d6a3f53155e2bcd17](https://git.kernel.org/pub/scm/linux/kernel/git/stable/linux-stable-rc.git@8045d34c9af0cfa13922e1d6a3f53155e2bcd17)

redhat

ppc64le

2020-01-22T10:36:58+01:00

1

1

0

[git://git.kernel.org/pub/scm/linux/kernel/git/stable/linux-stable-rc.git@8045d34c9af0cfa13922e1d6a3f53155e2bcd17](https://git.kernel.org/pub/scm/linux/kernel/git/stable/linux-stable-rc.git@8045d34c9af0cfa13922e1d6a3f53155e2bcd17)

redhat

aarch64

2020-01-22T10:36:58+01:00

1

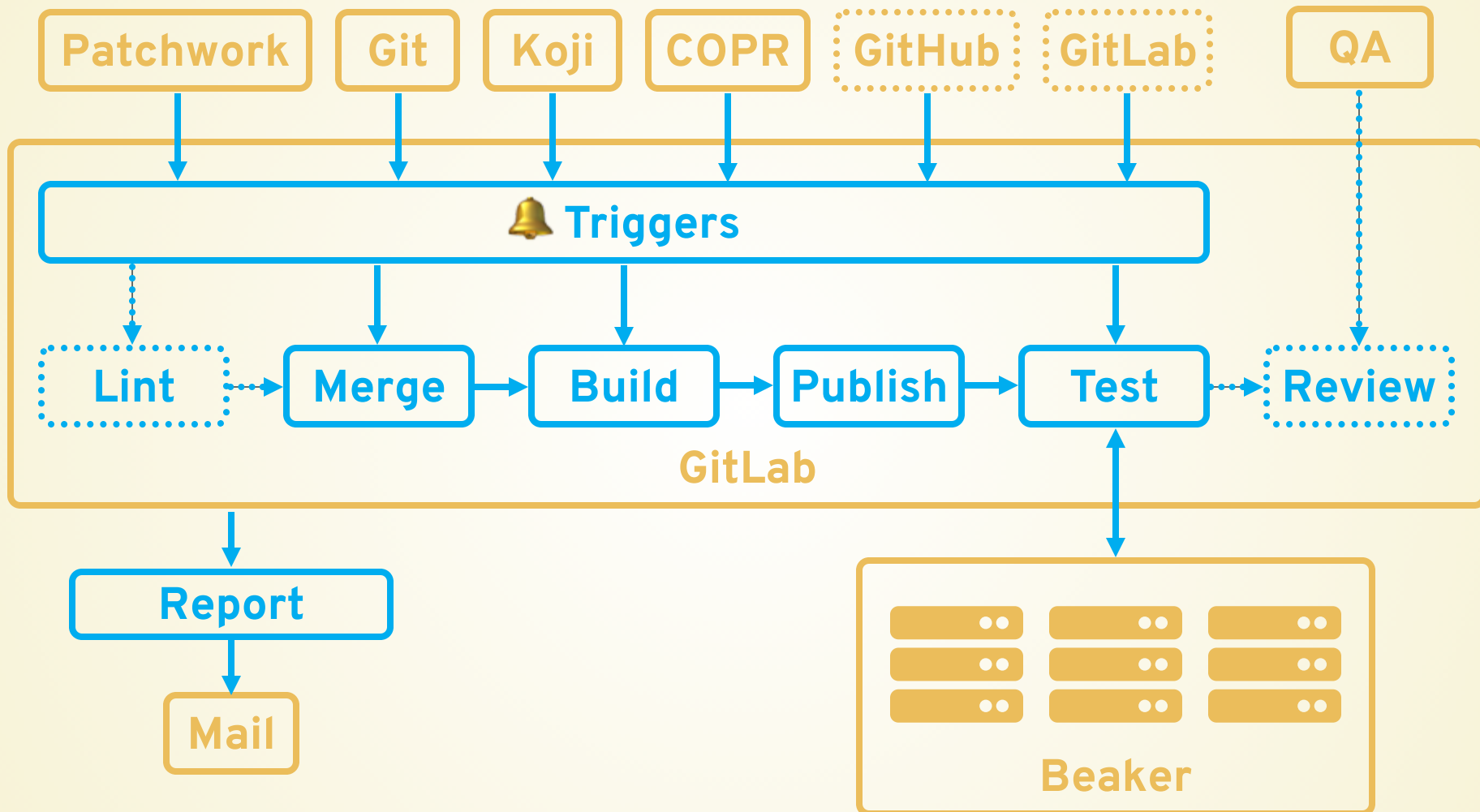
1

0



**SHOW ME THE COOKIES!**

# SHOW ME THE COOKIES!



# **COLLABORATION**

# COLLABORATION

# COLLABORATION

## How can we help you?

We can test your kernel tree.

We can run your tests.

You can use the data we generate.

# COLLABORATION

## **How can we help you?**

We can test your kernel tree.

We can run your tests.

You can use the data we generate.

## **How can you help the community?**

You can help to improve the tests !

You can help to improve our systems !

You can report issues !



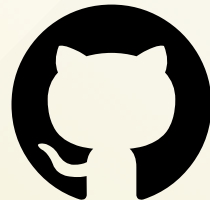
# THANK YOU!



[cki-project.org](https://cki-project.org)



[gitlab.com/cki-project](https://gitlab.com/cki-project)



[github.com/cki-project](https://github.com/cki-project)