
kernelci.org
The upstream kernel validation project
Linaro

Who is this guy?

- Tyler Baker
- Director of Engineering at Linaro
  - Automation and CI
- Maintainer of Linaro's Automated Validation Architecture (LAVA)
- Upstream Linux Kernel contributor
- Embedded Software Engineer

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Goals

Build every configuration for each architecture.

Boot these configurations.

Execute tests on these configurations.

Do ALL of this each time a kernel tree changes.

Report the results in a sensible way.

Profit.

#exactsteps

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Wait, but why?

To ensure the hard work being done upstream is gross regression free.

In addition, to provide a platform reference for the community.

Prologue

The ARM SoC maintainers developed scripts to build and boot test various boards for sanity purposes. This work would eventually become the basis for kernelci.org.

Current Status

kernelci.org consists of five automated hardware labs distributed all over the world. The hardware ranges from x86 servers to very small embedded platforms. This cluster of labs produce ~450 platform results for each tree.

0-Day

Does a really good job, it is extremely fast but does have some issues.

- Source code not available
- Only x86 VMs
- Does not publish artifacts

How is this system different?

kernelci.org is…

- distributed
- utilizing real metal
- open source
- community driven
- publishing artifacts

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Metrics

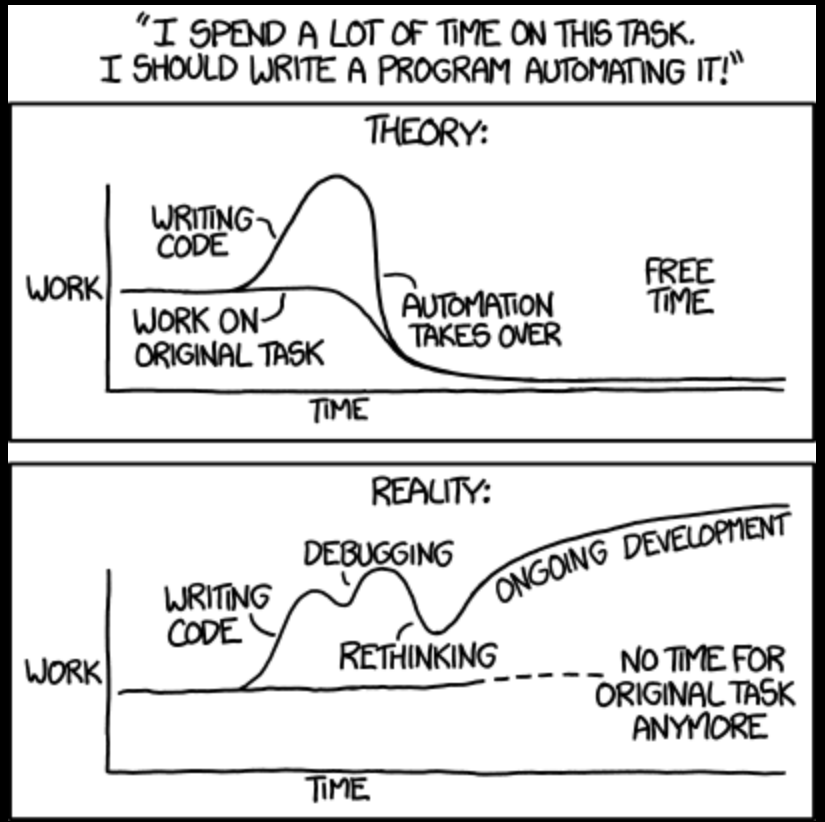
403,000 platforms booted

285,040 kernel trees built (arm, arm64, x86)

5,182 test cases executed

43 kernel bugs fixed upstream in 2015

Lessons Learned



Enough Talk Already

SHOW ME SOME DEMOS

FRONTEND DEMO

EMAIL REPORT DEMO

LAVA
DEMO

KSELFTEST DEMO

AUTOMATED BISECTION DEMO

API
DEMO

Future

Test result reporting and visualization

Result deltas

Automagic bisection

Toolchain testing

Moar hardware

Big Data

We have been archiving all data since v3.12.

Elastic Search?

Trends?

What is missing?

How can I halp?

Donations!

- Upstream supported platforms
- Build machines

Debug!

- Report issues
- Confirm fixes
- Send patches

Get involved

#kernelci on freenode

https://github.com/kernelci

kernel-build-reports mailing list

http://wiki.kernelci.org

http://api.kernelci.org

info@kernelci.org

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Thanks!

Any Questions?