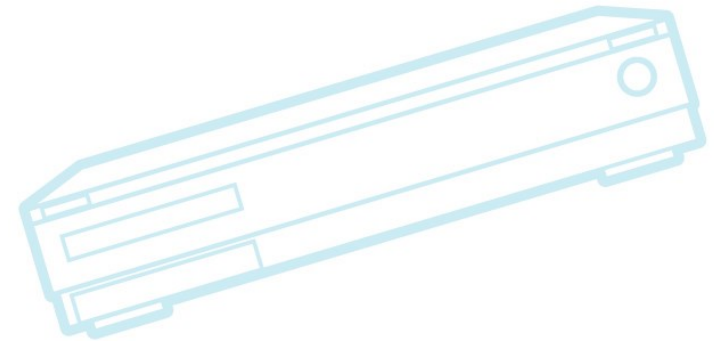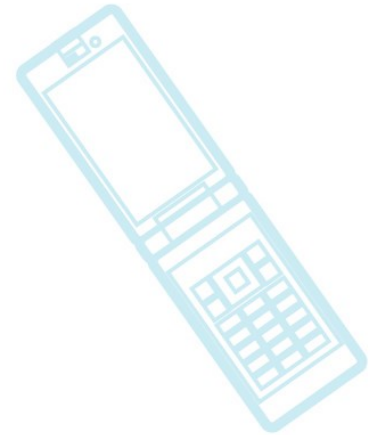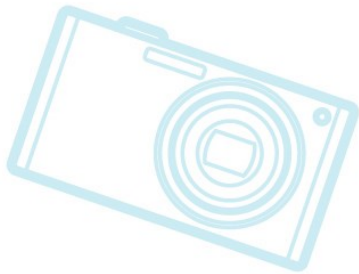# **Fuego** Issues Discussion

July 2019

Tim Bird

Fuego Maintainer

Sony Electronics

**Outline**

Issues

Solutions discussions

A disclaimer

- This document is about flaws and problems with Fuego

- Just because we list lots of problems doesn't mean that Fuego isn't useful

- Don't interpret this discussion as indicating that Fuego is a bad system

  - All systems have flaws

Issues Categories

- Technical issues
- Scalability issues
- Usability issues
- Missing features
  - Roadmap priorities
- Process issues
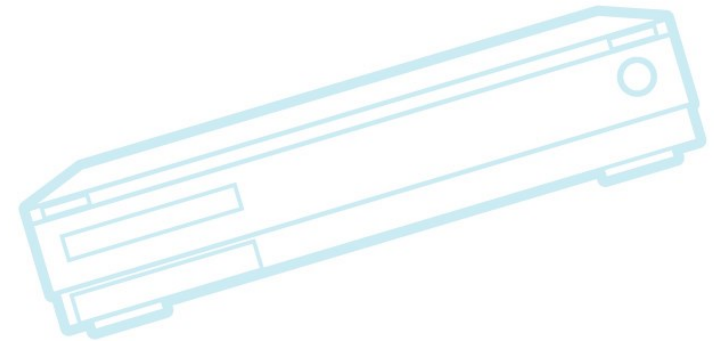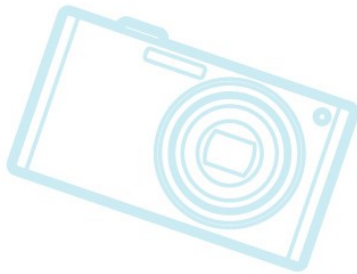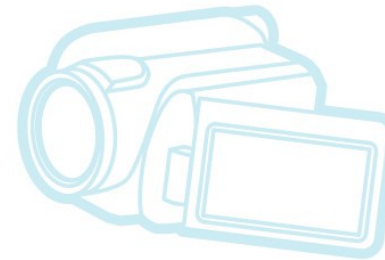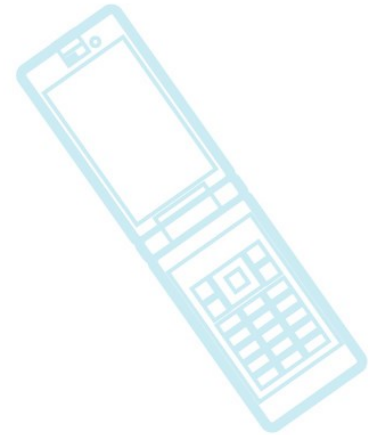
Technical issues

- If you use "ftc run-test" outside of Jenkins, then run the corresponding job inside Jenkins, there is a bug in build_number handling

- Jenkins plugin problems in 1.5

  - DescriptionSetter is not working

  - Several plugins have dependency problems

  - Invalid data in the build file

plotting issues

- builds are plotted by build_number, not time
  - recent boards start at build_number 1, but older board are using higher numbers. Comparison is weird
- The plot results for all boards are shown on a single page
  - (e.g. beaglebone.default.Benchmark.Dhrystone will show beaglebone, minnowboard, rpi, etc all in one chart)
  - Should be able to control with chart_config

Scalability issues

- System gets slow with more than 15 jobs executing at the same time
  - Haven't tested command line scalability
- ftc gen-report with unfiltered data gets slow after about 100 runs
- Fuegotest wiki is slow
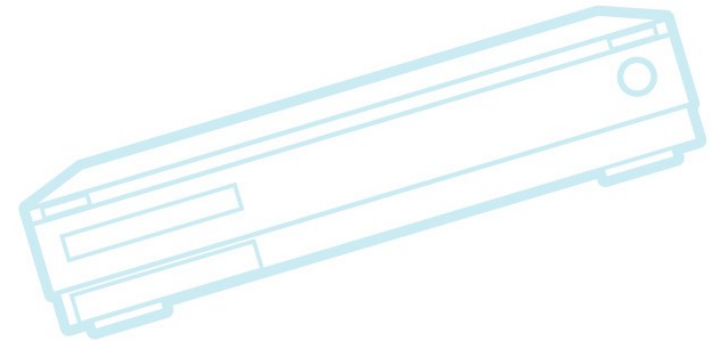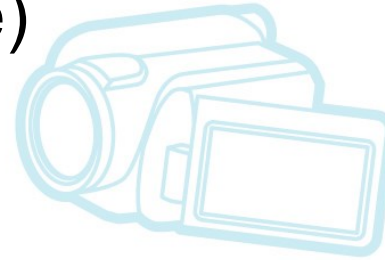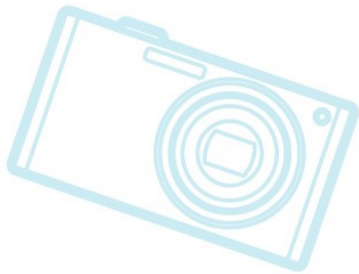
Usability issues

- LTP visualization is not good
  - Would be good to be able to 'drill down' through the interface to see individual testcase data
- Jenkins plugins break if you upgrade Jenkins
- Having multiple board's results on board-specific job page is confusing

Exporting results

- Should export results to Google bigquery site
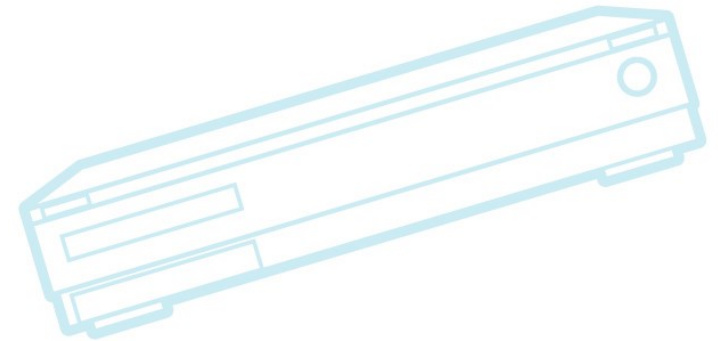 - Set up by Linaro (Dan Rue)

Security

- Item from Dhinakar about using Jenkins authorization
  - Login authentication to Jenkins
  - Host multiple projects and grant users only access to projects they are part of
  - Have logged-in users only able to view content that they have access to
    - per-job access control?
  - logged-in users can view only jobs/tests related to their modules
  - Customer/Manager/Developer/SQA can be granted privileges based on their role and responsibility in the project
- This must be requested from the Jenkins community

Missing Features

- board provisioning
- virtual machine support
  - pre-installed kvm/qemu board
- Automatic timeout detection
- should test RISC-V architecture binaries
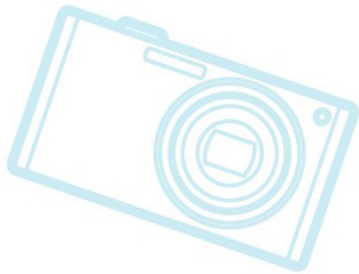
Provisioning survey

- Tim – ttc (sony tool)
  - sdcard muxing/AB kernels on sdcard
- Motai-san – tftp/nfs – custom configuration
  - rootfs on sdcard
- Daniel – tftp – manual re-provision
  - also use PXE
  - clonezilla
- Fujitsu – tftp/nfs rootfs
  - ARM – tftp
  - x86 – manual re-provision
- Khiem gave talk on SOTA/FOTA at ALS
  - RAUC client/ hawkbit server
  - Renesas test lab uses LAVA??

Provisioning notes

- tftp is super handy, but can miss some code paths
- SDcard with wifi
  - FlashAir
  - SDCard-based methods hard to implement
- Hawkbit is in java – probably slow
- Should we include RAUC client (or is it built into u-boot?), or hawkbit server

Process Issues

- Tim has not kept up with patch submissions
  - Over 100 patches not reviewed or processed in last 3 months
    - Should we add a check_patch for Fuego?
      - We have tools already for doing lint on python code
      - Use on new code but don't sweep over old code
    - Can someone help with reviews? Maybe Li
    - Use fserver to test code on boards I don't have
    - Submit with a test log (with full debug on)
    - Just accept it without test
      - Be liberal with accepting stuff into 'next' branch
      - Get help with pre-release testing for each release
  - Get a virtual machine that has everything that could be tested
- Issues tracker is terrible
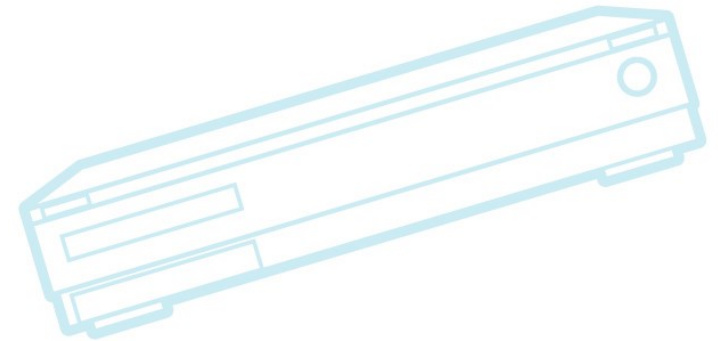 - is wiki-based, and is basically not usable

Change to repository config

- Notes:
  - bitbucket used because of tar files (large binaries)
- Want to use Jira or gitlab issue tracker
- gitlab provides a free space for open source project
  - don't have to host gitlab myself on fuegotest.org
  - gitlab has a decent issue tracker
  - Will it support the tars?
    - Should we separate the test definitions
- (take this discussion to mail list)

Community building

- Documentation
  - PDF Documentation is outdated
  - Wiki pages are slow, and not well-organized
- Promotion
- Support
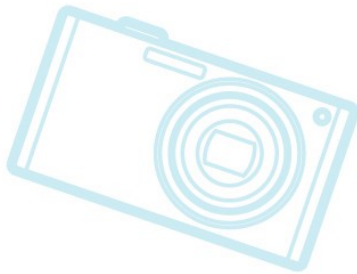
Uncategorized

- Something Daniel said in the hallway at ALS
    - Interactive operations?
    - Use of 'local' board as default?
    - Elimination of 'Functional' and 'Benchmark' prefixes?
- Rafael reported:
    - Fuego architecture is not good for multi-person test development
    - Must have fuego-core/test directory on shared machine (which means fuego-core git repo)
        - Doesn't allow for work-in-progress tests to be uploaded (they overwrite production version of test)

Outline
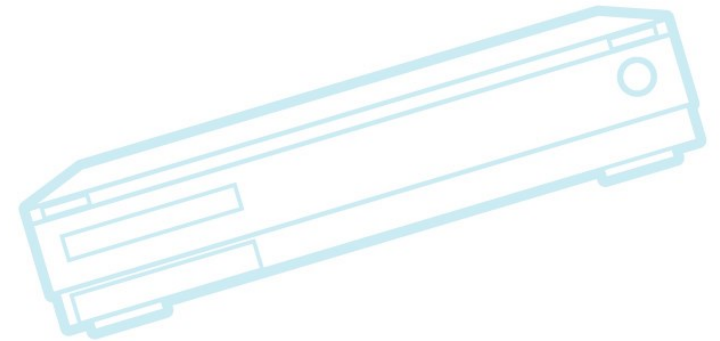
Issues

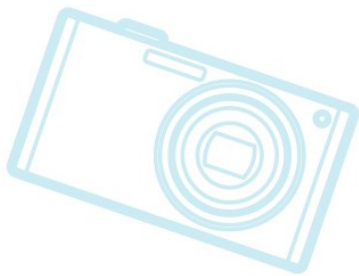Solutions discussions
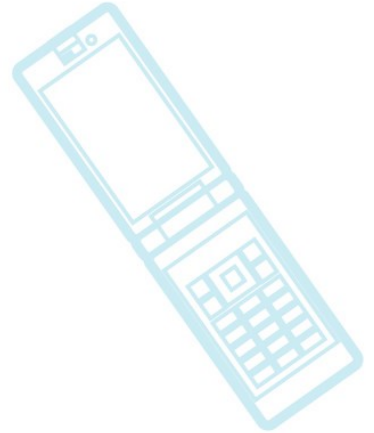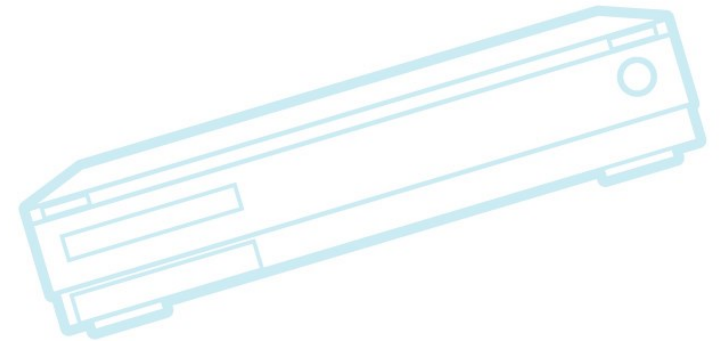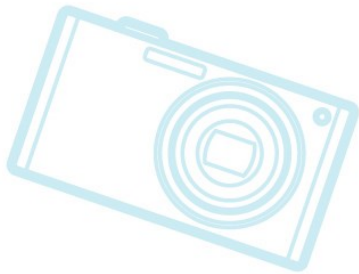
Solutions Discussions

- Rafael issue – was overkill to re-write from scratch. Could have overcome shared test issue with an easy hack.
  - Tim thought fserver could fix it, but maybe not
  - Just change name during test development (add developer suffix or something)

Fuego