IGT GPU Tools

THE PAST, THE PRESENT, THE FUTURE

Arkadiusz Hiler @ FOSDEM 2019

Some Context

IGT GPU Tools - tools for development and testing of the DRM drivers.

Targets **kernel's APIs** - KMS, command submission.

Started as **Intel** GPU Tools but **outgrew** that.

Used for **test-driving development of VKMS**.

Run it on your hardware, help us improving it **vendor-agnosticism.**

Governance

2 maintainers.

67 people with commits rights.

In 2018, only **198 out of 863 commits** were **pushed by the maintainers**.

Increase in contributions by other companies.

Current State

Most Intel-specific tests contained in i915 subdir.

Test for amdgpu and vc4/v3d.

50 KMS test binaries with 2228 subtests - pipe, planes, flips, atomic, color management, rotation, vblanks, etc.

Chamelium support - external display simulator by Google.

Heavily Used

About **130 machines** executing **24/7**.

~6M subtests executed each week.

Descriptions and results from all the different types of runs:
https://intel-gfx-ci.01.org/

Mapping between failures in the CI and issues, reproduction stats:
https://intel-gfx-ci.01.org/cibuglog/

Meson

Faster than Autotools (4x for a clean build).

Easier and **more readable** configuration.

Mesa and libdrm did it too.

We **still keep Autotools** support and will keep it for a while.
We are waiting for **Meson to stabilize and mature**.

The New Runner

Piglit runner replacement with mostly compatible command line options.

Smaller, more **focused** codebase.

95% size reduction for IGT redistributables for the CI systems.

Smaller memory/CPU **footprint**, fewer dependencies (written in C).

Log **journaling** and **better handling of incompletes**.

Aborts on serious **kernel taints**.

Feasible **multiple subtests one exec()** mode.

GitLab

We have moved to GitLab.

CI/CD is used for **(cross-)compilation** tests, and documentation publishing.

Dockerfiles are always up-to-date way of communicating **dependencies**.

Issues migration from FDO's bugzilla is being planned.

Merge Requests are **considered** as an alternative to mailing list.

IGT As The DRM Testsuite (?)

To avoid having **many internal test suites** for the **common APIs.**

Proposed by DRM Maintainer.
IGT test would be ~~required~~ **strongly suggested for new API**.

Doesn't run well ~~or compile~~ on **non-PC**.

IGT is quite **CRC centric**, not all hardware supports that.
Writeback to the rescue!

Q&A

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MAINTAINERS file