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 \textit{(cross-)compilation} tests, and documentation publishing.

\textbf{Dockerfiles} are always up-to-date way of communicating \textit{dependencies}.

\textbf{Issues migration} from FDO’s bugzilla is being planned.

\textbf{Merge Requests} are \textit{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 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

{ ivyl, Adrinael }
dri-devel @ freenode
igt-dev@lists.freedesktop.org
MAINTAINERS file