

Bare-Metal CI Workshop

Summary from the discussion

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Existing X.Org CI farms

- Collabora: Gitlab-based Mesa / DRM testing on a wide variety of chromebooks
- Igalia: Gitlab-based Mesa testing for Raspberry Pis
- Intel:
 - Mesa: Invitation-based pre-merge testing service
 - i915/IGT: Automatic pre-merge testing for every patch series
- LunarG: Github-based pre-merge testing for GFX Reconstruct
- Qualcomm: Gitlab-based Kernel testing
- Valve/Igalia: Gitlab-based Mesa/DXVK testing on AMD GPUs

Being scoped

- AMD: Mailing list-based IGT/Display
- Imagination Technologies: Gitlab-based PowerVR testing for Mesa

Topics of conversation

- GitLab integration:
 - Make pre-merge testing unable to prevent merges
 - Simplify the use of bare-metal CI
- Test suites:
 - Trace-based testing
 - IGT results processing
- Making it easier to set-up new CI test farms
- Mesa CI:
 - reducing the development complexity
 - Ease local reproducibility of build/run environments

Topic: GitLab Integration

- Issue: GitLab can't prioritize jobs based on users/projects:
 - Developers can inadvertently prevent Merge from merging
 - Solution 1: Prevent developers from using bare-metal users
 - Solution 2: Add support for job prioritization in Gitlab
- Issue: Running on bare-metal runners is different from running in the cloud
 - Requires different code paths depending on the runner you need...
 - Solution: Source all the test environment information from the job and deploy it transparently, either as a custom executor for gitlab-runner, or by writing a custom runner
 - See: <https://gitlab.collabora.com/lava/lava-gitlab-runner>

Topic: Test suites

- Trace-based testing: 3 separate CI projects, 3 acceptance criterias:
 - Mesa CI: Per-GPU golden images
 - DXVK CI: Manually-accepted frames, and stability verification
 - Lunar G: Distance from golden frames
- IGT: 2 different views:
 - DRM/MSM: Flakes/failures expectation in tree
 - Intel GFX CI: Failures documented in CI Bug Log
- ==> More research needed before we can agree on what is best!

Topic: Simplifying setting up new CI farms

- Daniel Stone:
 - It can't be that companies need to hire a consulting company to run tests!
- Valve infra is meant to become turn-key solution for CI farms and developers
- I'm writing a [blog post series](#) on the topic

Topic: Mesa CI dev workflow

- gl.f.d.o:12k CI jobs per day, expected to grow (!!!)
 - Requires tradeoffs between ease of use and infra costs:
 - Container image caching using ci-templates
 - Builds and tests environments do not get shipped as a container
 - Efforts will be made to improve local reproduction of CI environments

Conclusion

- We are converging on GitLab-based testing
- Research is still needed:
 - CI farm setup varies widely
 - Acceptance criteria for IGT/trace-based testing
- Join us on #freedesktop on OFTC

Thanks for listening!