Older Radeon GPUs With RADV Vulkan Driver Now Have Trap Handler For Helping Catch Issues

The Mesa Radeon Vulkan driver "RADV" has seen an initial trap handler implementation for helping to more easily catch and diagnose various issues stemming from Vulkan shaders.

Initially for AMD "GFX8" Fiji/Polaris graphics processors but should theoretically work as well for older GFX6/GFX7 hardware is the trap handler merged on Monday. Newer GFX9/GFX10 GPUs will require a separate trap handler implementation due to hardware differences.

Experimental Zink Patches Get OpenGL 4.6 Running Atop Vulkan

When the Zink Gallium3D driver running OpenGL over Vulkan was first introduced in 2018 and since one of the main blockers besides the performance overhead has been the limited OpenGL 2/3 support. The GL3/GL4 support has been improving with time for Zink and when making use of the latest out-of-tree patches is even possible to get OpenGL 4.6 running over Vulkan with Zink!

Mike Blumenkrantz: Tessellation

Tessellation shaders were the second type of new shader I worked to implement after geometry shaders, which I haven't blogged about yet.

As I always say, why start at the beginning when I could start at the middle, then go back to
the beginning, then skip right to the end.

Tessellation happens across two distinct shader stages: tessellation control (TCS) and tessellation evaluation (TES). In short, the former sets up parameters for the latter to generate vertex data with. In OpenGL, TCS can be omitted by specifying default inner and outer levels with glPatchParameterfv which will then be propagated to gl_TessLevelInner and gl_TessLevelOuter, respectively.

- **Victory Lap** [5]

  It?s been about three months since I jumped into the project to learn more about graphics drivers, and zink has now gone from supporting GL 3.0 to GL 4.6 and GLES 3.2 compatibility*. Currently I?m at a 91% pass rate on piglit tests while forcing ANV to do unsupported fp64 ops, which seems like a pretty good result.

- **Nouveau NVC0 Shader Disk Cache Lands For Speeding Up Game Load Times** [6]

  Covered back in February was work for Nouveau's NVC0 Gallium3D driver to finally make use of the Mesa on-disk shader cache functionality for speeding up game load times by allowing previously compiled GLSL shaders to be cached to disk. That work by Red Hat has finally been mainlined in Mesa 20.3.

  Mark Menzynski who is part of the Red Hat crew working on the open-source Nouveau driver finally saw his shader disk caching patches merged.

**Graphics/Benchmarks**

**Source URL:** [http://www.tuxmachines.org/node/141363](http://www.tuxmachines.org/node/141363)

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