

## Mediump support in Mesa

*Wednesday, 2 October 2019 13:35 (45 minutes)*

GPUs often provide half-float 16-bit registers for floating point calculations. Using these instead of full-precision 32-bit registers can often provide a significant performance benefit, particularly on embedded GPUs. The method used to expose these registers to applications in OpenGL ES is that variables can be marked as *mediump*, meaning that the driver is allowed to use a lower precision for any operations involving these variables. The GLES spec allows for the lower precision to be optional so it is always valid to use a higher precision. Mesa currently implements the spec effectively by just ignoring the precision markers and always using full precision.

This talk will present ongoing work at Igalia to implement a lowering pass to convert mediump operations to 16-bit float operations. The work is targetting the Freedreno driver but the resulting lowering pass may be applicable to other drivers too.

### Code of Conduct

Yes

### GSoC, EVoC or Outreachy

**Presenter:** ROBERTS, Neil (Igalia)

**Session Classification:** Main Track

**Track Classification:** Talk (full slot) (closed)