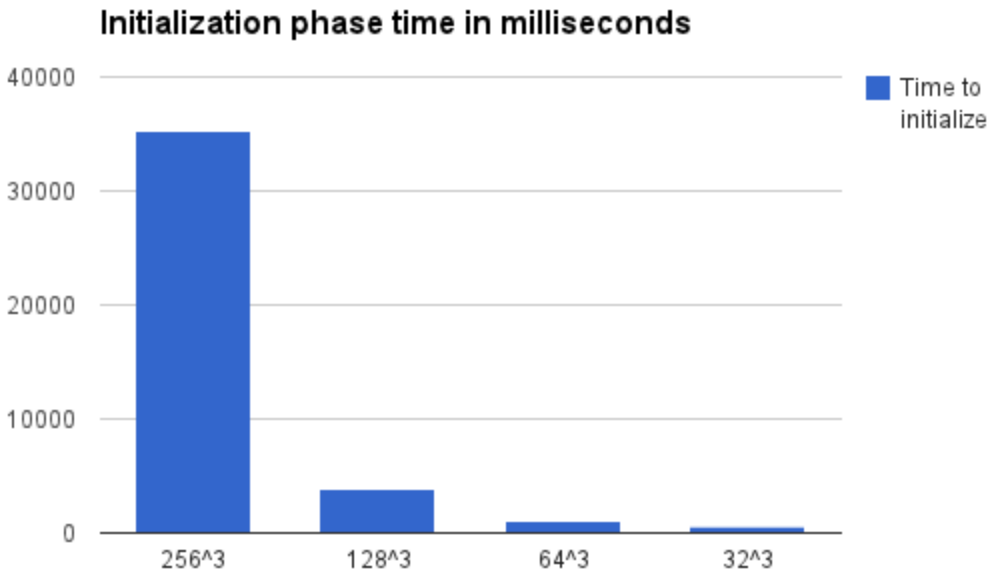
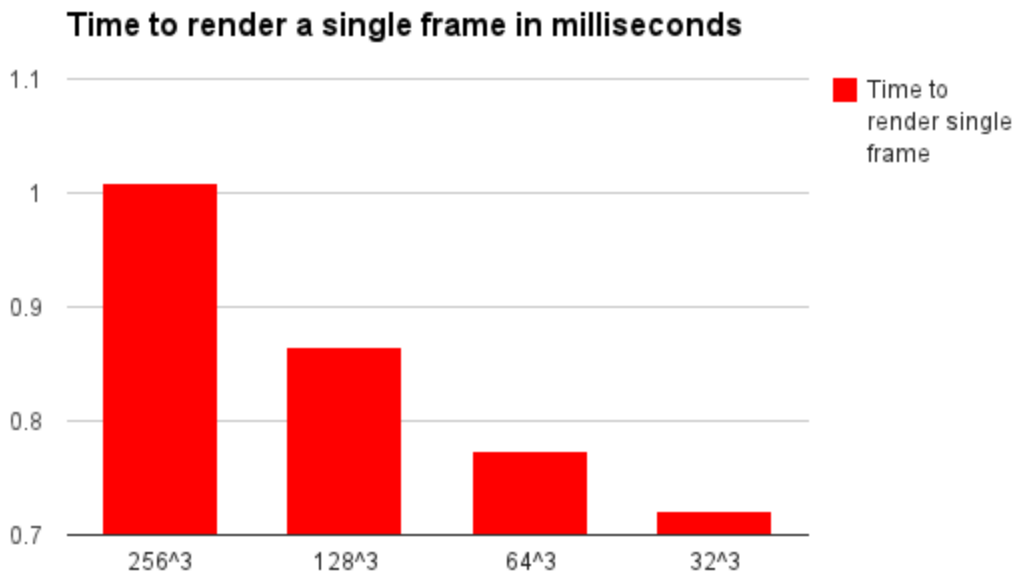
Initialization

The following image shows how the time it took to initialize everything to be ready for rendering was practically completely determined by how long it took to populate the noise data texture. The effect of initializing DirectX devices etc. was minimal.



The numbers on the x-axis represent how many data points the texture has, and how many vertices we sent from the CPU to the GPU, since at each of these points we'll sample the noise texture in the GPU.

Rendering

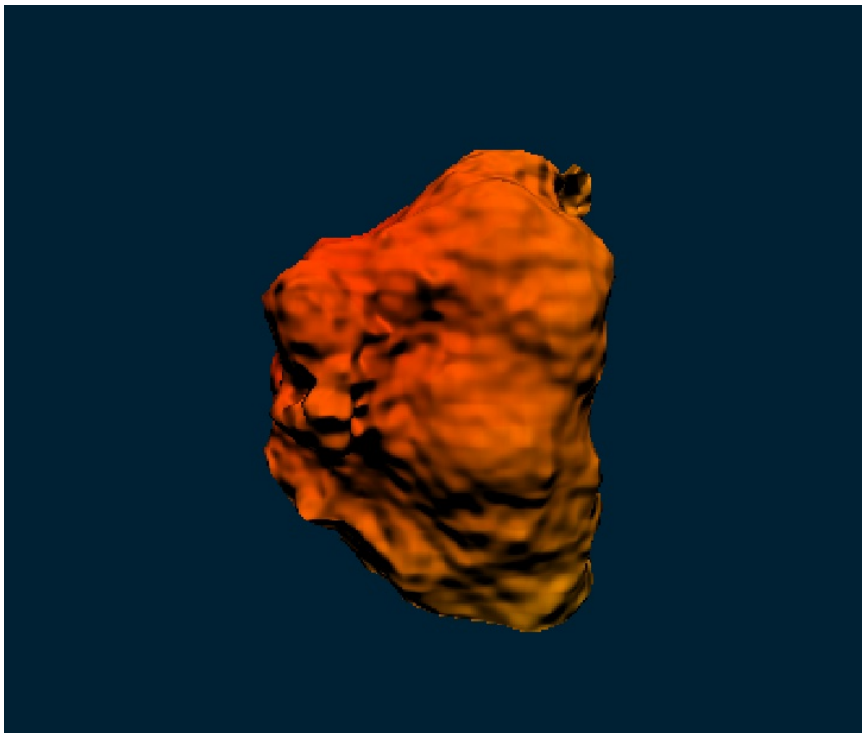


Y-axis is in milliseconds, X-axis is again the size of the dataset.

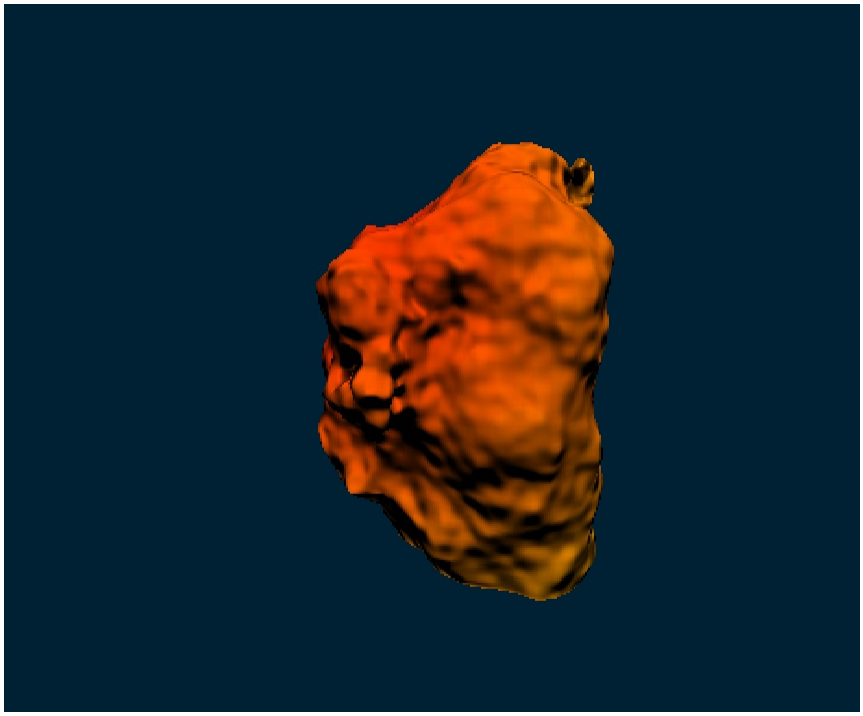
As can be seen, the FPS for rendering these objects was really high. This leaves a lot of room to do something more interesting in real-time. However, if the dataset is to be manipulated by the CPU at run-time, it cannot be created from scratch every time, since as we saw from the initialization graph, creating the data set takes something like 500ms for even the smallest 32^3 sized dataset.

Resulting images:

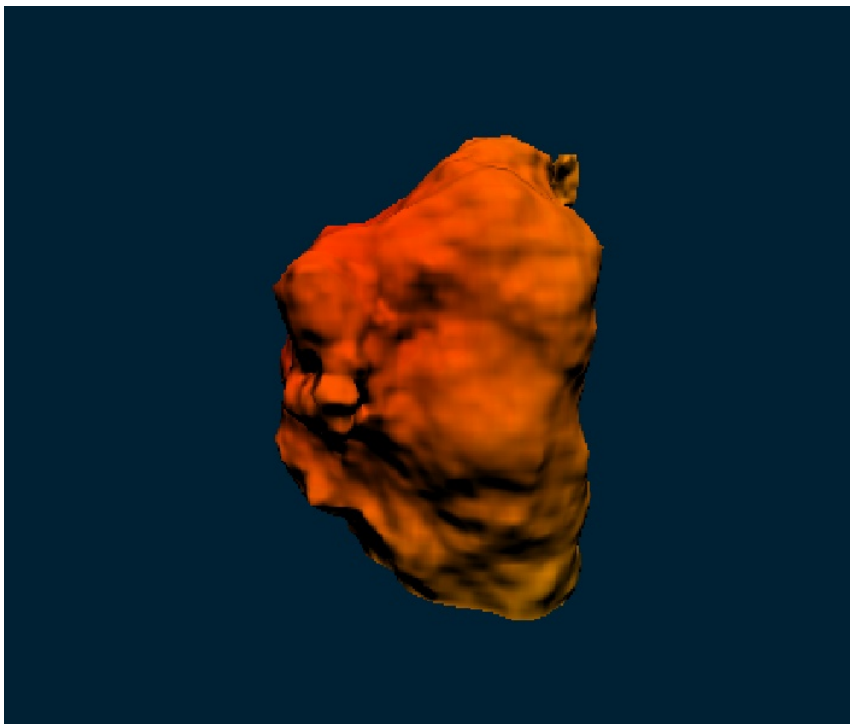
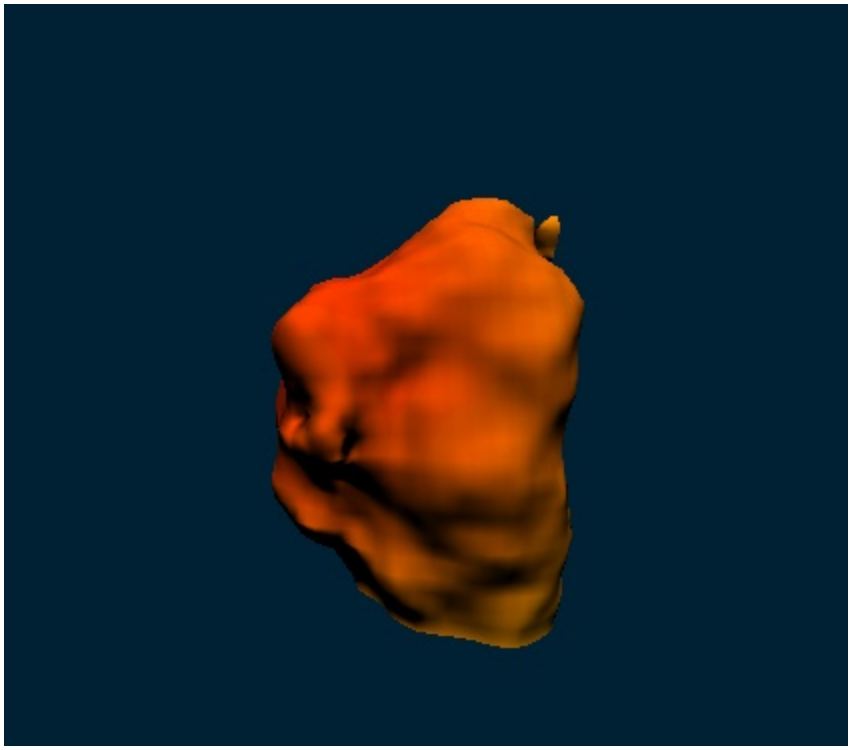
256^3:



128^3:



64^3:



32^3: