

Sprint Report #1

For sprint one we needed to benchmark the three devices, that we are considering to build our ARM cluster. The three devices are the ODroid 4xU, the Raspberry PI 2B, and the the PcDuino 8. The PcDuino wasn't working properly so it wasn't tested. The benchmarking process tested the length of time to add, multiply, and divide two arrays consisting of one hundred thousand random numbers between one and a thousand, using all cores on the devices. One other test was processing a simply sine function on one of the arrays. The benchmarking results are as follows:

| Lenght of Time (seconds) | | | | |
|--------------------------|-----------|----------------|----------|---------------|
| Devices | Functions | | | |
| | Addition | Multiplication | Division | Sine Function |
| ODroid 4xU | 29.925 | 31.341 | 37.032 | 227.40 |
| Raspberry PI 2B | 221.645 | 221.034 | 297.204 | 1468.63 |

| Gigaflops | | | | |
|-----------------|-----------|----------------|----------|---------------|
| Devices | Functions | | | |
| | Addition | Multiplication | Division | Sine Function |
| ODroid 4xU | 0.311 | 0.297 | 0.251 | 0.0410 |
| Raspberry PI 2B | 0.0420 | 0.0421 | 0.0313 | 0.00634 |

| Gigaflops per Dollar per Watts | | | | |
|--------------------------------|-----------|----------------|----------|---------------|
| Devices | Functions | | | |
| | Addition | Multiplication | Division | Sine Function |
| ODroid 4xU | 0.00028 | 0.000268 | 0.000226 | 0.0000369 |
| Raspberry PI 2B | 0.0003 | 0.0003 | 0.000224 | 0.0000453 |