

# Benchmark Log

## Testing

Benchmark code was written that tested the length of time to add, multiply, divide, and sine two arrays consisting of 100,000 random floating point numbers that were generated in a separate number generated program outputting numbers between one and one thousand. The code ran on all cores of the devices.

## Results

The PcDuino 8 was not working correctly so it was removed from our selection. This did not cause a huge effect in the project considering each PcDuino costs about \$160 and therefore was not a front runner in our experimentation.

The Raspberry Pi 2B with 4 cores and the ODroid 4xU with 8 cores were tested. The results were as follows:

Length of Time (seconds)				
Device	Addition	Multiplication	Division	Sine
ODroid 4xU	29.925	31.341	37.032	227.40
Raspberry Pi 2B	221.645	221.034	297.204	1468.63

Gigaflops				
Device	Addition	Multiplication	Division	Sine
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				
Device	Addition	Multiplication	Division	Sine
ODroid 4xU	0.00028	0.000268	0.000226	0.0000369
Raspberry Pi 2B	0.0003	0.0003	0.000224	0.0000453

## Conclusion

The Raspberry Pi 2B proved to be better than the ODroid 4xU, however they were very close. We are inconclusive as to which one will be used for the cluster. In the following Sprint 2, we will look into the ordering parts and our budget to make a choice as to which of the two single-board computers we will use.