Threading Warmup -

Kernel/User Thread Benchmarks -

Thread Pairs	Iterations	User Threads	Kernel Threads
1	1000000	0.096	0.638
2	1000000	0.172	0.758
4	1000000	0.348	7.453
8	1000000	1.013	13.87
1	10000000	0.918	6.096
2	10000000	1.654	8.863
4	10000000	3.286	74.917
8	10000000	9.938	137.967
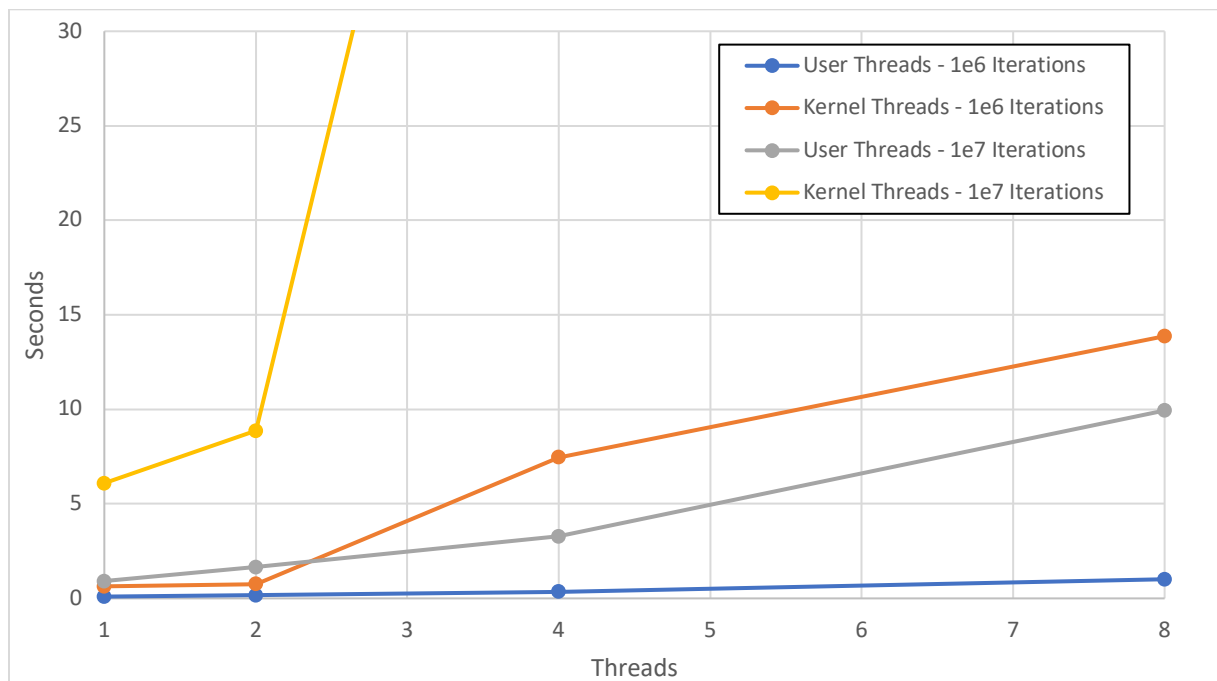
The user threads dramatically outperformed the kernel threads overall, with more dramatic performance gains with higher thread counts. Even at lower thread counts where the kernel threads might have been able to more effectively use the computer architecture the kernel threads underperformed. Since the work each thread was expected to do was so small the gains made from using multiple cores was dwarfed by the cost of context switching. The user level threads don't have to worry about context switching and performed much faster in general.