

CPU	Reads	Time (s)	GFLOP/s	GFLOP	Read/GFLOP
Intel ^R Core TM i7-3770 3.40GHz	1,000,000	195	4.4	858	1,165.50
Intel ^R Core TM i7-3770 3.40GHz	10,000,000	1,945	4.4	8,558	1,168.50
Intel ^R Xeon ^R E5-2643 3.30GHz	1,000,000	304	3.99	1,212.96	824.43
Intel ^R Xeon ^R E5-2643 3.30GHz	10,000,000	2,992	3.99	11,938.08	837.66
Intel ^R Xeon ^R E7- 4830 2.13GHz	1,000,000	698	2.28	1,591.44	628.36
Intel ^R Xeon ^R E7- 4830 2.13GHz	10,000,000	5,645	2.28	12,870.6	776.96

Analysis of computation power vs. proof-of-work. We sampled two sets of 100 bp reads from the 1000 Genomes Project to generate assignments. As the proof-of-work, we aligned the reads to the reference human genome using BWA-MEM , then converted SAM file to BAM and sorted the BAM file using SAMtools . The run times reported in this table corresponds to the total time required to run both BWA-MEM and SAMtools using a single core.