

# CPU Benchmarks

Over 1,000,000 CPUs benchmarked

## High End CPUs - Intel vs AMD

This chart comparing high end CPUs is made using thousands of [PerformanceTest](#) benchmark results and is updated daily. These are the high end AMD and Intel CPUs are typically those found in newer computers. The chart below compares the performance of Intel Xeon CPUs, Intel Core i7/i9 CPUs, AMD Ryzen/Threadripper CPUs and AMD Epyc with multiple cores. Intel processors vs AMD chips - find out which CPUs performance is best for your new gaming rig or server!

CPU Mark	Price Performance
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## PassMark - CPU Mark

High End CPUs

Updated 23rd of February 2023

CPU	CPU Mark	Price (USD)
AMD EPYC 9654	124,119	\$7,730.00
AMD Ryzen Threadripper PRO 5995WX	94,515	\$6,644.99
AMD EPYC 7773X	90,731	\$4,249.00
AMD EPYC 7763	85,944	\$3,665.00
AMD EPYC 7J13	85,661	NA
AMD EPYC 7713	85,521	\$4,500.00
AMD EPYC 7713P	83,439	\$4,550.00
AMD Ryzen Threadripper PRO 3995WX	83,097	\$7,000.00
AMD EPYC 7V13	82,878	NA
AMD Ryzen Threadripper 3990X	81,109	\$7,429.00
AMD EPYC 9354P	79,341	NA
AMD EPYC 7B13	77,460	NA
AMD EPYC 7643	76,455	\$4,550.00*
AMD Ryzen Threadripper PRO 5975WX	76,440	\$3,170.00
AMD EPYC 7T83	74,892	NA
AMD EPYC 7662	73,143	\$3,999.99*
AMD EPYC 7702	70,628	\$2,000.00

AMD EPYC 7543P	67,081	\$2,350.00*
AMD Ryzen Threadripper PRO 5965WX	66,337	\$2,238.99
AMD EPYC 7742	65,629	\$2,098.00
AMD EPYC 7R32	64,727	NA
AMD Ryzen Threadripper 3970X	63,476	\$3,300.00
AMD Ryzen 9 7950X	63,422	\$589.00
AMD Ryzen Threadripper PRO 3975WX	62,862	\$3,000.02
Intel Core i9-13900KS	62,797	\$729.99
Intel Xeon Platinum 8380 @ 2.30GHz	62,318	\$8,978.00*
AMD EPYC 7702P	62,007	\$4,929.14
AMD EPYC 74F3	60,587	\$3,100.00
AMD EPYC 7642	60,115	\$1,830.00
Intel Core i9-13900K	60,044	\$569.99
AMD EPYC 7513	59,988	\$2,840.00*
Intel Core i9-13900KF	59,743	\$555.00
Intel Xeon W-3365 @ 2.70GHz	59,038	\$3,851.00*
AMD EPYC 7443P	57,613	\$1,683.99*
Intel Core i9-13900F	56,913	\$569.99
AMD EPYC 7542	56,728	\$1,298.36
AMD EPYC 7543	56,562	\$3,761.00*
Intel Xeon W-3375 @ 2.50GHz	56,403	\$4,499.00*
AMD EPYC 7532	55,483	\$3,115.43
AMD Ryzen Threadripper 3960X	54,794	\$1,299.97
Intel Xeon Platinum 8358 @ 2.60GHz	54,416	\$5,097.75*
Intel Xeon Gold 6348 @ 2.60GHz	52,276	\$2,300.00
AMD Ryzen 9 7900X	52,136	\$445.00
Intel Xeon Platinum 8375C @ 2.90GHz	51,836	NA
AMD EPYC 7443	51,764	\$2,230.99*
Intel Xeon Gold 6314U @ 2.30GHz	51,014	\$2,782.00*
Intel Core i9-13900	50,890	\$585.99
Intel Core i9-13900HX	50,646	\$668.00*
AMD EPYC 7413	50,223	\$1,997.99*
AMD EPYC 7453	50,209	\$2,644.50
AMD Ryzen Threadripper PRO 5955WX	49,585	\$1,299.99
Intel Xeon Platinum 8347C @ 2.10GHz	49,386	NA
AMD EPYC 7502P	49,191	\$1,699.96
AMD EPYC 7502	49,178	\$1,490.00
AMD Ryzen 9 7900	48,538	\$455.78
Intel Xeon W-3345 @ 3.00GHz	48,261	\$2,499.00*
Intel Core i9-13980HX	48,112	\$668.00*
AMD EPYC 7402	47,668	\$1,523.00
Intel Xeon Gold 6342 @ 2.80GHz	47,320	\$3,272.00*
Intel Core i7-13700K	47,047	\$417.96
AMD Ryzen 9 7845HX	46,791	NA
Intel Core i7-13700KF	46,713	\$398.84
Intel Xeon Gold 6338N @ 2.20GHz	46,583	\$4,671.69*
ARM Neoverse-N1 128 Core 3000 MHz	46,271	NA
AMD EPYC 73F3	46,085	\$3,977.49

Intel Xeon Gold 6336Y @ 2.40GHz	45,517	\$2,857.95*
AMD EPYC 7343	44,930	\$1,699.99*
Intel Core i9-12900KS	44,526	\$512.99
Intel Xeon Gold 6312U @ 2.40GHz	44,275	\$1,809.59*
Intel Core i9-13900T	44,273	\$549.00*
Intel Xeon Gold 6330 @ 2.00GHz	43,056	\$1,315.00
AMD EPYC 7601	42,244	\$875.87
AMD EPYC 7313P	42,057	\$913.00*
AMD EPYC 7551P	41,919	\$368.69
AMD EPYC 7452	41,871	\$2,143.00
AMD EPYC 7402P	41,674	\$888.88
Intel Core i9-12900K	41,573	\$432.38
Intel Xeon Gold 6354 @ 3.00GHz	41,445	\$2,757.99*
Intel Core i7-13700F	41,432	\$379.99
Intel Core i9-12900KF	41,413	\$409.00
Intel Core i7-13700	41,160	\$409.99
AMD EPYC 7313	41,060	\$1,179.99*
AMD EPYC 7F52	41,023	\$3,100.00*
Apple M1 Ultra 20 Core	40,918	NA
AMD Ryzen Threadripper PRO 5945WX	40,807	NA
Intel Xeon Platinum 8275CL @ 3.00GHz	40,794	NA
AMD EPYC 7K62	40,487	NA
Intel Xeon W-3275M @ 2.50GHz	40,444	\$7,453.00*
AMD Ryzen Threadripper PRO 3955WX	40,310	\$1,139.99
AMD EPYC 7352	39,999	\$989.00
Intel Xeon W-3265M @ 2.70GHz	39,618	\$6,353.00*
AMD Ryzen 9 5900X	39,260	\$330.00
Intel Xeon W-3335 @ 3.40GHz	39,040	\$1,299.00*
AMD Ryzen 9 3950X	39,005	\$599.00
Intel Xeon Gold 6248R @ 3.00GHz	38,604	\$2,640.00
Intel Core i5-13600K	38,486	\$319.84
Intel Core i5-13600KF	38,433	\$296.96
Intel Xeon Gold 6346 @ 3.10GHz	37,626	\$2,015.00
Intel Xeon Platinum 8280 @ 2.70GHz	37,575	\$5,975.00
Intel Xeon Gold 5320 @ 2.20GHz	37,558	\$1,745.00
Intel Xeon Gold 6238R @ 2.20GHz	37,511	\$2,515.00
Intel Core i9-12900F	37,361	\$486.98
Intel Xeon Silver 4316 @ 2.30GHz	37,264	\$950.00
Intel Xeon W-3175X @ 3.10GHz	37,167	\$2,660.70
AMD Ryzen 7 7700X	36,450	\$337.59
Intel Core i9-13950HX	36,415	\$590.00*
ARM Neoverse-N1 80 Core 3000 MHz	36,400	NA
AMD EPYC 7D12	35,853	NA
Intel Core i9-12900HX	35,788	\$606.00*
Intel Xeon Gold 6326 @ 2.90GHz	35,328	\$1,416.99
Intel Xeon Platinum 8180 @ 2.50GHz	35,208	\$5,947.00
AMD Ryzen 7 7700	35,034	\$328.99
Intel Xeon Gold 6242R @ 3.10GHz	34,963	\$2,169.00

Intel Core i7-12700K	34,766	\$409.00*
AMD Ryzen 9 5900	34,551	NA
Intel Core i7-12700KF	34,541	\$276.99
AMD Ryzen 9 PRO 5945	34,271	NA
Intel Xeon Gold 6230R @ 2.10GHz	34,145	\$1,465.00
Intel Xeon Platinum 8260M @ 2.30GHz	33,970	\$7,705.00*
AMD EPYC 7302	33,863	\$567.90
Intel Core i7-12800HX	33,804	\$457.00*
Intel Xeon D-2799 @ 2.40GHz	33,792	\$1,933.00*
AMD Ryzen Threadripper PRO 3945WX	33,412	NA
Intel Xeon Gold 5220R @ 2.20GHz	33,370	\$1,478.00
Intel Xeon Platinum 8259CL @ 2.50GHz	33,279	NA
Intel Core i9-10980XE @ 3.00GHz	33,116	\$901.83
Intel Core i5-13600	32,987	\$255.00*
Intel Core i9-12950HX	32,867	\$590.00*
Intel Core i9-13900H	32,844	\$617.00*
Intel Xeon Gold 6278C @ 2.60GHz	32,835	NA
AMD Ryzen 9 3900XT	32,820	\$396.81
AMD Ryzen 9 3900X	32,736	\$375.00
Intel Core i5-13500	32,688	\$266.00
Intel Xeon Platinum 8168 @ 2.70GHz	32,616	\$2,480.00
AMD EPYC 7302P	32,543	\$458.73
Intel Core i9-9980XE @ 3.00GHz	32,261	\$1,180.00
AMD Ryzen Threadripper 2990WX	32,093	\$3,005.25
Intel Xeon Platinum 8173M @ 2.00GHz	31,837	NA
Intel Xeon Gold 5318Y @ 2.10GHz	31,695	\$1,361.00*
Intel Xeon Platinum 8268 @ 2.90GHz	31,632	\$6,005.98*
Intel Core i9-12900T	31,560	\$489.00*
Intel Core i9-12900E	31,530	NA
AMD Ryzen 9 PRO 3900	31,446	NA
Intel Xeon W-2295 @ 3.00GHz	31,177	\$1,672.20
Intel Core i7-12700F	31,135	\$289.99
Intel Core i7-12700	31,135	\$325.80
AMD EPYC 7371	31,094	\$599.99
Intel Xeon Platinum 8171M @ 2.60GHz	30,632	NA
AMD Ryzen 9 3900	30,623	\$504.27
AMD EPYC Embedded 7292P	30,542	NA
Intel Core i9-9960X @ 3.10GHz	30,539	\$1,600.00
Intel Core i9-7980XE @ 2.60GHz	30,534	\$891.19
Intel Xeon Gold 6246R @ 3.40GHz	30,468	\$2,470.00
Intel Core i7-13700T	30,304	\$384.00*
Intel Core i7-12850HX	30,271	\$428.00*
Intel Core i9-9990XE @ 4.00GHz	30,162	\$2,163.00*
Intel Xeon W-3265 @ 2.70GHz	30,105	\$4,551.37*
AMD Ryzen Threadripper 2970WX	29,990	\$1,149.00
Intel Core i7-12800HE	29,805	\$506.00*
Intel Xeon W-3245 @ 3.20GHz	29,803	\$2,683.99*
Intel Xeon Gold 6248 @ 2.50GHz	29,504	\$1,899.00

AMD Ryzen Threadripper 2950X	29,467	\$1,011.33
Intel Xeon Platinum 8260 @ 2.40GHz	29,360	\$3,245.00
Intel Xeon Gold 6254 @ 3.10GHz	29,356	\$2,930.00
Intel Xeon Silver 4314 @ 2.40GHz	29,347	\$720.00
Intel Xeon Gold 6148 @ 2.40GHz	29,197	\$395.01
Intel Core i9-12900H	28,988	\$617.00*
Intel Xeon Gold 6210U @ 2.50GHz	28,915	\$2,625.00*
Intel Core i9-12900HK	28,854	\$635.00*
Intel Xeon Gold 6154 @ 3.00GHz	28,848	\$2,198.00
Intel Xeon W-2191B @ 2.30GHz	28,745	NA
AMD Ryzen 5 7600X	28,742	\$237.99
Intel Xeon Gold 6253CL @ 3.10GHz	28,549	NA
Intel Core i9-9940X @ 3.30GHz	28,402	\$849.99
Intel Core i7-12700E	28,292	\$344.00*
AMD EPYC 7401P	28,282	\$258.42
Intel Xeon W-2195 @ 2.30GHz	28,210	\$1,983.82*
Intel Core i9-10940X @ 3.30GHz	28,098	\$745.65
AMD Ryzen 7 5800X	28,080	\$236.00
ARM Neoverse-N1 64 Core 0 MHz	28,079	NA
Intel Xeon W-2275 @ 3.30GHz	28,037	\$2,058.00*
Intel Core i5-13600T	28,014	\$255.00*
AMD Ryzen 7 5800X3D	27,853	\$323.00
Intel Core i5-12600K	27,790	\$230.99
AMD Ryzen Threadripper 1950X	27,770	\$584.33
Intel Xeon Gold 6238 @ 2.10GHz	27,617	\$1,709.95
AMD Ryzen 5 7600	27,552	\$229.00
Intel Xeon W-3245M @ 3.20GHz	27,503	\$5,002.00*
Intel Xeon Gold 6212U @ 2.40GHz	27,470	\$2,000.00*
AMD EPYC 7571	27,445	NA
Intel Xeon Gold 5317 @ 3.00GHz	27,402	\$1,119.00
Intel Core i5-12600KF	27,390	\$213.99
Intel Xeon Platinum 8124M @ 3.00GHz	27,336	NA
AMD EPYC 72F3	27,252	\$2,800.11
Intel Xeon Gold 6252 @ 2.10GHz	27,148	\$2,899.00
Intel Xeon Gold 6226R @ 2.90GHz	27,092	\$1,163.00
Intel Xeon Gold 6208U @ 2.90GHz	27,085	\$1,425.68*
Intel Core i9-7960X @ 2.80GHz	27,016	\$258.67
Intel Xeon Gold 6230 @ 2.10GHz	26,920	\$1,890.00
Intel Core i7-12700H	26,790	\$457.00*
AMD Ryzen 7 PRO 5845	26,777	NA
AMD Ryzen 7 5700X	26,770	\$189.00
Intel Xeon Platinum 8175M @ 2.50GHz	26,659	NA
Intel Xeon Platinum 8160 @ 2.10GHz	26,485	\$2,910.00
AMD Ryzen Threadripper 2990X	26,469	NA
Apple M2 Pro 12 Core 3480 MHz	26,468	NA
AMD EPYC 7272	26,446	\$624.00
Intel Core i5-13400	26,429	\$239.99
Intel Core i9-10920X @ 3.50GHz	26,360	\$740.00

Intel Xeon Gold 6242 @ 2.80GHz	26,288	\$1,416.25
Apple M2 Max 12 Core 3680 MHz	26,186	NA
Intel Xeon W-2265 @ 3.50GHz	26,052	\$1,190.64*
Intel Xeon W-3235 @ 3.30GHz	26,049	\$1,998.95*
Intel Core i5-13400F	25,965	\$209.95
AMD Ryzen 7 5800	25,954	NA
Intel Xeon Gold 5218R @ 2.10GHz	25,916	\$984.00
Intel Xeon W-3323 @ 3.50GHz	25,875	\$949.00*
Intel Xeon E5-2698R v4 @ 2.20GHz	25,605	NA
Intel Core i9-11900K @ 3.50GHz	25,541	\$347.59
Intel Xeon Gold 6150 @ 2.70GHz	25,487	\$473.00
AMD EPYC 7351P	25,484	\$599.00*
Intel Xeon W-1390P @ 3.50GHz	25,451	NA
Intel Core i9-11900KF @ 3.50GHz	25,424	\$328.89
Intel Xeon Platinum 8167M @ 2.00GHz	25,396	NA
Intel Xeon E5-2696 v4 @ 2.20GHz	25,318	\$2,498.95
Intel Core i9-9920X @ 3.50GHz	25,293	\$635.00
Intel Core i7-1370P	25,032	NA
Intel Xeon W-1370P @ 3.60GHz	24,961	\$489.99
AMD Ryzen Threadripper 2920X	24,951	\$982.00
AMD EPYC 7501	24,925	\$3,616.00*
Intel Xeon Gold 6138T @ 2.00GHz	24,800	\$3,345.78
Intel Xeon Gold 6143 @ 2.80GHz	24,786	NA
Intel Xeon Gold 5220 @ 2.20GHz	24,736	\$1,450.00
Intel Core i7-11700K @ 3.60GHz	24,666	\$245.53
AMD Ryzen 7 5700G	24,616	\$178.00
AMD Ryzen 9 6900HX	24,582	NA
Intel Core i7-12650H	24,580	\$457.00*
Intel Xeon E5-2699 v4 @ 2.20GHz	24,561	\$7,455.88
AMD Ryzen 7 PRO 5750G	24,535	NA
AMD Ryzen 7 7735HS	24,497	NA
Intel Core i7-12800H	24,451	\$457.00*
Intel Xeon Gold 6246 @ 3.30GHz	24,446	\$3,113.22*
Intel Core i5-12600HX	24,371	\$284.00*
Intel Xeon E5-2679 v4 @ 2.50GHz	24,131	\$2,702.00*
Intel Core i7-11700KF @ 3.60GHz	24,077	\$278.69
Intel Core i5-13500H	24,074	NA
AMD Ryzen 9 6900HS	24,026	NA
Intel Xeon W-2170B @ 2.50GHz	23,964	NA
Intel Xeon W-1370 @ 2.90GHz	23,908	\$409.99
Intel Xeon W-1390 @ 2.80GHz	23,902	\$573.99
AMD Ryzen 7 7736U	23,860	NA
Intel Xeon E-2388G @ 3.20GHz	23,844	\$539.00*
Intel Xeon Gold 6122 @ 1.80GHz	23,781	\$2,002.00*
AMD Ryzen 7 6800H	23,741	NA
AMD Ryzen 7 3800XT	23,731	\$287.68
AMD Ryzen 7 5700	23,725	NA
Intel Xeon W-11865MRE @ 2.60GHz	23,702	\$480.00*