

# 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
<b>PassMark - CPU Mark</b> High End CPUs Updated 11th of July 2023			
	CPU	CPU Mark	Price (USD)
🏠 <b>CPUS</b>  📈 High End High Mid Range Low Mid Range Low End  💰 Best Value (On Market) Best Value XY Scatter Best Value (All time)  ⚠️ New Desktop New Laptop  📊 Single Thread Systems with Multiple CPUs Overclocked Power Performance CPU Mark by Socket Type Cross-Platform CPU Performance Top Gaming CPUs  🔍 CPU Mega List Search Model  🔄 Compare <sup>0</sup>  ☆ Common	AMD EPYC 9654	126,045	\$6,690.00
	AMD EPYC 9474F	104,086	NA
	Intel Xeon w9-3495X	98,711	\$5,889.00*
	AMD Ryzen Threadripper PRO 5995WX	98,039	\$5,699.99
	AMD EPYC 7773X	91,209	\$4,999.00
	AMD EPYC 9534	88,716	NA
	AMD EPYC 7763	85,915	\$2,494.00
	AMD EPYC 7J13	85,683	NA
	AMD EPYC 7713	83,836	\$3,299.99
	AMD EPYC 7713P	83,439	\$3,850.00
AMD Ryzen Threadripper PRO 3995WX	83,417	\$6,866.00	
AMD EPYC 7V13	82,878	NA	
AMD Ryzen Threadripper 3990X	81,228	\$4,861.00	
AMD EPYC 9354P	78,983	NA	
AMD EPYC 7B13	77,460	NA	
AMD EPYC 7643	76,455	\$4,550.00*	
AMD Ryzen Threadripper PRO 5975WX	76,257	\$2,699.99	
AMD EPYC 7T83	74,892	NA	
AMD EPYC 9274F	74,009	NA	
AMD EPYC 7662	73,321	\$3,999.99*	
AMD EPYC 7573X	70,868	\$4,962.00	
AMD EPYC 7702	70,506	\$1,013.00	
AMD EPYC 9254	70,006	NA	
AMD EPYC 75F3	68,505	\$4,999.00	
Intel Xeon w7-3465X	68,389	\$2,889.00*	
Intel Xeon w9-3475X	67,802	\$3,739.00*	
AMD EPYC 7742	66,915	\$2,098.00	

Most  
Benchmarked

AMD EPYC 7543P	66,608	\$2,350.00*
AMD Ryzen Threadripper PRO	66,522	\$4,000.00

## 🏠 CPU Benchmarks ▼

📊 Market Share  
📈 Year on Year  
Performance

AMD Ryzen 9 7950X	63,572	\$540.99
AMD Ryzen Threadripper 3970X	63,391	\$2,495.00
AMD Ryzen 9 7950X3D	63,184	\$661.08
AMD Ryzen Threadripper PRO 3975WX	62,992	\$2,997.19
AMD EPYC 7702P	62,670	\$1,898.00
Intel Xeon w7-2495X	62,609	\$2,603.96*
Intel Xeon Platinum 8380 @ 2.30GHz	62,318	\$8,978.00*
Intel Core i9-13900KS	62,111	\$999.99
AMD EPYC 74F3	60,577	\$3,047.00
AMD EPYC 7642	60,047	\$1,185.00
AMD EPYC 7513	59,988	\$2,840.00*
Intel Core i9-13900K	59,936	\$569.97
Intel Core i9-13900KF	59,388	\$546.49
Intel Xeon W-3375 @ 2.50GHz	59,069	\$4,499.00*
Intel Xeon W-3365 @ 2.70GHz	59,038	\$3,851.00*
AMD Ryzen 9 7945HX	58,053	NA
AMD EPYC 7443P	57,685	\$1,683.99*
Intel Xeon Gold 5420+	57,593	\$1,848.00*
Intel Xeon Gold 6414U	57,200	\$2,296.00*
AMD EPYC 7542	56,728	\$1,298.06
Intel Xeon Platinum 8375C @ 2.90GHz	56,642	NA
AMD EPYC 7543	56,562	\$3,761.00*
AMD EPYC 9174F	55,485	\$4,654.00
AMD EPYC 7443	54,870	\$2,230.99*
AMD Ryzen Threadripper 3960X	54,849	\$1,474.51
AMD EPYC 7532	54,716	\$1,959.00
Intel Xeon Platinum 8358 @ 2.60GHz	54,416	\$5,097.75*
Intel Core i9-13900F	52,879	\$526.03
AMD Ryzen 9 7900X	52,455	\$409.00
Intel Xeon Gold 6348 @ 2.60GHz	52,276	\$2,126.33
AMD Ryzen 9 7900X3D	51,256	\$561.05
Intel Xeon Gold 6314U @ 2.30GHz	51,014	\$2,782.00*
AMD EPYC 7413	50,223	\$1,997.99*
AMD EPYC 7453	50,209	\$1,727.68
AMD EPYC 7502P	49,748	\$1,699.96
AMD Ryzen Threadripper PRO 5955WX	49,585	\$1,099.99
Intel Xeon Platinum 8347C @ 2.10GHz	49,386	NA
AMD Ryzen 9 7900	49,326	\$419.99
Intel Core i9-13900	49,143	\$549.99
AMD EPYC 7K62	49,104	NA
AMD EPYC 7R12	48,934	NA
Intel Core i9-13980HX	48,672	\$668.00*
AMD EPYC 7452	48,648	\$1,349.00
Intel Xeon W-3345 @ 3.00GHz	48,261	\$2,499.00*
Apple M2 Ultra 24 Core	48,213	NA

 CPU Benchmarks ▼

AMD EPYC 7402	47,648	\$1,492.00
Intel Xeon Gold 6342 @ 2.80GHz	47,320	\$2,388.05*
Intel Xeon w5-3435X	47,002	\$1,589.00*
Intel Core i7-13700KF	46,792	\$390.98
AMD Ryzen 9 7845HX	46,711	NA
Intel Xeon Gold 6338N @ 2.20GHz	46,583	\$4,671.69*
Intel Xeon w5-2465X	46,504	\$1,389.00*
ARM Neoverse-N1 128 Core 3000 MHz	46,271	NA
AMD EPYC 73F3	46,085	\$3,966.35
AMD Ryzen 9 5950X	45,920	\$441.71
AMD EPYC 7502	45,839	\$875.00
Intel Core i9-13950HX	45,613	\$590.00*
Intel Xeon Gold 6336Y @ 2.40GHz	45,517	\$1,929.95
Intel Core i9-13900HX	45,468	\$668.00*
Intel Core i9-12900KS	44,311	\$399.99
AMD EPYC 7343	43,826	\$1,699.99*
Intel Core i9-13900T	43,744	\$549.00*
Intel Xeon Gold 6312U @ 2.40GHz	43,710	\$1,809.59*
AMD EPYC 9124	43,703	\$1,797.00
Intel Xeon W-3275 @ 2.50GHz	43,344	\$4,894.00*
ARM Neoverse-N1 128 Core 2800 MHz	43,111	NA
Intel Xeon Gold 6330 @ 2.00GHz	43,056	\$1,230.00
AMD EPYC 7402P	42,588	\$888.76
AMD EPYC 7601	42,244	\$1,429.99
AMD EPYC 7313P	41,809	\$913.00*
Intel Core i9-12900K	41,614	\$352.99
Intel Xeon Gold 6354 @ 3.00GHz	41,445	\$2,757.99*
Intel Core i9-12900KF	41,391	\$398.99
Intel Core i7-13700F	41,341	\$360.99
AMD EPYC 7352	41,281	\$949.95
AMD EPYC 7F52	41,023	\$3,100.00*
Apple M1 Ultra 20 Core	40,884	NA
AMD Ryzen Threadripper PRO 5945WX	40,804	NA
Intel Xeon Platinum 8275CL @ 3.00GHz	40,794	NA
AMD EPYC 7313	40,605	\$1,151.55
AMD EPYC 7D12	40,411	NA
AMD Ryzen Threadripper PRO 3955WX	40,288	\$990.80
Intel Xeon W-3275M @ 2.50GHz	39,979	\$7,453.00*
AMD EPYC 7551P	39,808	\$368.41
Intel Xeon W-3335 @ 3.40GHz	39,317	\$1,299.00*
AMD Ryzen 9 5900X	39,309	\$299.99
Intel Core i7-13850HX	39,035	\$428.00*
AMD Ryzen 9 3950X	38,973	\$459.99
Intel Core i7-13700	38,825	\$349.99
Intel Xeon Gold 6248R @ 3.00GHz	38,710	\$1,993.65
Intel Core i5-13600K	38,465	\$309.99
Intel Core i5-13600KF	38,333	\$292.99

## 🏠 CPU Benchmarks ▼

Intel Xeon Gold 6346 @ 3.10GHz	37,722	\$1,544.16
Intel Xeon Gold 5320 @ 2.20GHz	37,558	\$1,645.00
Intel Core i9-12900F	37,271	\$425.00
Intel Xeon Silver 4316 @ 2.30GHz	37,264	\$925.00
Intel Xeon W-3175X @ 3.10GHz	37,167	\$2,660.69
AMD Ryzen 7 7700X	36,538	\$315.75
ARM Neoverse-N1 80 Core 3000 MHz	36,400	NA
Intel Xeon Gold 5416S	36,391	\$944.00*
AMD Ryzen 7 7700	35,569	\$319.79
Intel Xeon Gold 6326 @ 2.90GHz	35,224	\$1,349.34
Intel Xeon Platinum 8180 @ 2.50GHz	35,208	\$3,980.00
AMD Ryzen 7 7800X3D	35,059	\$439.00
Intel Core i9-12900HX	34,972	\$606.00*
Intel Xeon Gold 6242R @ 3.10GHz	34,963	\$1,998.33
Intel Core i7-12700K	34,785	\$409.00*
Intel Core i9-12900	34,749	\$449.99
AMD Ryzen 9 PRO 5945	34,730	NA
Intel Core i7-13700HX	34,698	\$485.00*
Intel Core i7-12700KF	34,586	\$276.00
AMD Ryzen 9 5900	34,519	NA
Intel Xeon Gold 6240R @ 2.40GHz	34,206	\$1,399.38
Intel Xeon Gold 6230R @ 2.10GHz	34,183	\$1,369.41
Intel Xeon Platinum 8260M @ 2.30GHz	33,970	\$7,705.00*
Intel Core i9-13905H	33,881	\$697.00*
Intel Core i5-13600	33,816	\$255.00*
Intel Xeon D-2799 @ 2.40GHz	33,792	\$1,933.00*
AMD Ryzen 7 7745HX	33,750	NA
Intel Xeon w5-2445	33,616	\$839.00*
AMD Ryzen Threadripper PRO 3945WX	33,518	NA
Intel Core i7-12800HX	33,475	\$457.00*
Intel Xeon Gold 5220R @ 2.20GHz	33,370	\$1,320.00
Intel Xeon Gold 5318Y @ 2.10GHz	33,283	\$1,700.00*
Intel Core i9-12950HX	32,986	\$590.00*
Intel Core i9-10980XE @ 3.00GHz	32,905	\$1,121.48
Intel Xeon Gold 6278C @ 2.60GHz	32,835	NA
Intel Xeon Platinum 8280 @ 2.70GHz	32,781	\$4,410.10
AMD Ryzen 9 3900XT	32,777	\$390.00
AMD Ryzen 9 3900X	32,717	\$216.99
AMD EPYC 7302	32,691	\$567.58
AMD EPYC 7302P	32,627	\$849.00
Intel Xeon Platinum 8168 @ 2.70GHz	32,606	\$2,292.00
Intel Core i5-13500	32,566	\$247.98
Intel Core i7-13650HX	32,470	\$485.00*
AMD Ryzen Threadripper 2990WX	32,379	\$1,999.99
Intel Core i9-9980XE @ 3.00GHz	32,091	\$1,087.01
Intel Core i7-13700T	32,034	\$384.00*
Intel Xeon W-3265M @ 2.70GHz	32,025	\$6,353.00*

Intel Xeon Platinum 8173M @ 2.00GHz	31,837	NA
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AMD Ryzen 9 PRO 3900	31,299	NA
AMD Ryzen 9 7940HS	31,266	NA
Intel Xeon Platinum 8259CL @ 2.50GHz	31,168	NA
Intel Core i7-12700F	31,135	\$284.99
Intel Core i7-12700	31,109	\$325.49
AMD Ryzen 7 7840HS	31,094	NA
AMD Ryzen 9 7940H	31,094	NA
AMD EPYC 7371	31,094	\$609.99
Intel Core i9-13900HK	31,068	\$697.00*
Intel Core i9-13900H	31,039	\$617.00*
AMD Ryzen 9 3900	30,816	\$504.05
Intel Xeon Platinum 8171M @ 2.60GHz	30,632	NA
AMD EPYC Embedded 7292P	30,542	NA
Intel Core i7-12850HX	30,490	\$428.00*
Intel Xeon Gold 6246R @ 3.40GHz	30,468	\$1,991.93
Intel Xeon W-2295 @ 3.00GHz	30,427	\$1,670.26*
Intel Core i9-7980XE @ 2.60GHz	30,417	\$773.28
Intel Xeon W-3245 @ 3.20GHz	30,317	\$2,683.99*
Intel Core i9-9960X @ 3.10GHz	30,280	\$1,398.11
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	30,097	\$1,439.00
Intel Core i7-12800HE	29,805	\$506.00*
Intel Core i5-13600HX	29,716	\$284.00*
AMD Ryzen 9 PRO 7940HS	29,623	NA
Intel Xeon Silver 4410Y	29,585	\$563.00*
Intel Xeon Gold 6248 @ 2.50GHz	29,504	\$1,445.00
Intel Xeon Gold 6154 @ 3.00GHz	29,488	\$1,697.00
Intel Xeon Silver 4314 @ 2.40GHz	29,404	\$525.75
Intel Xeon Platinum 8260 @ 2.40GHz	29,360	\$2,735.00
Intel Xeon Gold 6254 @ 3.10GHz	29,356	\$2,299.50
AMD Ryzen Threadripper 2950X	29,327	\$1,075.00
Intel Core i7-13700H	29,320	\$502.00*
Intel Xeon W-3245M @ 3.20GHz	29,277	\$5,002.00*
Intel Xeon Gold 6148 @ 2.40GHz	28,993	\$395.85
AMD EPYC 7282	28,927	\$495.00
Intel Xeon Gold 6210U @ 2.50GHz	28,915	\$2,343.23*
AMD Ryzen 5 7600X	28,913	\$218.00
Intel Core i9-12900H	28,872	\$617.00*
Intel Xeon Silver 4410T	28,859	\$624.00*
Intel Xeon W-2191B @ 2.30GHz	28,765	NA
Intel Xeon Gold 6253CL @ 3.10GHz	28,549	NA
Intel Core i5-13500HX	28,370	\$326.00*
Intel Core i7-12700E	28,292	\$344.00*
AMD EPYC 7401P	28,282	\$199.98

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Intel Core i9-12900HK	28,249	\$635.00*
AMD Ryzen 7 5800X3D	28,226	\$289.55
ARM Neoverse-N1 64 Core 0 MHz	28,064	NA
AMD Ryzen 7 5800X	28,058	\$225.03
Intel Xeon Platinum 8160 @ 2.10GHz	27,968	\$2,295.00
AMD Ryzen 5 7600	27,943	\$219.99
Intel Xeon W-2275 @ 3.30GHz	27,933	\$2,058.00*
Intel Core i9-10940X @ 3.30GHz	27,820	\$897.05
Intel Core i5-12600K	27,817	\$199.99
AMD Ryzen Threadripper 1950X	27,730	\$583.10*
Intel Core i9-7960X @ 2.80GHz	27,693	\$367.98
Intel Core i5-13490F	27,675	\$263.66
Intel Xeon Gold 6238 @ 2.10GHz	27,617	\$7,360.00
Intel Core i5-12600KF	27,479	\$219.94
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	\$969.38
AMD Ryzen 7 7840H	27,351	NA
Intel Xeon Platinum 8124M @ 3.00GHz	27,336	NA
Intel Core i7-13620H	27,301	\$502.00*
AMD EPYC 72F3	27,252	\$2,660.10
Intel Xeon W-2195 @ 2.30GHz	27,167	\$1,983.82*
Intel Xeon Gold 6252 @ 2.10GHz	27,148	\$1,785.00
Intel Core i5-13600T	27,143	\$255.00*
Intel Xeon w3-2435	27,126	\$669.00*
Intel Xeon Gold 6142 @ 2.60GHz	27,114	\$237.50
Intel Xeon Gold 6208U @ 2.90GHz	27,085	\$717.78
Intel Xeon Gold 6230 @ 2.10GHz	27,069	\$1,276.75
Intel Core i7-13800H	27,020	\$457.00*
Intel Core i5-13450HX	26,936	\$326.00*
Intel Xeon Gold 6150 @ 2.70GHz	26,905	\$449.00
AMD Ryzen 7 5700X	26,831	\$184.99
AMD Ryzen Z1 Extreme	26,760	NA
Intel Xeon Gold 6226R @ 2.90GHz	26,667	\$1,199.00
Intel Xeon Platinum 8175M @ 2.50GHz	26,659	NA
Intel Core i7-12700H	26,590	\$457.00*
AMD Ryzen Threadripper 2990X	26,469	NA
Apple M2 Pro 12 Core 3480 MHz	26,447	NA
Intel Core i9-10920X @ 3.50GHz	26,363	\$757.90
Intel Core i9-7940X @ 3.10GHz	26,356	\$500.00
AMD Ryzen 7 PRO 5845	26,305	NA
Intel Xeon Gold 6242 @ 2.80GHz	26,288	\$1,348.24
Apple M2 Max 12 Core 3680 MHz	26,245	NA
Intel Xeon W-3235 @ 3.30GHz	26,092	\$1,998.95*
Intel Xeon W-2265 @ 3.50GHz	25,965	\$1,172.31*
Intel Xeon Gold 5218R @ 2.10GHz	25,916	\$792.14
AMD Ryzen 7 5800	25,897	NA
Intel Xeon W-3323 @ 3.50GHz	25,875	\$949.00*

 CPU Benchmarks ▼

Intel Core i5-13400	25,777	\$228.26
Intel Core i5-13600H	25,776	\$311.00*
Intel Xeon E-2278M v4 @ 2.20GHz	25,605	NA
Intel Core i9-12900E	25,580	NA
AMD EPYC 7272	25,568	\$599.00
AMD EPYC 7351P	25,484	\$300.00
Intel Core i9-11900K @ 3.50GHz	25,479	\$318.90
Intel Xeon W-1390P @ 3.50GHz	25,451	NA
Intel Xeon Platinum 8167M @ 2.00GHz	25,396	NA
Intel Core i9-11900KF @ 3.50GHz	25,386	\$415.99
Intel Core i9-9920X @ 3.50GHz	25,323	\$610.31
Intel Xeon Gold 5415+	25,033	\$1,066.00*
AMD Ryzen Threadripper 2920X	25,014	\$950.00
Intel Core i7-12800H	24,989	\$457.00*
Intel Xeon W-1370P @ 3.60GHz	24,961	\$508.99
AMD Ryzen 9 6900HX	24,959	NA
AMD Ryzen 7 PRO 7840HS	24,926	NA
AMD EPYC 7501	24,925	\$3,616.00*
Intel Xeon Gold 6138T @ 2.00GHz	24,800	\$3,345.78
Intel Xeon E5-2699 v4 @ 2.20GHz	24,793	\$4,019.91*
Intel Xeon Gold 6143 @ 2.80GHz	24,786	NA
AMD Ryzen 7 5700G	24,684	\$167.86
Intel Xeon Gold 6152 @ 2.10GHz	24,680	\$341.00
Intel Core i7-11700K @ 3.60GHz	24,664	\$276.10
Intel Core i5-12600HE	24,599	\$315.00*
AMD Ryzen 7 PRO 5750G	24,527	NA
Intel Xeon E5-2696 v4 @ 2.20GHz	24,521	\$1,957.18
AMD Ryzen 7 5700	24,449	NA
Intel Xeon Gold 6246 @ 3.30GHz	24,446	\$3,113.22*
AMD Ryzen 7 7735H	24,347	NA
AMD Ryzen 7 7735HS	24,260	NA
Intel Xeon Gold 5220 @ 2.20GHz	24,154	\$1,019.05
Intel Xeon E5-2679 v4 @ 2.50GHz	24,131	\$2,702.00*
Intel Xeon W-2170B @ 2.50GHz	24,082	NA
Intel Core i7-11700KF @ 3.60GHz	24,077	\$262.99
AMD Ryzen 9 6900HS	24,014	NA
Intel Core i7-12650H	23,975	\$457.00*
Intel Xeon Gold 6140 @ 2.30GHz	23,937	\$237.50
Intel Core i5-12600HX	23,908	\$284.00*
Intel Xeon W-1370 @ 2.90GHz	23,908	\$468.99
Intel Xeon W-1390 @ 2.80GHz	23,902	\$573.99
AMD Ryzen 7 7736U	23,860	NA
AMD Ryzen 7 6800H	23,816	NA
Intel Xeon Gold 6122 @ 1.80GHz	23,781	\$2,002.00*
Intel Core i7-13705H	23,753	\$502.00*
Intel Xeon E-2388G @ 3.20GHz	23,739	\$539.00*
AMD Ryzen 7 3800XT	23,732	\$206.50
AMD Ryzen 9 5980HX	23,721	NA