



Intel Xeon Ice Lake-SP vs. Cascade Lake-SP Preliminary Test

Intel Xeon Platinum 8368 | Intel Xeon Platinum 8260M on Ubuntu 20.10 via the Phoronix Test Suite.

Automated Executive Summary

2 x Intel Xeon Platinum 8368 had the most wins, coming in first place for 92% of the tests.

Based on the geometric mean of all complete results, the fastest (2 x Intel Xeon Platinum 8368) was 1.351x the speed of the slowest (2 x Intel Xeon Platinum 8260M).

The results with the greatest spread from best to worst included:

oneDNN (Harness: Convolution Batch Shapes Auto - Data Type: u8s8f32 - Engine: CPU) at 3.603x

oneDNN (Harness: Convolution Batch Shapes Auto - Data Type: f32 - Engine: CPU) at 2.922x

Sysbench (Test: CPU) at 2.879x

Pennant (Test: leblancbig) at 2.385x

ACES DGEMM (Sustained Floating-Point Rate) at 2.021x

OpenFOAM (Input: Motorbike 60M) at 2.005x

OSPray (Demo: Magnetic Reconnection - Renderer: Path Tracer) at 2x

OSPray (Demo: Magnetic Reconnection - Renderer: SciVis) at 2x

TensorFlow Lite (Model: Mobilenet Quant) at 1.979x

Blender (Blend File: Classroom - Compute: CPU-Only) at 1.951x.

Test Systems:

2 x Intel Xeon Platinum 8368

Processor: 2 x Intel Xeon Platinum 8368 @ 3.40GHz (76 Cores / 152 Threads), Motherboard: Intel M50CYP2SB2U (SE5C6200.86B.0022.D08.2103221623 BIOS), Chipset: Intel Device 0998, Memory: 1008GB, Disk: 400GB INTEL SSDPF21Q400GB + 1536GB INTEL SSDPE2NV153T8 + 240GB INTEL SSDSCKKB24, Graphics: ASPEED, Monitor: PHL 223V5, Network: 2 x Intel 10G X550T + 2 x Intel XXV710 for 25GbE SFP28

OS: Ubuntu 20.10, Kernel: 5.8.0-48-generic (x86_64), Compiler: GCC 10.2.0, File-System: xfs, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: madvise

Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-nvptx/usr,amdgc-nvptx=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-gcn/usr,hsa --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v

Disk Notes: NONE / attr2,inode64,logbsize=32k,logbufs=8,noquota,relatime,rw / Block Size: 4096

Processor Notes: Scaling Governor: intel_pstate performance - CPU Microcode: 0xd000270

Java Notes: OpenJDK Runtime Environment (build 11.0.10+9-Ubuntu-0ubuntu1.20.10)

Python Notes: Python 3.8.6

Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swaps barriers and __user pointer sanitization + spectre_v2: Mitigation of Enhanced IBRS IBPB: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

2 x Intel Xeon Platinum 8260M

Processor: 2 x Intel Xeon Platinum 8260M @ 3.90GHz (48 Cores / 96 Threads), Motherboard: Intel S2600WFT (SE5C620.86B.02.01.0013.121520200651 BIOS), Chipset: Intel Sky Lake-E DMI3 Registers, Memory: 756GB, Disk: 1536GB INTEL SSDPE2NV153T8 + 400GB INTEL SSDPF21Q400GB + 240GB INTEL SSDSCKJB24, Graphics: ASPEED, Monitor: PHL 223V5, Network: 2 x Intel X722 for 10GBASE-T + 2 x Intel XXV710 for 25GbE SFP28

OS: Ubuntu 20.10, Kernel: 5.8.0-48-generic (x86_64), Compiler: GCC 10.2.0, File-System: xfs, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: madvise

Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-nvptx/usr,amdgc-nvptx=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-gcn/usr,hsa --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v

Disk Notes: NONE / attr2,inode64,logbsize=32k,logbufs=8,noquota,relatime,rw / Block Size: 4096

Processor Notes: Scaling Governor: intel_pstate performance - CPU Microcode: 0x4003003

Java Notes: OpenJDK Runtime Environment (build 11.0.10+9-Ubuntu-0ubuntu1.20.10)

Python Notes: Python 3.8.6

Security Notes: itlb_multihit: KVM: Mitigation of VMX disabled + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swaps barriers and __user pointer sanitization + spectre_v2: Mitigation of Enhanced IBRS IBPB: conditional RSB filling + srbds: Not affected + tsx_async_abort: Mitigation of TSX disabled

	2 x Intel Xeon Platinum 8368	2 x Intel Xeon Platinum 8260M
LAMMPS Molecular Dynamics Simulator - 20k Atoms (ns/day)	33.133	20.892
Normalized	100%	63.05%
Standard Deviation	0.1%	0.2%
NAS Parallel Benchmarks - EP.D (Mop/s)	9119	4856
Normalized	100%	53.26%
Standard Deviation	13.7%	2.1%
Rodinia - OpenMP LavaMD (sec)	38.708	73.474
Normalized	100%	52.68%
Standard Deviation	0.8%	0.6%
Rodinia - OpenMP HotSpot3D (sec)	102.906	114.729
Normalized	100%	89.69%
Standard Deviation	0.5%	1.4%
Rodinia - OpenMP Leukocyte (sec)	45.537	69.554
Normalized	100%	65.47%
Standard Deviation	6%	1.1%
Rodinia - OpenMP CFD Solver (sec)	3.925	6.346
Normalized	100%	61.85%
Standard Deviation	0.5%	0.7%
NAMD - ATPase Simulation - 327,506 Atoms (days/ns)	0.26675	0.49704
Normalized	100%	53.67%
Standard Deviation	0.5%	0.6%
Dolfyn - C.F.D (sec)	20.649	21.607
Normalized	100%	95.57%
Standard Deviation	0.1%	0.1%
Nebular Empirical Analysis Tool (sec)	20.655	33.695
Normalized	100%	61.3%
Standard Deviation	4.9%	3.1%
Pennant - leblancbig (Hydro Cycle Time - sec)	4.888998	11.66005
Normalized	100%	41.93%
Standard Deviation	2%	2.2%
Timed MAFFT Alignment - M.S.A - LSU RNA (sec)	8.715	10.659
Normalized	100%	81.76%
Standard Deviation	2.2%	3.3%
OpenFOAM - Motorbike 60M (sec)	102.12	204.76
Normalized	100%	49.87%
Standard Deviation	0.1%	0.3%
Quantum ESPRESSO - AUSURF112 (sec)	1100	
Standard Deviation	5.6%	
ACES DGEMM - S.F.P.R (GFLOP/s)	28.425921	14.063351
Normalized	100%	49.47%
Standard Deviation	0.2%	2.5%
Himeno Benchmark - P.P.S (MFLOPS)	4129	3328
Normalized	100%	80.59%
Standard Deviation	0%	0.1%
Numpy Benchmark (Score)	396.14	355.52
Normalized	100%	89.75%
Standard Deviation	0.2%	0.7%
Ngspice - C2670 (sec)	128.633	158.370
Normalized	100%	81.22%
Standard Deviation	0.6%	0.5%
Ngspice - C7552 (sec)	148.553	152.358
Normalized	100%	97.5%

	Standard Deviation	0.1%	0.2%
Kripke (Throughput FoM)		173672467	97292812
	Normalized	100%	56.02%
	Standard Deviation	0.7%	6.3%
OSBench - Create Files (us/Event)		22.004364	24.712765
	Normalized	100%	89.04%
	Standard Deviation	0.7%	1.3%
OSBench - Create Threads (us/Event)		16.019344	16.891956
	Normalized	100%	94.83%
	Standard Deviation	0.6%	0.9%
OSBench - Launch Programs (us/Event)		32.489300	39.626758
	Normalized	100%	81.99%
	Standard Deviation	1.3%	0.5%
OSBench - Create Processes (us/Event)		28.825601	32.223860
	Normalized	100%	89.45%
	Standard Deviation	0.3%	1.5%
OSBench - Memory Allocations (Ns/Event)		69.346666	104.860703
	Normalized	100%	66.13%
	Standard Deviation	0.1%	1.7%
BYTE Unix Benchmark - Dhrystone 2 (LPS)		41456410	38182436
	Normalized	100%	92.1%
	Standard Deviation	0.1%	0.1%
CacheBench - Read (MB/s)		2877	3712
	Normalized	77.51%	100%
	Standard Deviation	0%	0%
CacheBench - Write (MB/s)		23648	27566
	Normalized	85.79%	100%
	Standard Deviation	0%	0%
CacheBench - R.M.W (MB/s)		37399	19382
	Normalized	100%	51.82%
	Standard Deviation	0%	0%
Coremark - CoreMark Size 666 - I.P.S (Iterations/Sec)		2359710	1322885
	Normalized	100%	56.06%
	Standard Deviation	3.5%	2.3%
ctx_clock - C.S.T (Clocks)		156	128
	Normalized	82.05%	100%
Sysbench - Memory (Events/sec)		13427383	12819941
	Normalized	100%	95.48%
	Standard Deviation	0.1%	1.8%
Sysbench - CPU (Events/sec)		217291	75476
	Normalized	100%	34.74%
	Standard Deviation	0%	0.3%
FinanceBench - Repo OpenMP (ms)		38934	43008
	Normalized	100%	90.53%
	Standard Deviation	0.1%	0.2%
FinanceBench - Bonds OpenMP (ms)		57178	60569
	Normalized	100%	94.4%
	Standard Deviation	0.1%	1.1%
MariaDB - 128 (Queries/sec)		202	182
	Normalized	100%	90.1%
	Standard Deviation	1.5%	0%
MariaDB - 256 (Queries/sec)		171	172
	Normalized	99.42%	100%
	Standard Deviation	0.4%	0.4%
MariaDB - 512 (Queries/sec)		173	173

	Standard Deviation	0.5%	0.1%
PostgreSQL pgbench - 100 - 250 - Read Only (TPS)		924156	525874
	Normalized	100%	56.9%
	Standard Deviation	6.4%	1.8%
PostgreSQL pgbench - 100 - 250 - Read Only - Average Latency (ms)		0.273	0.476
	Normalized	100%	57.35%
	Standard Deviation	6.5%	1.8%
PostgreSQL pgbench - 100 - 250 - Read Write (TPS)		37436	31338
	Normalized	100%	83.71%
	Standard Deviation	4.3%	3.5%
PostgreSQL pgbench - 100 - 250 - Read Write - Average Latency (ms)		6.708	8.002
	Normalized	100%	83.83%
	Standard Deviation	4.3%	3.5%
SQLite Speedtest - Timed Time - Size 1,000 (sec)		59.555	65.235
	Normalized	100%	91.29%
	Standard Deviation	1.2%	0.2%
Redis - LPOP (Reqs/sec)		2843902	2659032
	Normalized	100%	93.5%
	Standard Deviation	0.1%	0.9%
Redis - SADD (Reqs/sec)		2224301	2077706
	Normalized	100%	93.41%
	Standard Deviation	2%	2%
Redis - LPUSH (Reqs/sec)		1679884	1633413
	Normalized	100%	97.23%
	Standard Deviation	1.1%	0.3%
Redis - GET (Reqs/sec)		2712763	2483483
	Normalized	100%	91.55%
	Standard Deviation	0.2%	2.3%
Redis - SET (Reqs/sec)		1975204	1854411
	Normalized	100%	93.88%
	Standard Deviation	0.7%	2%
Apache Cassandra - Mixed 1:3 (Op/s)		29971	35945
	Normalized	83.38%	100%
	Standard Deviation	148.2%	86.2%
FLAC Audio Encoding - WAV To FLAC (sec)		9.999	10.032
	Normalized	100%	99.67%
	Standard Deviation	0.3%	0.9%
LAME MP3 Encoding - WAV To MP3 (sec)		9.087	10.114
	Normalized	100%	89.85%
	Standard Deviation	0.2%	0.1%
Zstd Compression - 8 - Compression Speed (MB/s)		1984	1083
	Normalized	100%	54.57%
	Standard Deviation	3.3%	1.4%
Zstd Compression - 8 - D.S (MB/s)		3013	2457
	Normalized	100%	81.55%
	Standard Deviation	0.6%	1.2%
John The Ripper - Blowfish (Real C/S)		120750	65049
	Normalized	100%	53.87%
	Standard Deviation	0.1%	0.3%
John The Ripper - MD5 (Real C/S)		10405667	6128667
	Normalized	100%	58.9%
	Standard Deviation	0.1%	0.3%
dav1d - Chimera 1080p (FPS)		1324	899.38

	Normalized	100%	67.92%
	Standard Deviation	0.2%	0.8%
dav1d - C.1.1.b (FPS)		261.53	194.70
	Normalized	100%	74.45%
	Standard Deviation	2.9%	0.2%
OSPray - M.R - SciVis (FPS)		111.11	55.56
	Normalized	100%	50%
	Standard Deviation	0%	0%
OSPray - M.R - Path Tracer (FPS)		1000	500
	Normalized	100%	50%
Kvazaar - Bosphorus 1080p - Medium (FPS)		67.50	43.09
	Normalized	100%	63.84%
	Standard Deviation	0.9%	0.1%
SVT-VP9 - P.S.O - Bosphorus 1080p (FPS)		479.67	306.77
	Normalized	100%	63.95%
	Standard Deviation	9.7%	5.3%
x264 - H.2.V.E (FPS)		225.74	147.33
	Normalized	100%	65.27%
	Standard Deviation	14.9%	9.3%
x265 - Bosphorus 1080p (FPS)		76.78	62.75
	Normalized	100%	81.73%
	Standard Deviation	1%	0.4%
7-Zip Compression - C.S.T (MIPS)		329337	182082
	Normalized	100%	55.29%
	Standard Deviation	1.8%	1.6%
Timed GCC Compilation - Time To Compile (sec)		606.060	722.148
	Normalized	100%	83.92%
	Standard Deviation	0.1%	0.2%
Timed Linux Kernel Compilation - Time To Compile		22.460	34.706
	Normalized	100%	64.72%
	Standard Deviation	2.4%	2.2%
Timed LLVM Compilation - Time To Compile (sec)		192.378	264.955
	Normalized	100%	72.61%
	Standard Deviation	0.7%	2.3%
C-Ray - Total Time - 4.1.R.P.P (sec)		10.590	20.458
	Normalized	100%	51.76%
	Standard Deviation	0.2%	19.7%
POV-Ray - Trace Time (sec)		9.275	18.215
	Normalized	100%	50.92%
	Standard Deviation	1%	18%
Gzip Compression - L.S.T.A.T.t.g (sec)		40.871	41.432
	Normalized	100%	98.65%
	Standard Deviation	0.1%	0.9%
OpenSSL - R.4.b.P (Signs/sec)		18137	10412
	Normalized	100%	57.41%
	Standard Deviation	0.2%	0.2%
Blender - BMW27 - CPU-Only (sec)		28.38	48.61
	Normalized	100%	58.38%
	Standard Deviation	0.5%	0.2%
Blender - Classroom - CPU-Only (sec)		70.43	137.39
	Normalized	100%	51.26%
	Standard Deviation	0.2%	0.2%
GnuPG - 2.7.S.F.E (sec)		77.601	72.750
	Normalized	93.75%	100%
	Standard Deviation	0.8%	1.2%

Java SciMark - Composite (Mflops)	2113	2032
Normalized	100%	96.16%
Standard Deviation	0.4%	1.2%
Java SciMark - Monte Carlo (Mflops)	839.19	959.23
Normalized	87.49%	100%
Standard Deviation	0%	0%
Java SciMark - F.F.T (Mflops)	1536	1298
Normalized	100%	84.53%
Standard Deviation	0.7%	6.2%
Java SciMark - S.M.M (Mflops)	2143	1553
Normalized	100%	72.46%
Standard Deviation	0%	0%
Java SciMark - D.L.M.F (Mflops)	4576	4785
Normalized	95.63%	100%
Standard Deviation	0.7%	1.4%
Java SciMark - J.S.O.R (Mflops)	1472	1565
Normalized	94.05%	100%
Standard Deviation	0%	0%
Renaissance - Scala Dotty (ms)	1667	1883
Normalized	100%	88.49%
Standard Deviation	0.9%	2.4%
Renaissance - Rand Forest (ms)	1789	1993
Normalized	100%	89.77%
Standard Deviation	2.4%	2.4%
Renaissance - Apache Spark ALS (ms)	2172	2528
Normalized	100%	85.92%
Standard Deviation	1.2%	1.1%
Renaissance - Apache Spark Bayes (ms)	91.491	129.600
Normalized	100%	70.59%
Standard Deviation	24.4%	25.4%
Renaissance - Savina Reactors.IO (ms)	19939	25770
Normalized	100%	77.38%
Standard Deviation	13.2%	10.9%
Renaissance - A.S.P (ms)	3306	4357
Normalized	100%	75.88%
Standard Deviation	6.2%	4.5%
Renaissance - T.H.R (ms)	3158	3737
Normalized	100%	84.51%
Standard Deviation	1.4%	2%
Renaissance - I.M.D.S (ms)	4007	5877
Normalized	100%	68.18%
Standard Deviation	5.5%	4.1%
Renaissance - A.U.C.T (ms)	12307	17099
Normalized	100%	71.98%
Standard Deviation	4.2%	2.1%
Renaissance - G.A.U.J.F (ms)	1558	1905
Normalized	100%	81.82%
Standard Deviation	12.1%	6%
PostMark - D.T.P (TPS)	7896	6522
Normalized	100%	82.6%
Standard Deviation	1.8%	1.5%
Go Benchmarks - json (ns/op)	1145003	1672463
Normalized	100%	68.46%
Standard Deviation	0.5%	0.3%
Go Benchmarks - build (ns/op)	22148540653	24143096918

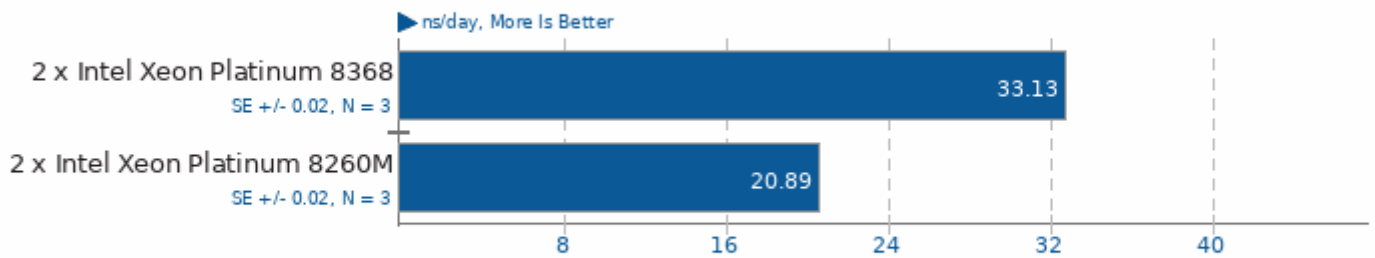
	Normalized	100%	91.74%
	Standard Deviation	0.8%	1.3%
Go Benchmarks - garbage (ns/op)		551177	750575
	Normalized	100%	73.43%
	Standard Deviation	1.3%	0.7%
oneDNN - C.B.S.A - f32 - CPU (ms)		1.56305	4.56668
	Normalized	100%	34.23%
	Standard Deviation	0.2%	0.1%
oneDNN - D.B.s - f32 - CPU (ms)		1.08309	1.48023
	Normalized	100%	73.17%
	Standard Deviation	0.2%	1.2%
oneDNN - C.B.S.A - u8s8f32 - CPU (ms)		1.20263	4.33270
	Normalized	100%	27.76%
	Standard Deviation	0.7%	0.4%
oneDNN - D.B.s - u8s8f32 - CPU (ms)		0.335154	0.438041
	Normalized	100%	76.51%
	Standard Deviation	0.8%	0.4%
oneDNN - R.N.N.T - f32 - CPU (ms)		623.537	1140
	Normalized	100%	54.69%
	Standard Deviation	0.1%	9.9%
oneDNN - R.N.N.I - f32 - CPU (ms)		411.961	730.360
	Normalized	100%	56.41%
	Standard Deviation	1.2%	4.1%
oneDNN - R.N.N.T - u8s8f32 - CPU (ms)		623.629	1112
	Normalized	100%	56.07%
	Standard Deviation	0.7%	6.2%
oneDNN - R.N.N.I - u8s8f32 - CPU (ms)		409.647	731.058
	Normalized	100%	56.03%
	Standard Deviation	0.7%	4.6%
oneDNN - M.M.B.S.T - f32 - CPU (ms)		0.235915	0.398769
	Normalized	100%	59.16%
	Standard Deviation	1.8%	2.4%
oneDNN - R.N.N.T - bf16bf16bf16 - CPU (ms)		628.754	1078
	Normalized	100%	58.34%
	Standard Deviation	1.5%	0.3%
oneDNN - R.N.N.I - bf16bf16bf16 - CPU (ms)		411.918	719.112
	Normalized	100%	57.28%
	Standard Deviation	0.2%	2.1%
oneDNN - M.M.B.S.T - u8s8f32 - CPU (ms)		0.216025	0.324278
	Normalized	100%	66.62%
	Standard Deviation	1.9%	3.6%
TensorFlow Lite - SqueezeNet (us)		44779	81410
	Normalized	100%	55%
	Standard Deviation	0.4%	2.4%
TensorFlow Lite - Inception V4 (us)		623887	1145795
	Normalized	100%	54.45%
	Standard Deviation	0.2%	2.4%
TensorFlow Lite - NASNet Mobile (us)		73292	115676
	Normalized	100%	63.36%
	Standard Deviation	2.3%	1.2%
TensorFlow Lite - Mobilenet Float (us)		31558	61270
	Normalized	100%	51.51%
	Standard Deviation	1.8%	1.8%
TensorFlow Lite - Mobilenet Quant (us)		31903	63135
	Normalized	100%	50.53%

	Standard Deviation	1.1%	0.6%
TensorFlow Lite - I.R.V (us)		543326	1045843
	Normalized	100%	51.95%
	Standard Deviation	0.7%	1.1%
TNN - CPU - MobileNet v2 (ms)		357.927	362.408
	Normalized	100%	98.76%
	Standard Deviation	0%	0.5%
TNN - CPU - SqueezeNet v1.1 (ms)		366.176	345.567
	Normalized	94.37%	100%
	Standard Deviation	0%	0%
PlaidML - No - Inference - VGG19 - CPU (FPS)		32.63	21.15
	Normalized	100%	64.82%
	Standard Deviation	3.5%	2.2%
PlaidML - No - Inference - ResNet 50 - CPU (FPS)		6.16	3.91
	Normalized	100%	63.47%
	Standard Deviation	1.3%	1.9%
ONNX Runtime - yolov4 - OpenMP CPU		516	311
	Normalized	100%	60.27%
	Standard Deviation	2.4%	2.2%
ONNX Runtime - fcn-resnet101-11 - OpenMP CPU		196	125
	(Inferences/min)		
	Normalized	100%	63.78%
	Standard Deviation	1%	1.9%
ONNX Runtime - shufflenet-v2-10 - OpenMP CPU		8613	6977
	(Inferences/min)		
	Normalized	100%	81.01%
	Standard Deviation	2.9%	2.5%
ONNX Runtime - super-resolution-10 - OpenMP CPU		7222	5701
	(Inferences/min)		
	Normalized	100%	78.94%
	Standard Deviation	10.7%	5.5%
PyBench - T.F.A.T.T (Milliseconds)		984	1135
	Normalized	100%	86.7%
	Standard Deviation	0.2%	
PyPerformance - go (Milliseconds)		250	250
PyPerformance - 2to3 (Milliseconds)		309	321
	Normalized	100%	96.26%
PyPerformance - chaos (Milliseconds)		102	106
	Normalized	100%	96.23%
PyPerformance - float (Milliseconds)		112	114
	Normalized	100%	98.25%
PyPerformance - nbody (Milliseconds)		108	127
	Normalized	100%	85.04%
PyPerformance - pathlib (Milliseconds)		16.4	18.0
	Normalized	100%	91.11%
	Standard Deviation	0.4%	0.3%
PyPerformance - raytrace (Milliseconds)		472	474
	Normalized	100%	99.58%
	Standard Deviation	0.3%	
PyPerformance - json_loads (Milliseconds)		22.4	26.7
	Normalized	100%	83.9%
	Standard Deviation	0%	0.2%
PyPerformance - crypto_pyaes (Milliseconds)		103	113
	Normalized	100%	91.15%

PyPerformance - regex_compile (Milliseconds)	165	167
Normalized	100%	98.8%
PyPerformance - python_startup (Milliseconds)	8.00	8.32
Normalized	100%	96.15%
Standard Deviation	0.1%	0.2%
PyPerformance - django_template (Milliseconds)	47.3	48.1
Normalized	100%	98.34%
Standard Deviation	0.2%	0.2%
PyPerformance - pickle_pure_python (Milliseconds)	428	435
Normalized	100%	98.39%
Standard Deviation		0.4%
NGINX Benchmark - S.W.P.S (Reqs/sec)	48290	43722
Normalized	100%	90.54%
Standard Deviation	11.3%	0.1%
Apache Benchmark - S.W.P.S (Reqs/sec)	35223	25464
Normalized	100%	72.29%
Standard Deviation	2.4%	0.7%
PHPBench - P.B.S (Score)	721246	655461
Normalized	100%	90.88%
Standard Deviation	0.6%	0.1%
WireGuard + Linux Networking Stack Stress Test	246.323	338.281
Normalized	100%	72.82%
Standard Deviation	2.2%	0.3%

LAMMPS Molecular Dynamics Simulator 29Oct2020

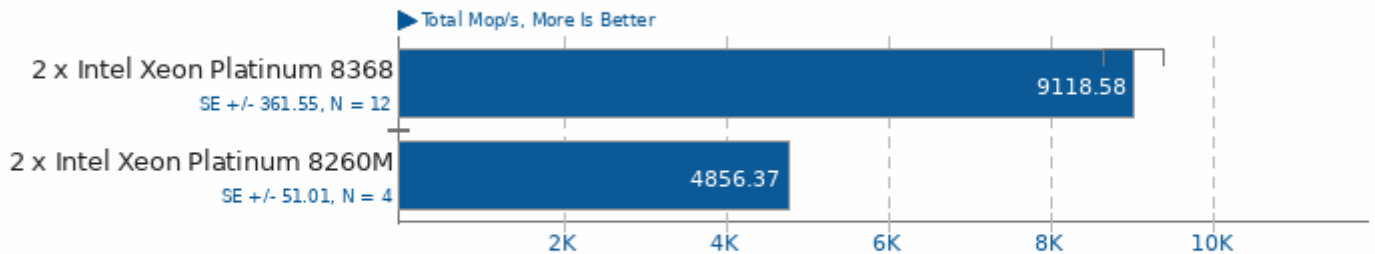
Model: 20k Atoms



1. (CXX) g++ options: -O3 -pthread -lm

NAS Parallel Benchmarks 3.4

Test / Class: EP.D

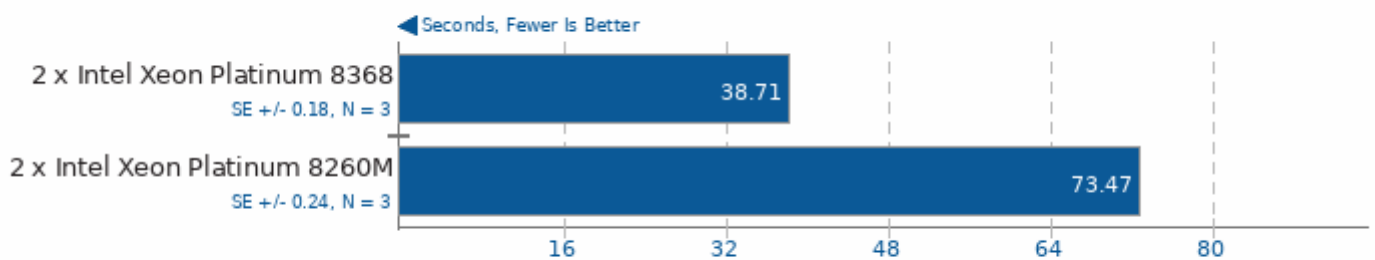


1. (F9X) gfortran options: -O3 -march=native -pthread -lm -lmpif08 -lm -lmpifh -lm -lopen-rte -lopen-pal -lhwloc -ldl -levent -levent_pthreads -lutil -lm -lrt -lz

2. Open MPI 4.0.3

Rodinia 3.1

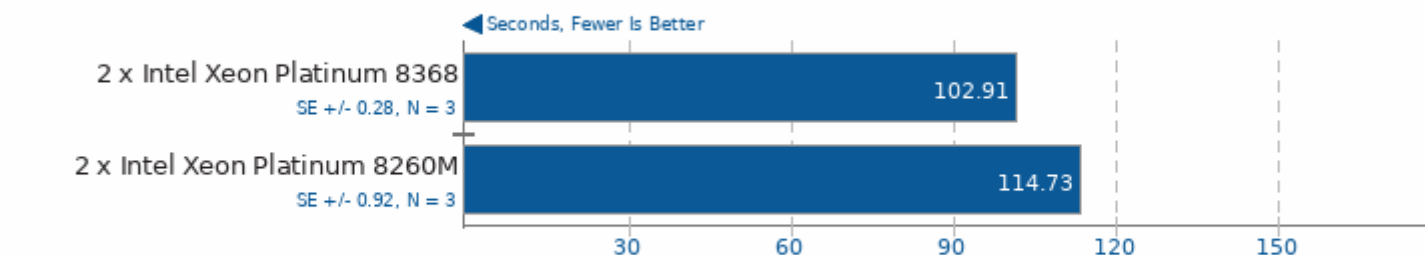
Test: OpenMP LavaMD



1. (CXX) g++ options: -O2 -lOpenCL

Rodinia 3.1

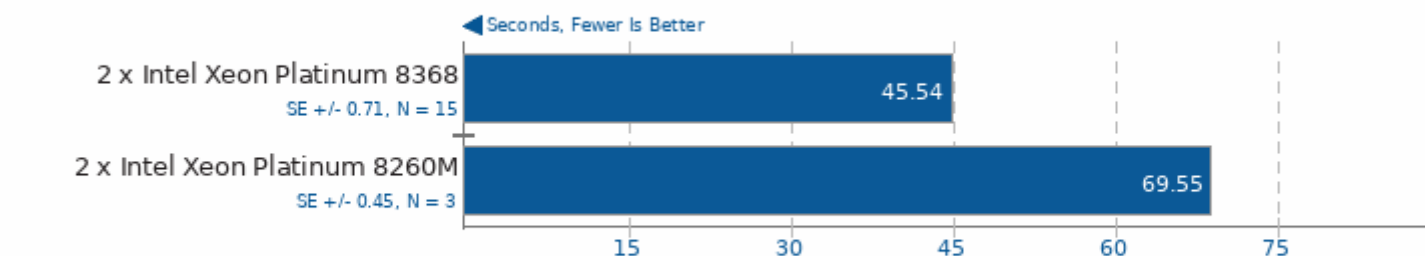
Test: OpenMP HotSpot3D



1. (CXX) g++ options: -O2 -lOpenCL

Rodinia 3.1

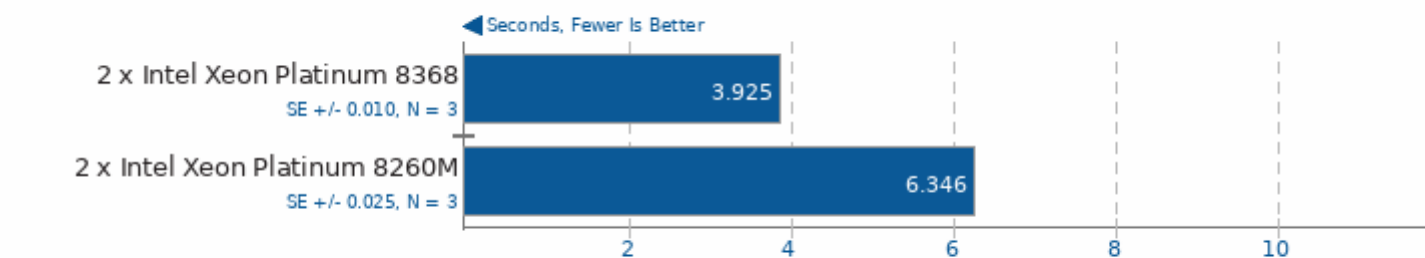
Test: OpenMP Leukocyte



1. (CXX) g++ options: -O2 -lOpenCL

Rodinia 3.1

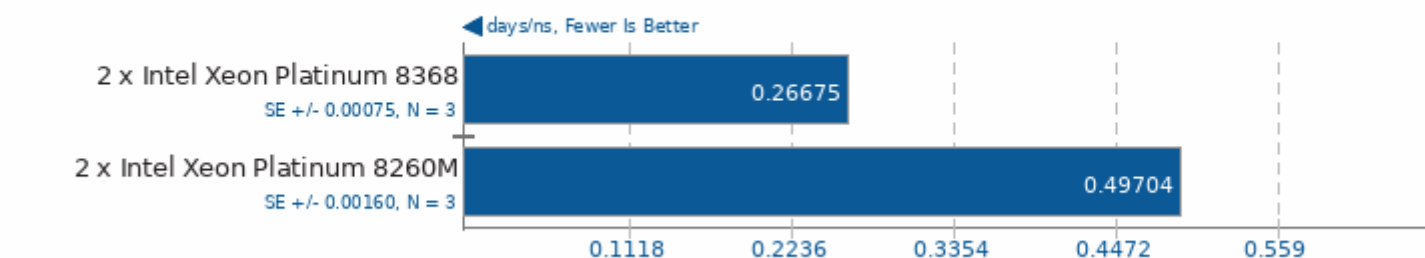
Test: OpenMP CFD Solver



1. (CXX) g++ options: -O2 -lOpenCL

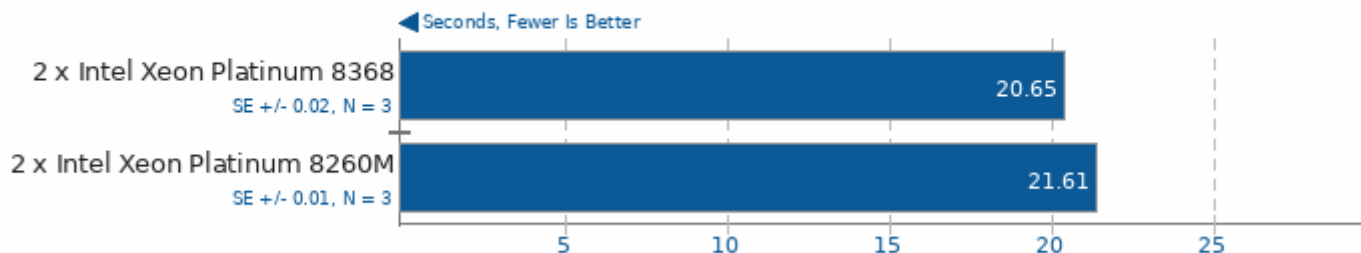
NAMD 2.14

ATPase Simulation - 327,506 Atoms

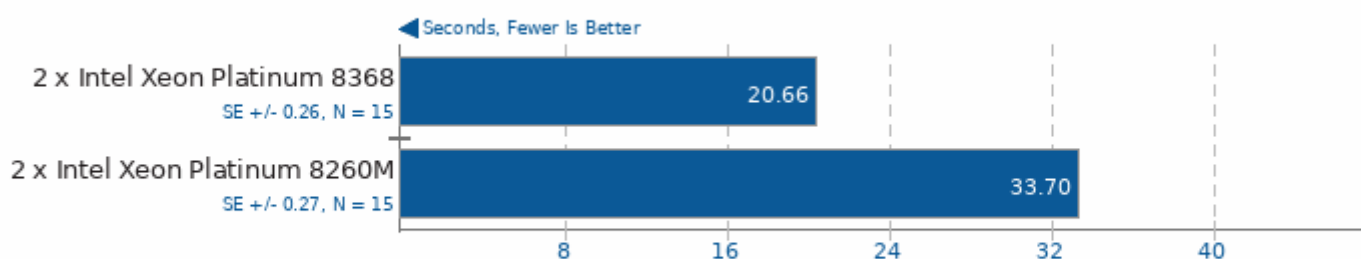


Dolfyn 0.527

Computational Fluid Dynamics



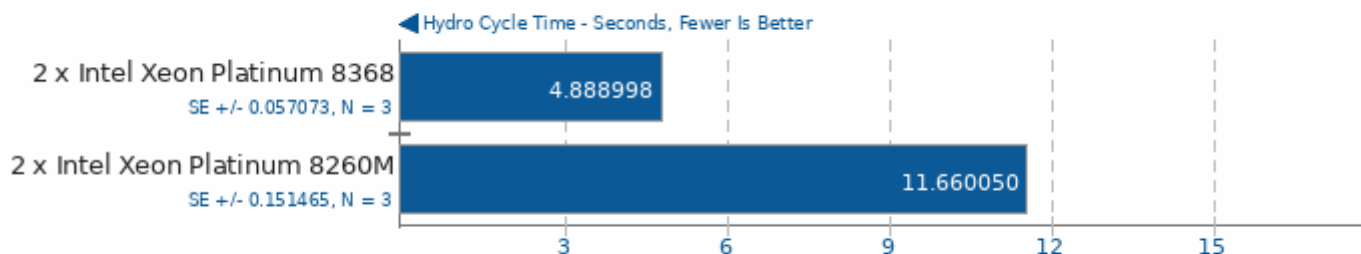
Nebular Empirical Analysis Tool 2020-02-29



1. (F9X) gfortran options: -cpp -ffree-line-length-0 -jsource/ -fopenmp -O3 -fno-backtrace

Pennant 1.0.1

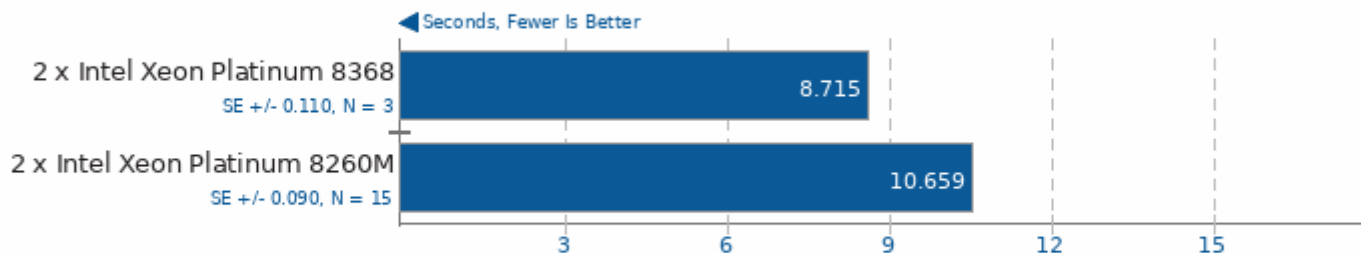
Test: leblancbig



1. (CXX) g++ options: -fopenmp -pthread -lmpi_cxx -lmpi

Timed MAFFT Alignment 7.471

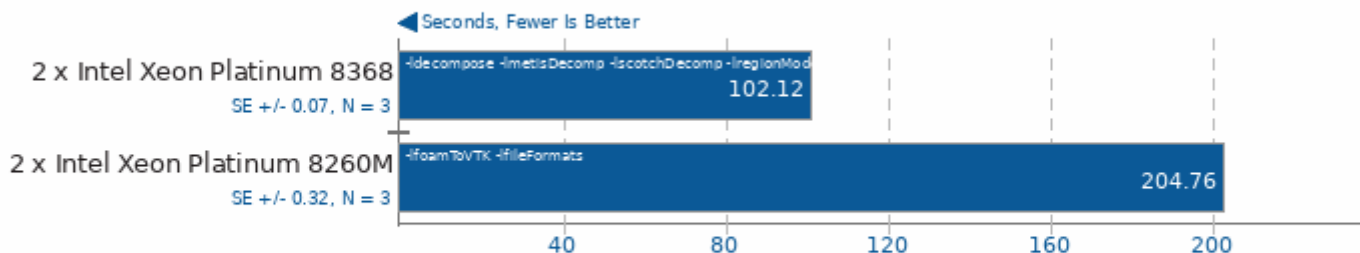
Multiple Sequence Alignment - LSU RNA



1. (CC) gcc options: -std=c99 -O3 -lm -lpthread

OpenFOAM 8

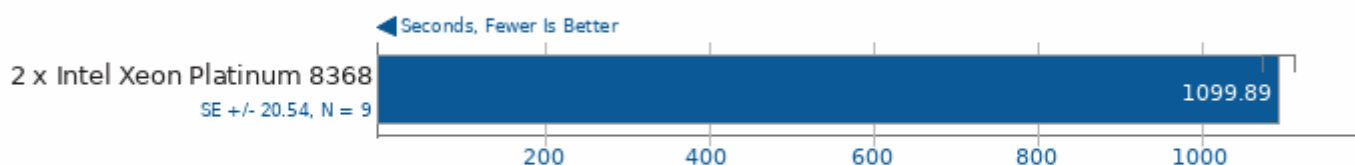
Input: Motorbike 60M



1. (CXX) g++ options: -std=c++11 -m64 -O3 -ftemplate-depth-100 -fPIC -fuse-lto=bfd -Xlinker --add-needed --no-as-needed -ldynamicMesh -lgenericPatchFields -llapack

Quantum ESPRESSO 6.7

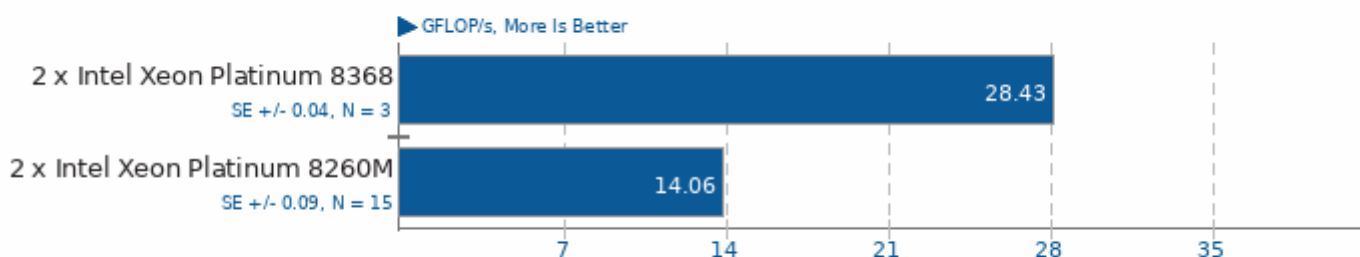
Input: AUSURF112



1. (F9X) gfortran options: -lopenblas -lFoX_dom -lFoX_sax -lFoX_wxml -lFoX_common -lFoX_utils -lFoX_fsys -lfftw3 -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopenblas

ACES DGEMM 1.0

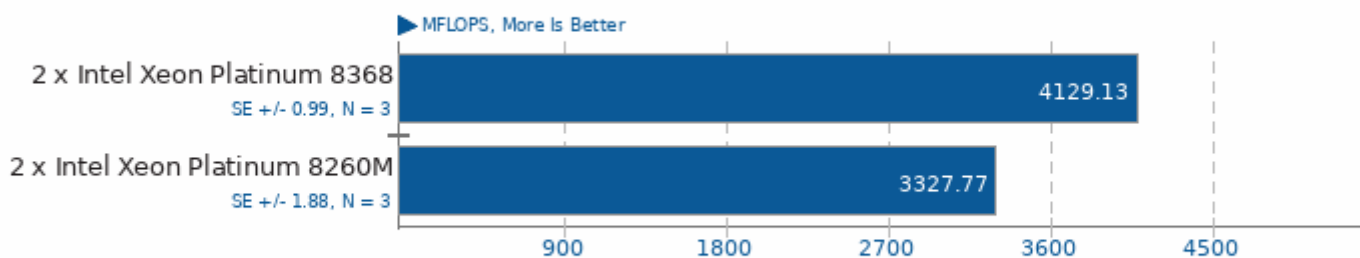
Sustained Floating-Point Rate



1. (CC) gcc options: -O3 -march=native -fopenmp

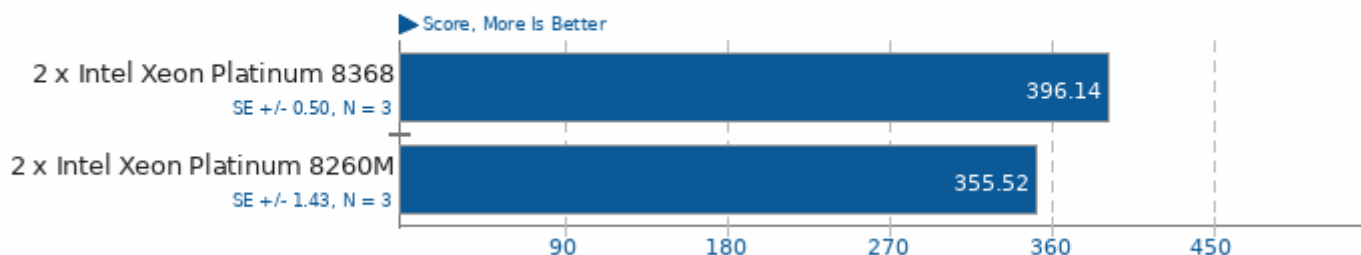
Himeno Benchmark 3.0

Poisson Pressure Solver



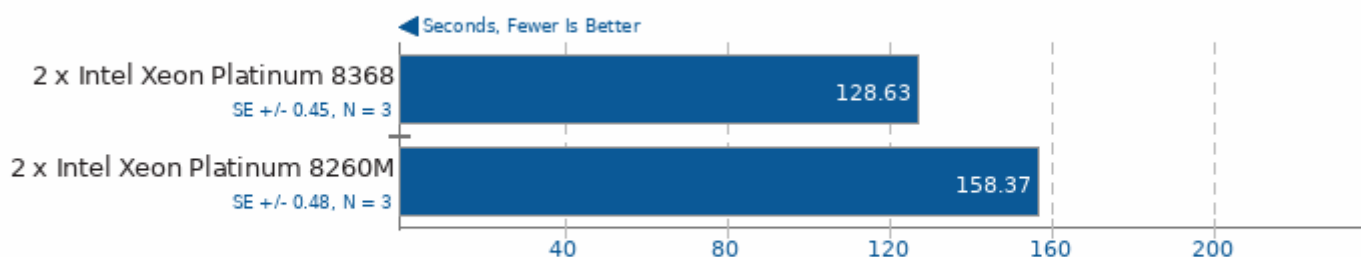
1. (CC) gcc options: -O3 -mavx2

Numpy Benchmark



Ngspice 34

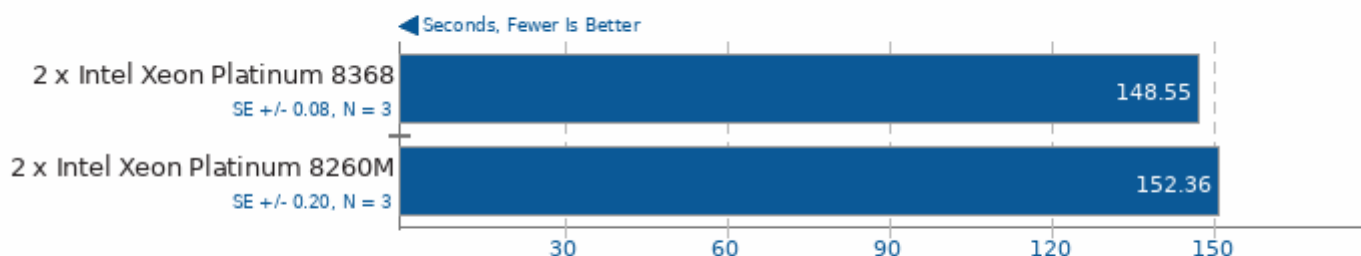
Circuit: C2670



1. (CC) gcc options: -O0 -fopenmp -lm -lstdc++ -lfftw3 -lXaw -lXmu -lXt -lXext -lX11 -lXft -lfontconfig -lXrender -lfreetype -lSM -lICE

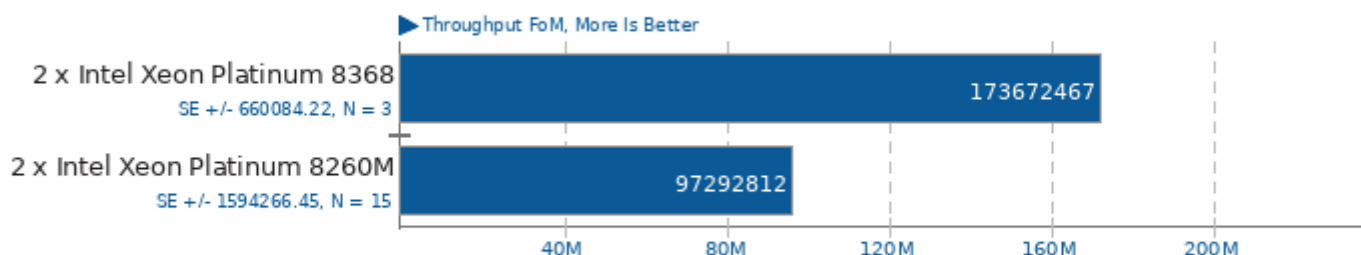
Ngspice 34

Circuit: C7552



1. (CC) gcc options: -O0 -fopenmp -lm -lstdc++ -lfftw3 -lXaw -lXmu -lXt -lXext -lX11 -lXft -lfontconfig -lXrender -lfreetype -lSM -lICE

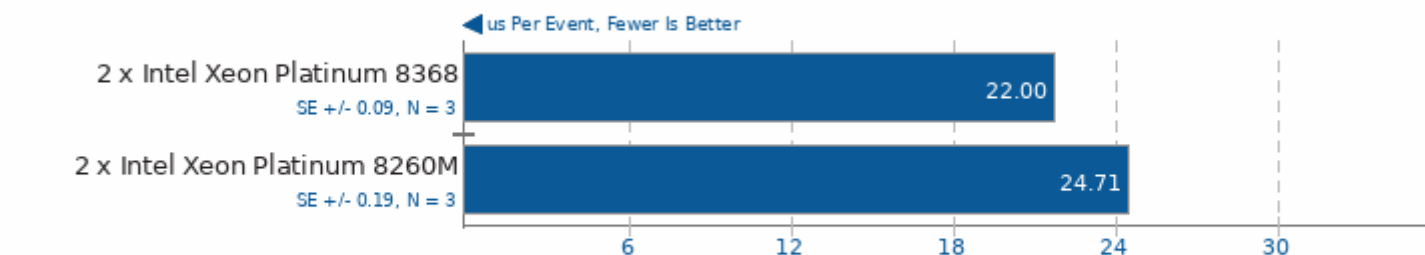
Kripke 1.2.4



1. (CXX) g++ options: -O3 -fopenmp

OSBench

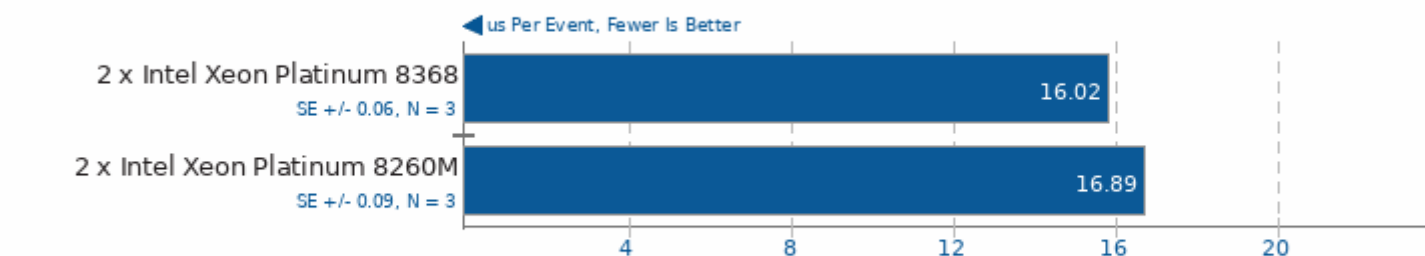
Test: Create Files



1. (CC) gcc options: -lm

OSBench

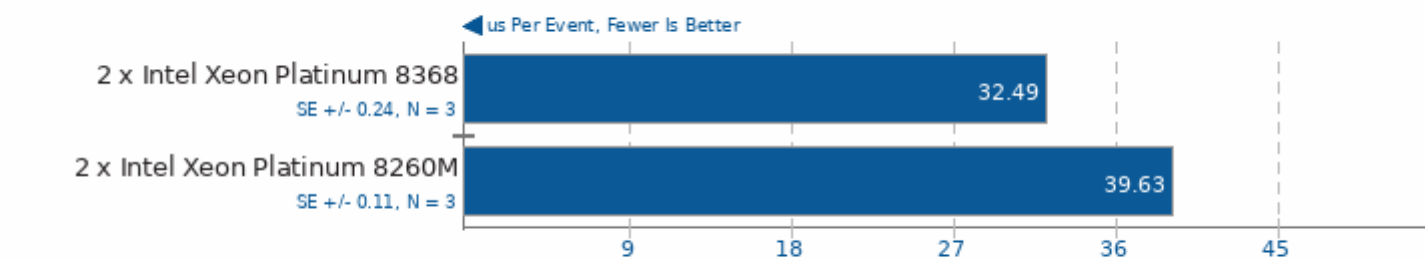
Test: Create Threads



1. (CC) gcc options: -lm

OSBench

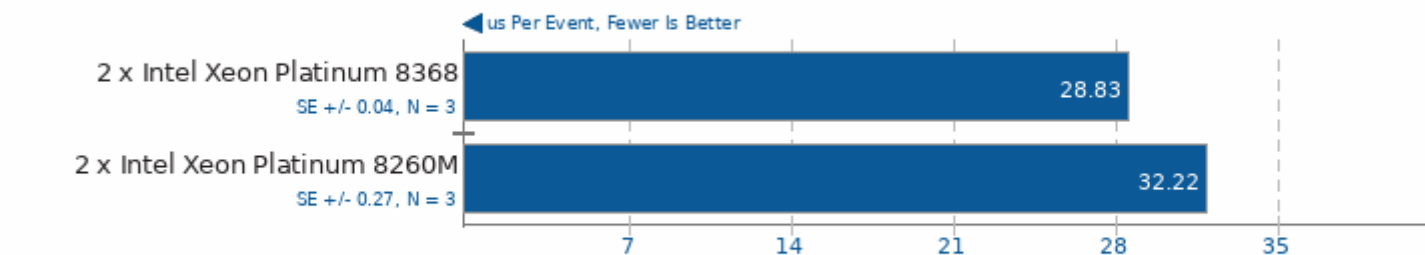
Test: Launch Programs



1. (CC) gcc options: -lm

OSBench

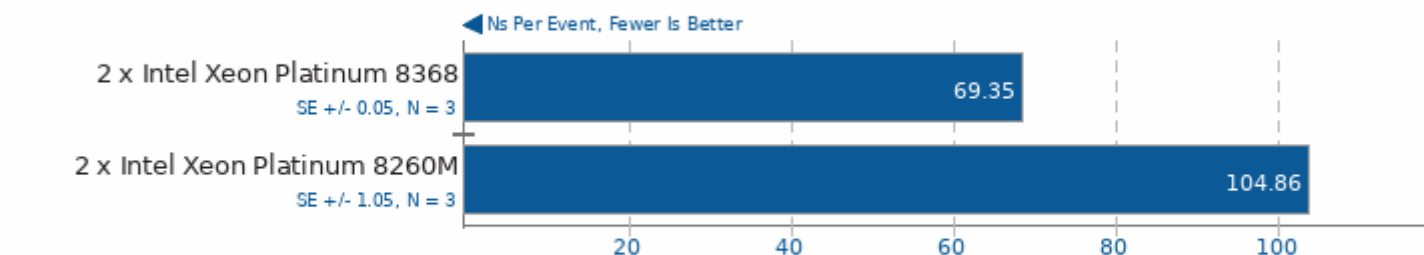
Test: Create Processes



1. (CC) gcc options: -lm

OSBench

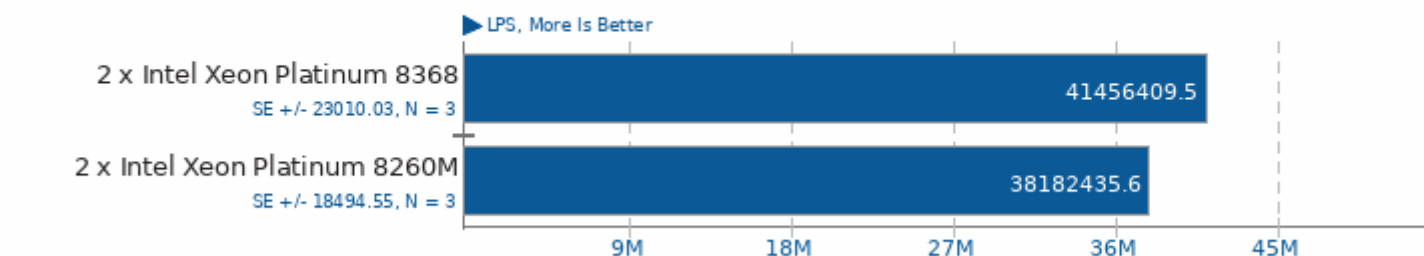
Test: Memory Allocations



1. (CC) gcc options: -lm

BYTE Unix Benchmark 3.6

Computational Test: Dhrystone 2



CacheBench

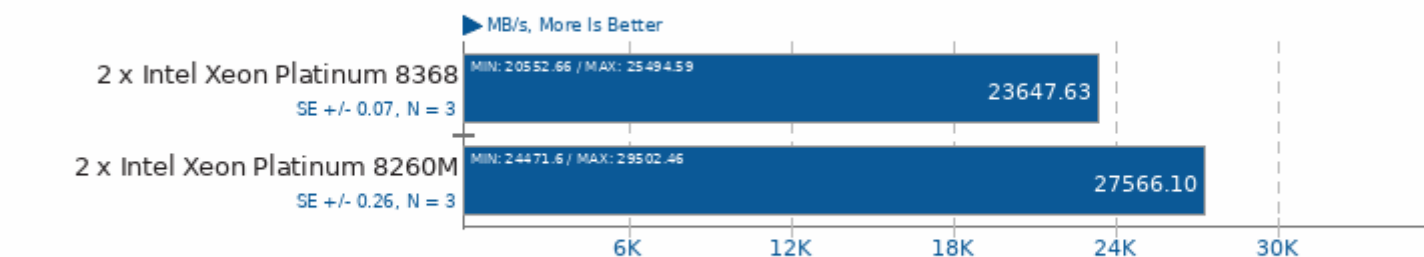
Test: Read



1. (CC) gcc options: -lrt

CacheBench

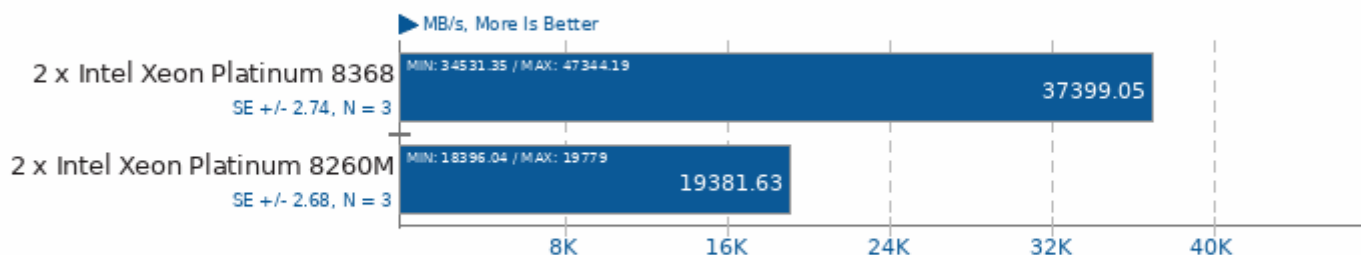
Test: Write



1. (CC) gcc options: -lrt

CacheBench

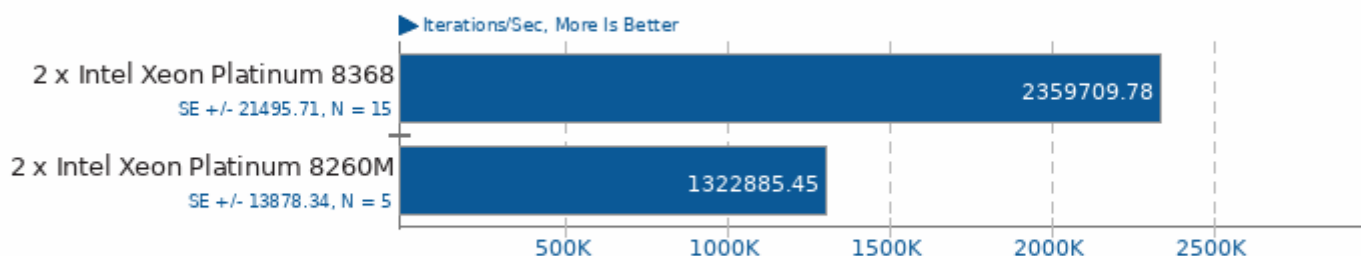
Test: Read / Modify / Write



1. (CC) gcc options: -lrt

Coremark 1.0

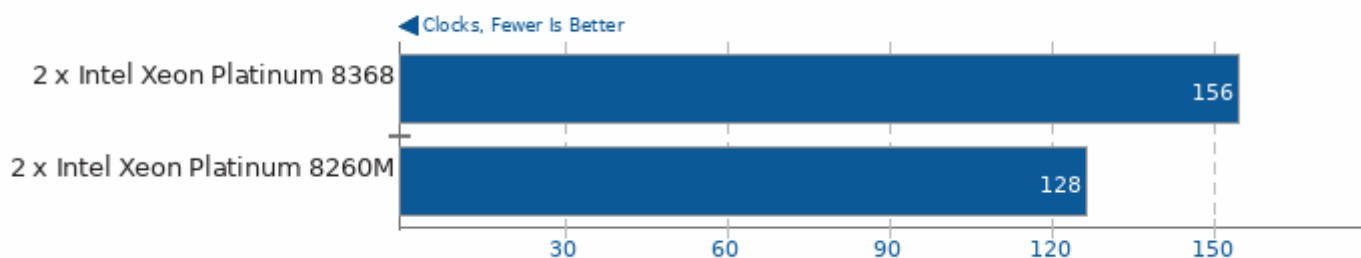
CoreMark Size 666 - Iterations Per Second



1. (CC) gcc options: -O2 -lrt -lrt

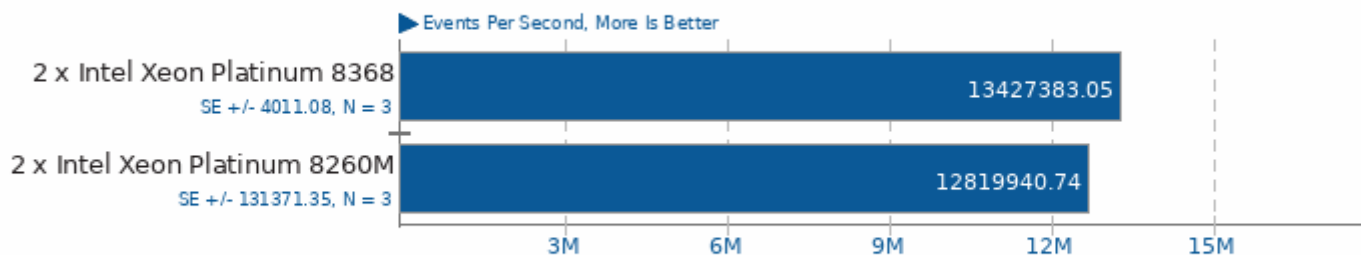
ctx_clock

Context Switch Time



Sysbench 2018-07-28

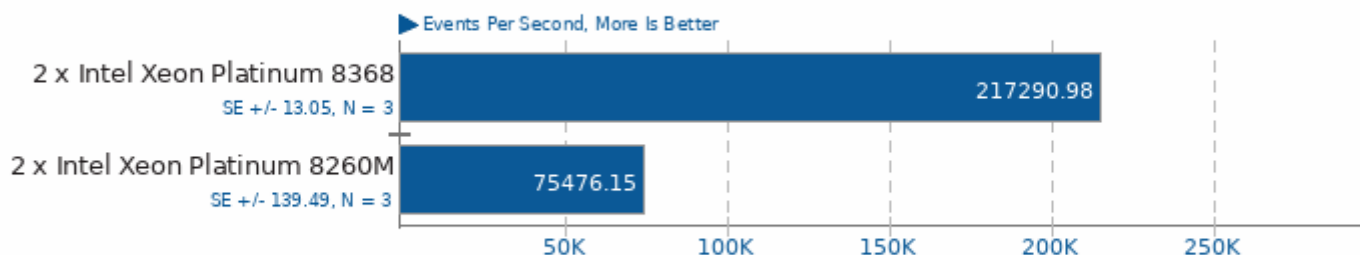
Test: Memory



1. (CC) gcc options: -pthread -O3 -funroll-loops -ggdb3 -march=core2 -rdynamic -ldl -laio -lm

Sysbench 2018-07-28

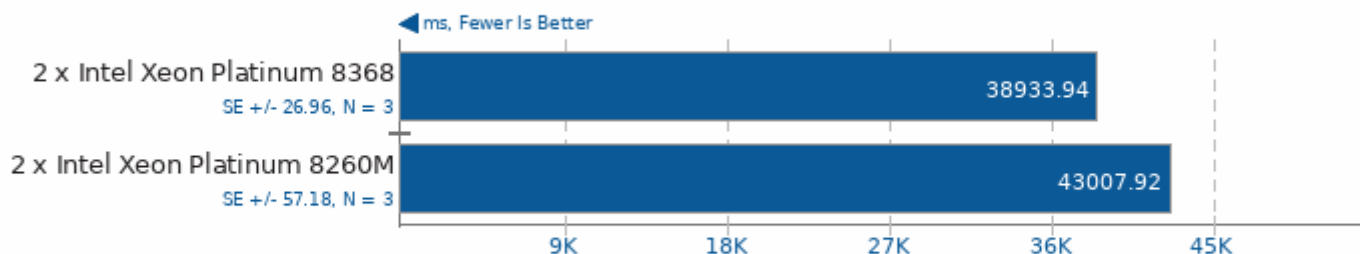
Test: CPU



1. (CC) gcc options: -pthread -O3 -funroll-loops -ggdb3 -march=core2 -rdynamic -ldl -laio -lm

FinanceBench 2016-07-25

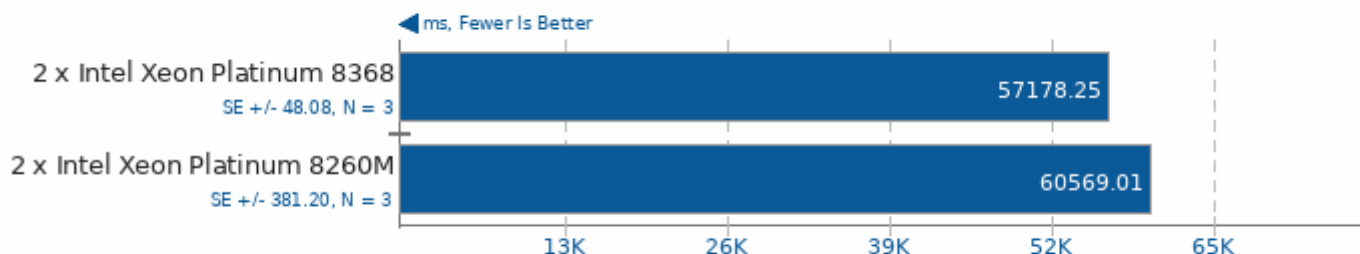
Benchmark: Repo OpenMP



1. (CXX) g++ options: -O3 -march=native -fopenmp

FinanceBench 2016-07-25

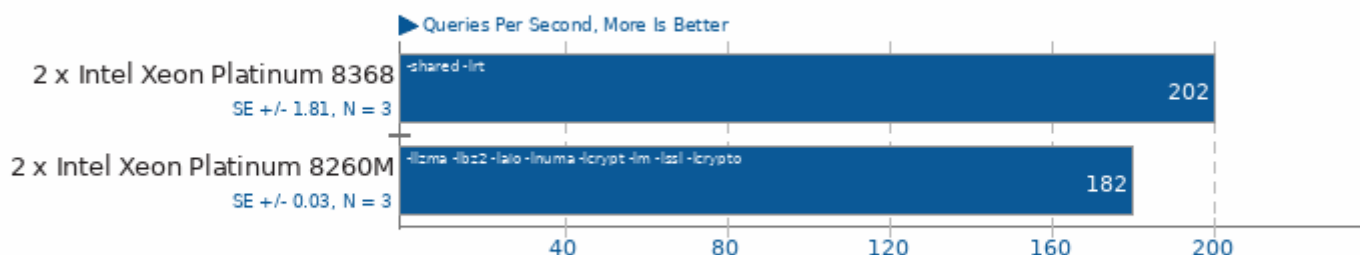
Benchmark: Bonds OpenMP



1. (CXX) g++ options: -O3 -march=native -fopenmp

MariaDB 10.5.2

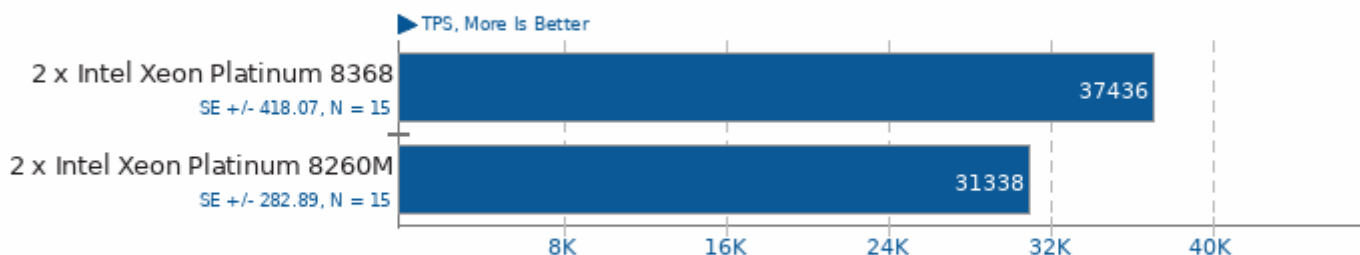
Clients: 128



1. (CXX) g++ options: -fPIC -pie -fstack-protector -O2 -lpthread -ldl -lz

PostgreSQL pgbench 13.0

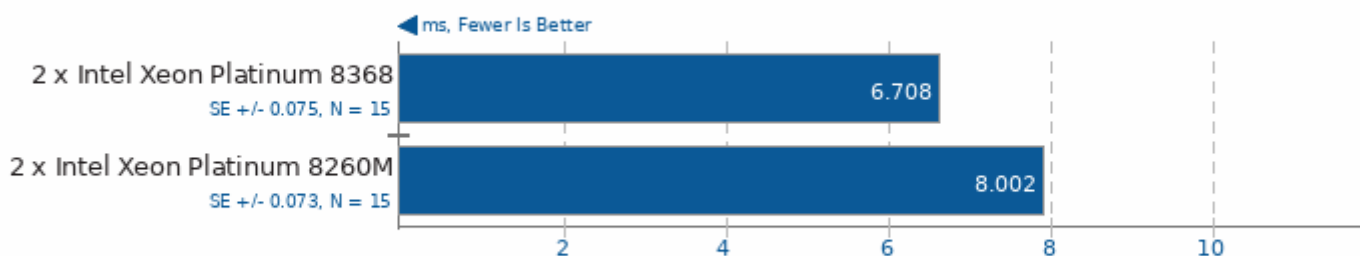
Scaling Factor: 100 - Clients: 250 - Mode: Read Write



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

PostgreSQL pgbench 13.0

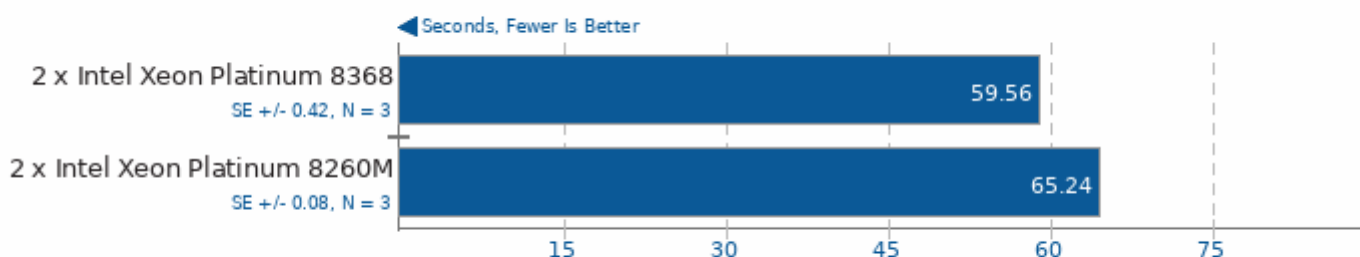
Scaling Factor: 100 - Clients: 250 - Mode: Read Write - Average Latency



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

SQLite Speedtest 3.30

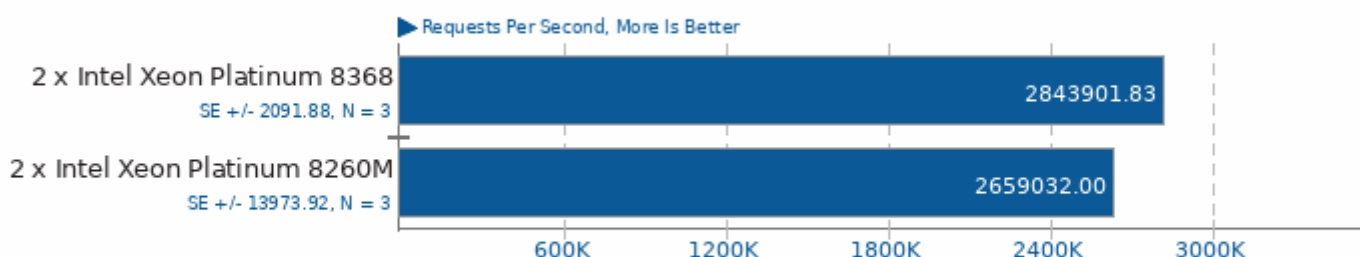
Timed Time - Size 1,000



1. (CC) gcc options: -O2 -ldl -lz -lpthread

Redis 6.0.9

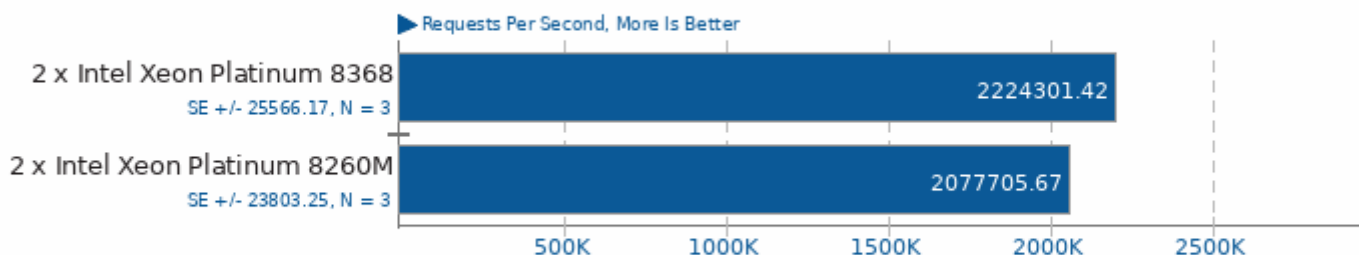
Test: LPOP



1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3

Redis 6.0.9

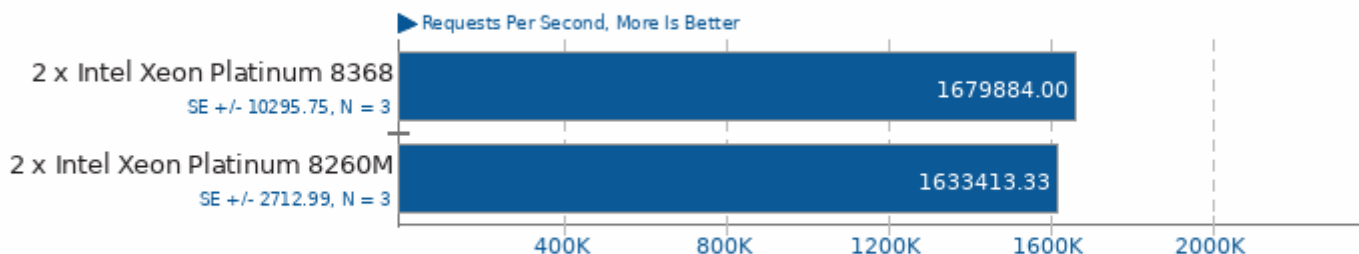
Test: SADD



1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3

Redis 6.0.9

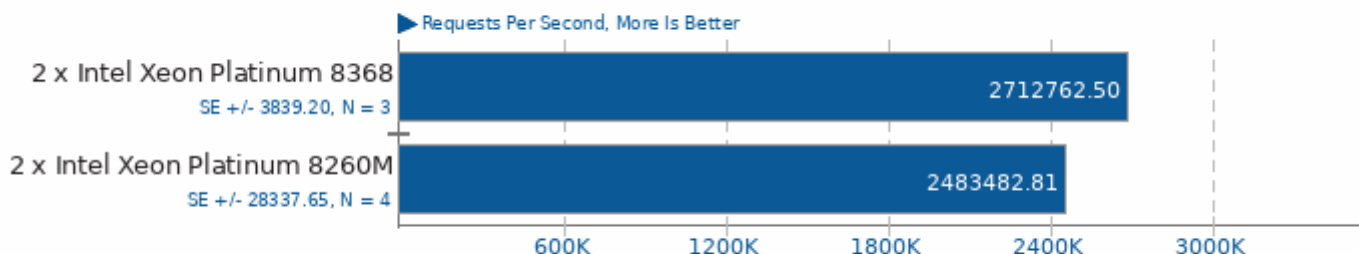
Test: LPUSH



1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3

Redis 6.0.9

Test: GET



1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3

Redis 6.0.9

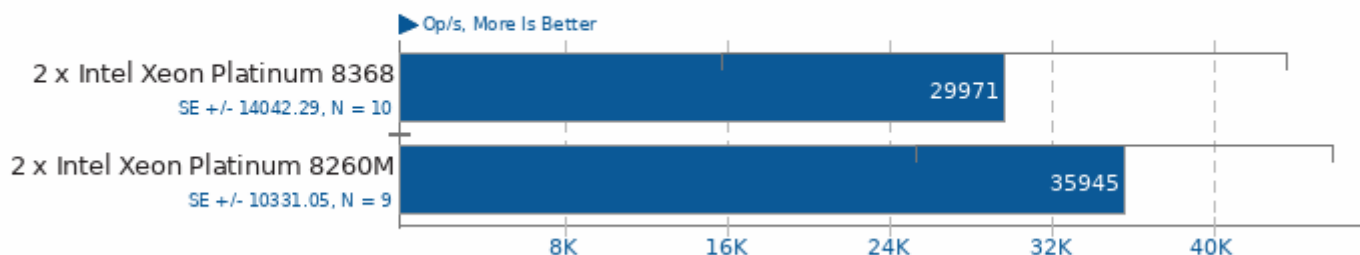
Test: SET



1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3

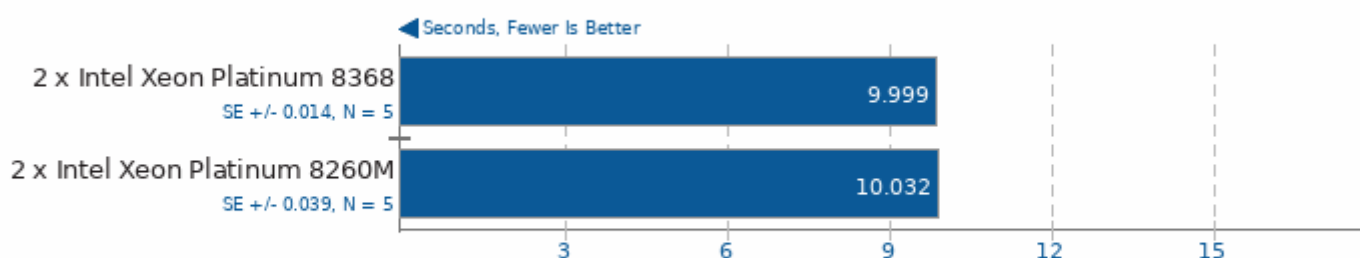
Apache Cassandra 3.11.4

Test: Mixed 1:3



FLAC Audio Encoding 1.3.2

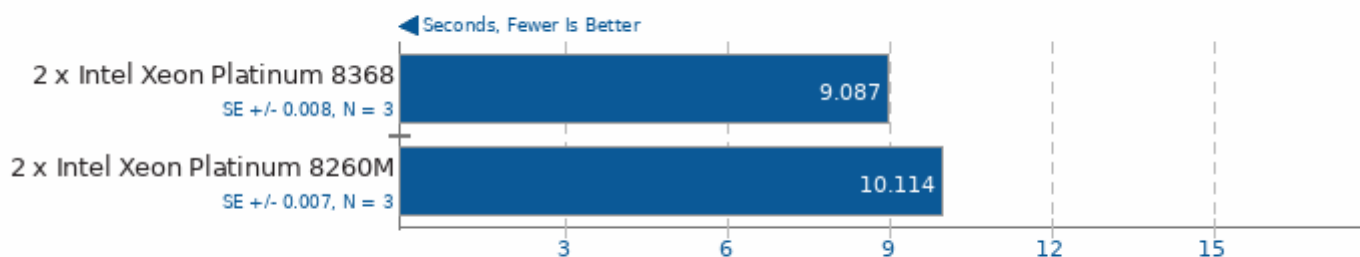
WAV To FLAC



1. (CXX) g++ options: -O2 -fvisibility=hidden -lm

LAME MP3 Encoding 3.100

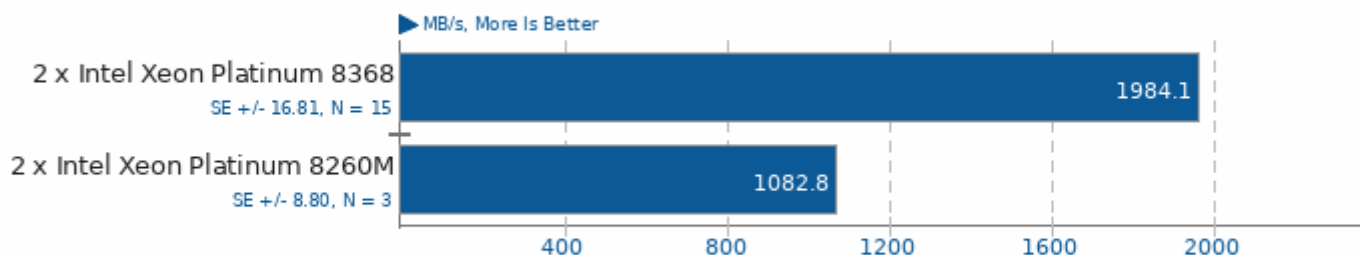
WAV To MP3



1. (CC) gcc options: -O3 -ffast-math -funroll-loops -fschedule-insns2 -fbranch-count-reg -fforce-addr-pipe -lncurse -lm

Zstd Compression 1.4.9

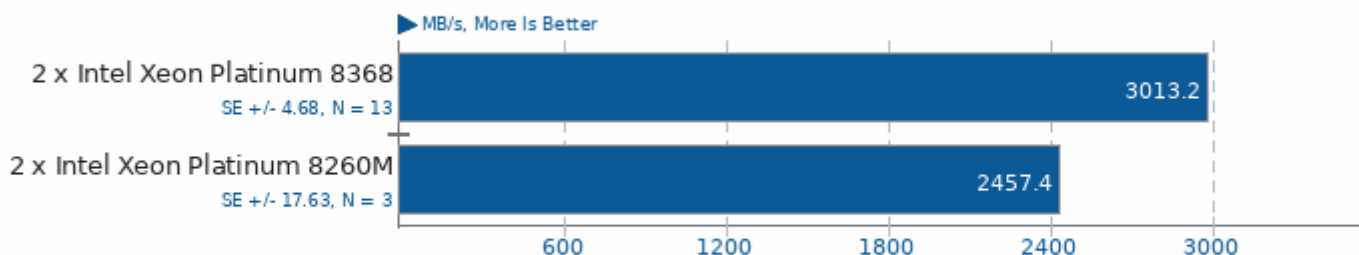
Compression Level: 8 - Compression Speed



1. (CC) gcc options: -O3 -pthread -lz -llzma

Zstd Compression 1.4.9

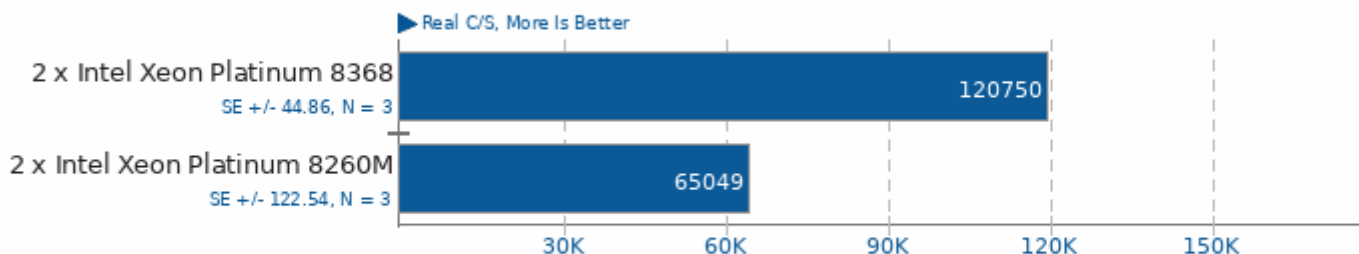
Compression Level: 8 - Decompression Speed



1. (CC) gcc options: -O3 -pthread -lz -llzma

John The Ripper 1.9.0-jumbo-1

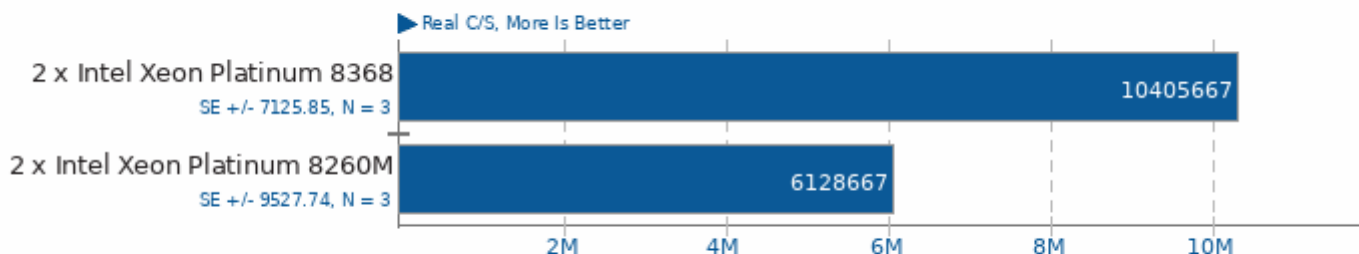
Test: Blowfish



1. (CC) gcc options: -m64 -lssl -lcrypto -fopenmp -lgmp -pthread -lm -lz -ldl -lcrypt -lbz2

John The Ripper 1.9.0-jumbo-1

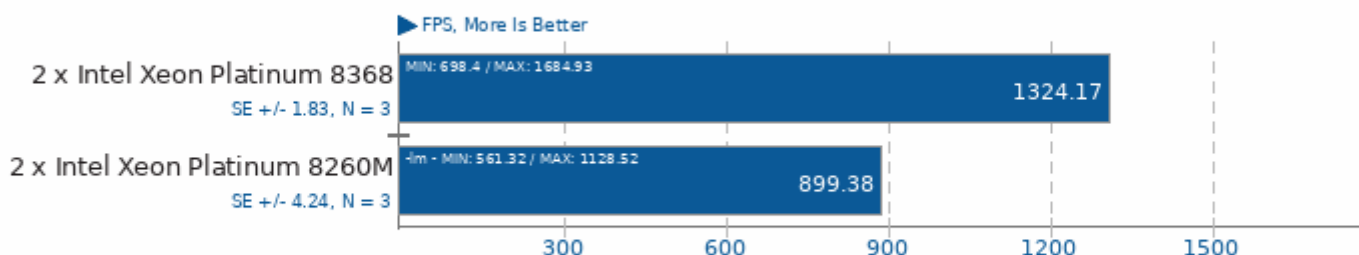
Test: MD5



1. (CC) gcc options: -m64 -lssl -lcrypto -fopenmp -lgmp -pthread -lm -lz -ldl -lcrypt -lbz2

dav1d 0.8.2

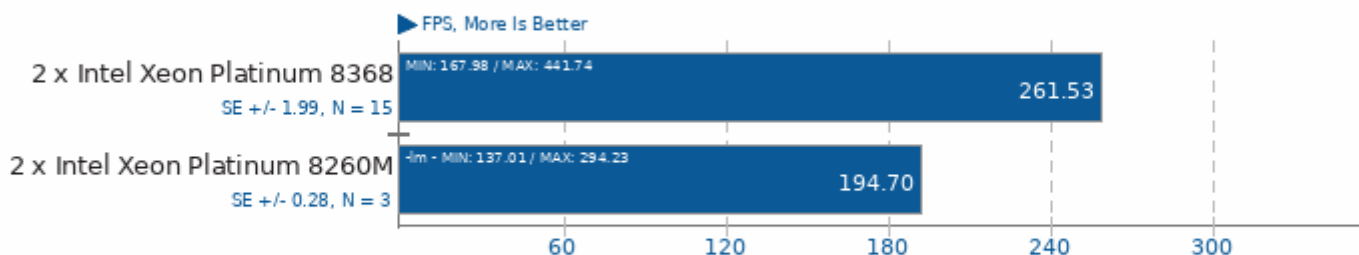
Video Input: Chimera 1080p



1. (CC) gcc options: -pthread

dav1d 0.8.2

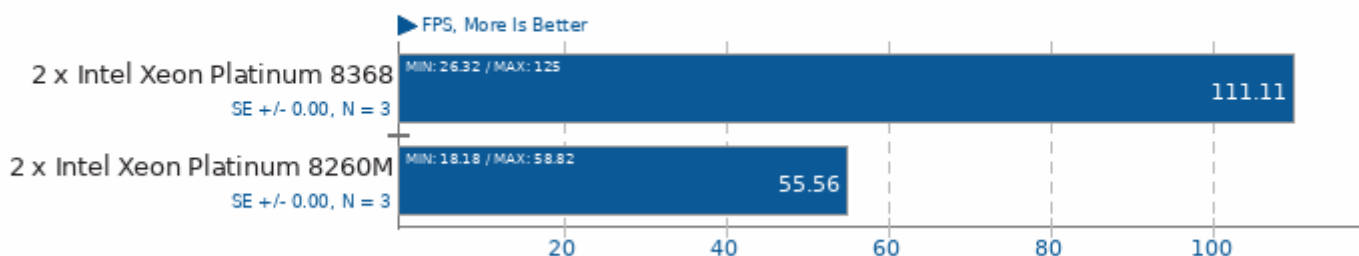
Video Input: Chimera 1080p 10-bit



1. (CC) gcc options: -pthread

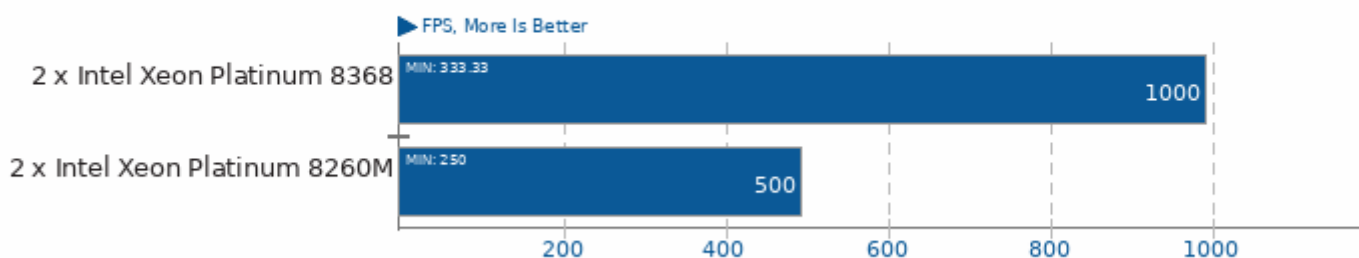
OSPray 1.8.5

Demo: Magnetic Reconnection - Renderer: SciVis



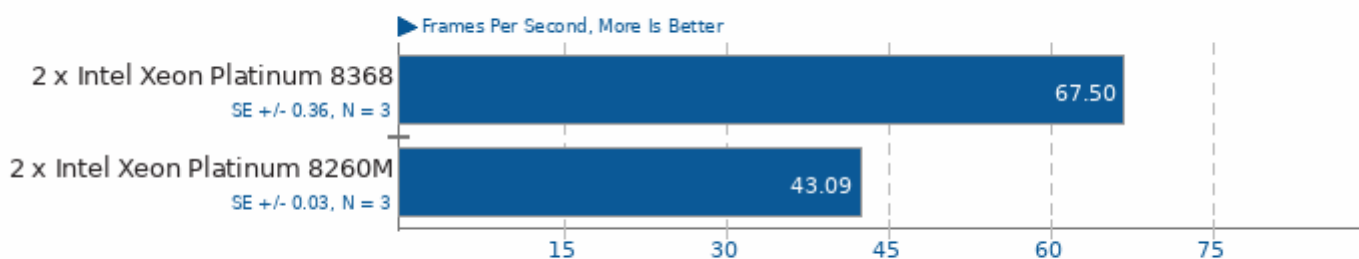
OSPray 1.8.5

Demo: Magnetic Reconnection - Renderer: Path Tracer



Kvazaar 2.0

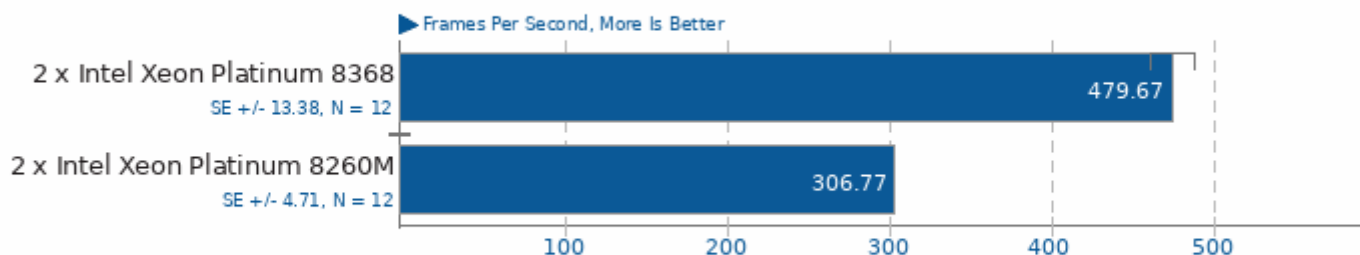
Video Input: Bosphorus 1080p - Video Preset: Medium



1. (CC) gcc options: -pthread -ftree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt

SVT-VP9 0.1

Tuning: PSNR/SSIM Optimized - Input: Bosphorus 1080p



1. (CC) gcc options: -O3 -fcommon -fPIE -fPIC -fvisibility=hidden -pie -rdynamic -lpthread -lrt -lm

x264 2019-12-17

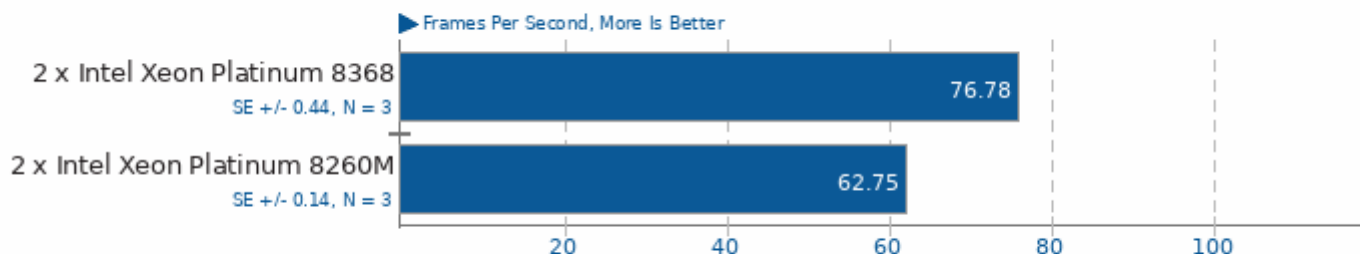
H.264 Video Encoding



1. (CC) gcc options: -ldl -m64 -lm -lpthread -O3 -ffast-math -std=gnu99 -fPIC -fomit-frame-pointer -fno-tree-vectorize

x265 3.4

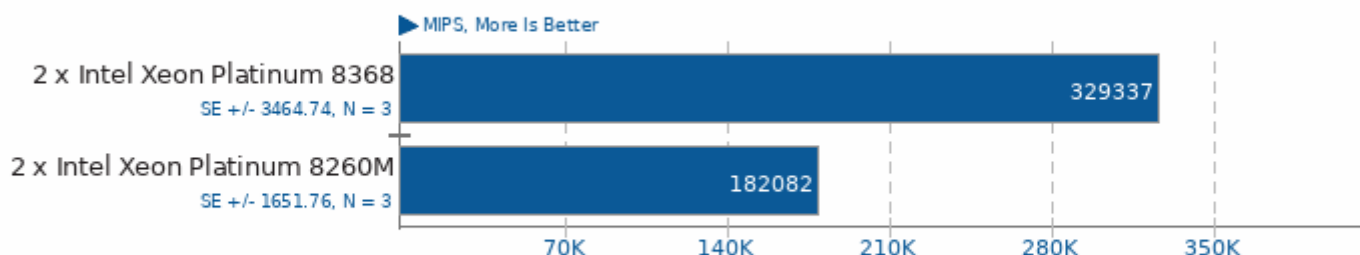
Video Input: Bosphorus 1080p



1. (CXX) g++ options: -O3 -rdynamic -lpthread -lrt -ldl -lnuma

7-Zip Compression 16.02

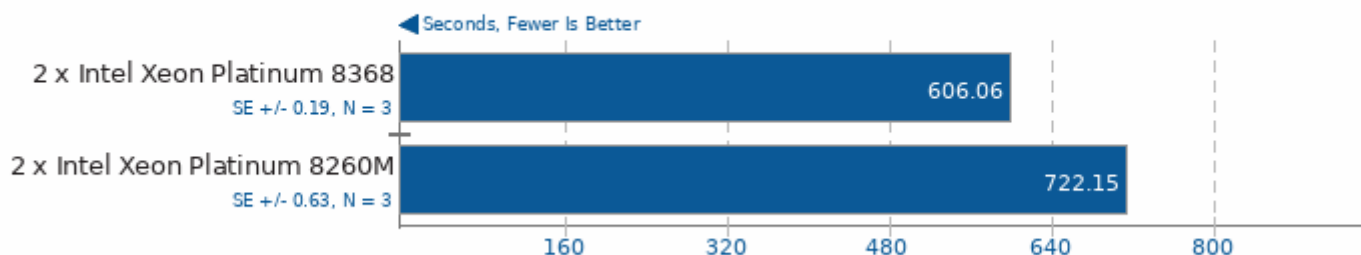
Compress Speed Test



1. (CXX) g++ options: -pipe -lpthread

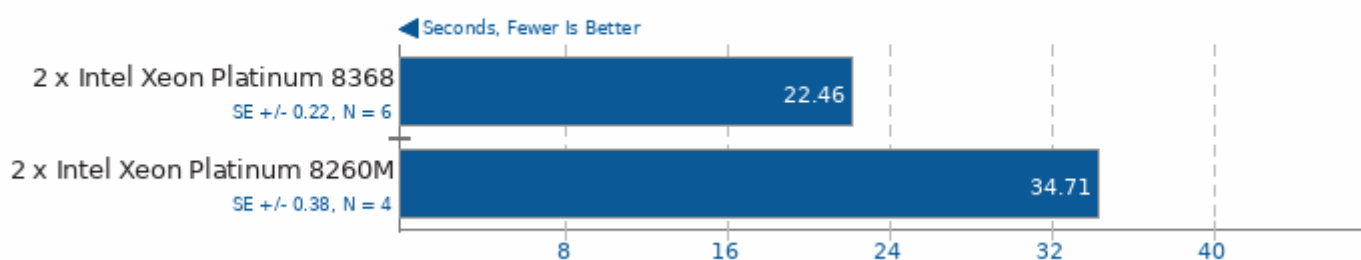
Timed GCC Compilation 9.3.0

Time To Compile



Timed Linux Kernel Compilation 5.10.20

Time To Compile



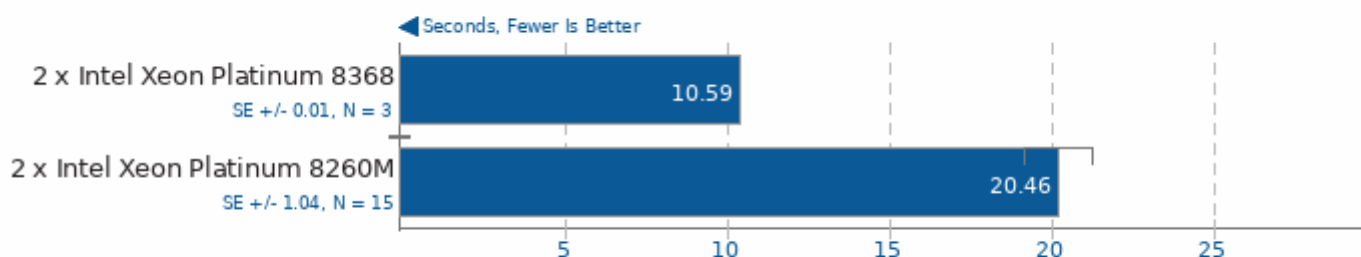
Timed LLVM Compilation 10.0

Time To Compile



C-Ray 1.1

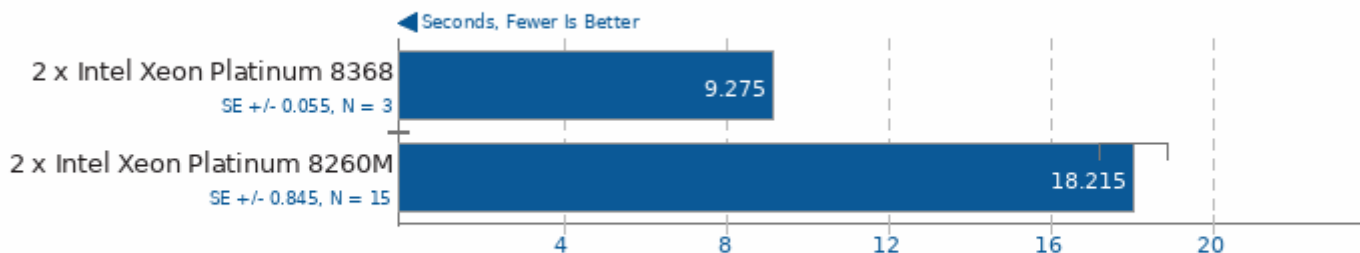
Total Time - 4K, 16 Rays Per Pixel



1. (CC) gcc options: -lm -lpthread -O3

POV-Ray 3.7.0.7

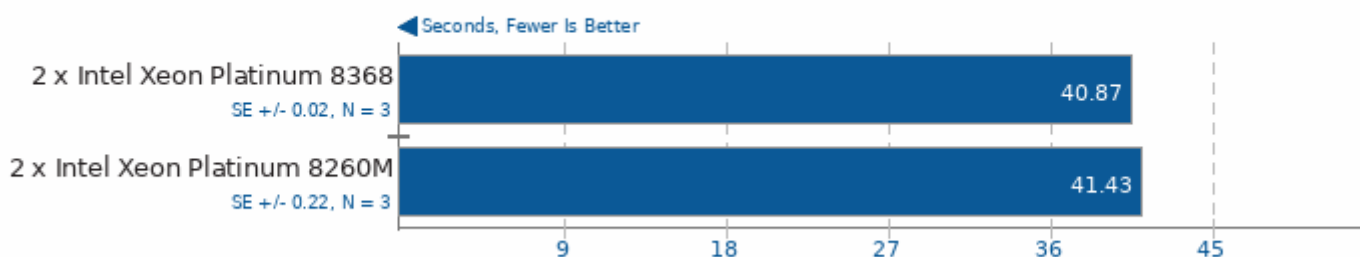
Trace Time



1. (CXX) g++ options: -pipe -O3 -ffast-math -march=native -pthread -lXpm -lSM -lICE -lX11 -ltiff -ljpeg -lpng -lz -lrt -lm -lboost_thread -lboost_system

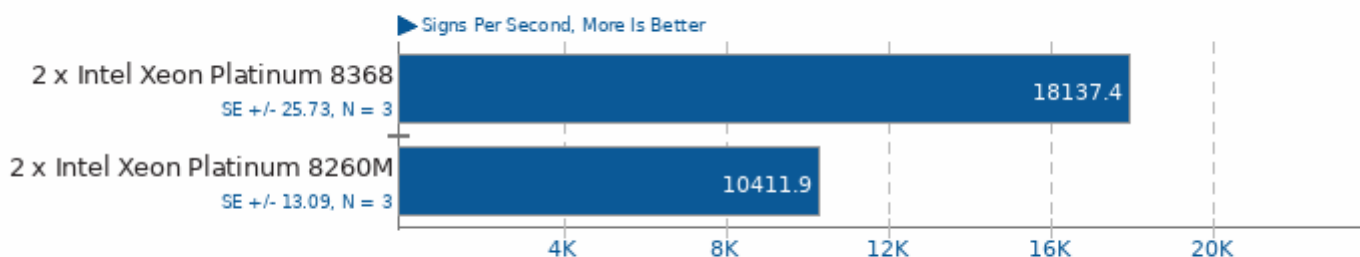
Gzip Compression

Linux Source Tree Archiving To .tar.gz



OpenSSL 1.1.1

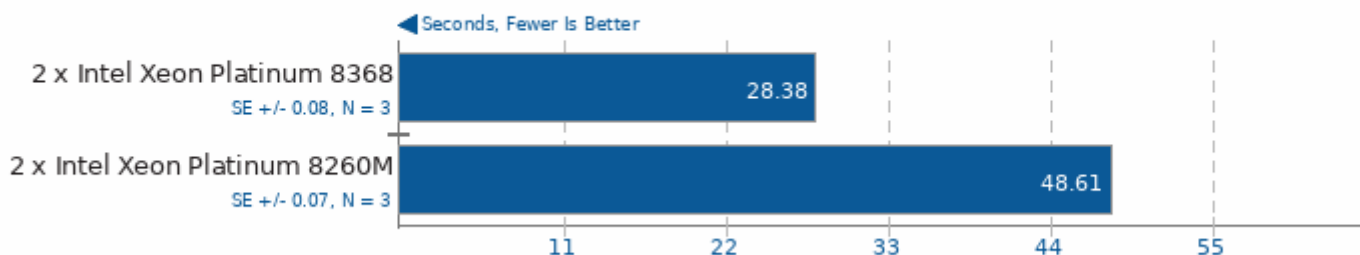
RSA 4096-bit Performance



1. (CC) gcc options: -pthread -m64 -O3 -lssl -lcrypto -ldl

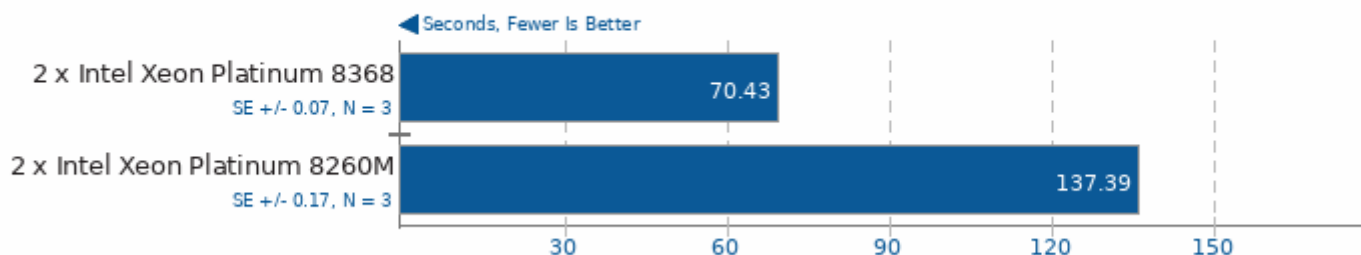
Blender 2.92

Blend File: BMW27 - Compute: CPU-Only



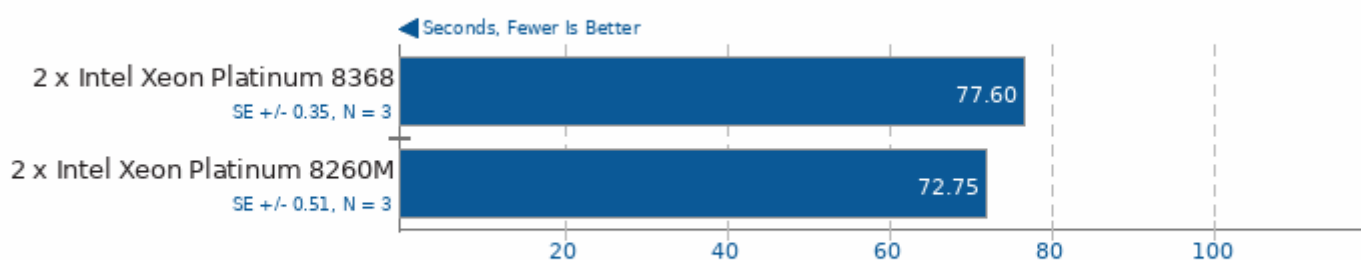
Blender 2.92

Blend File: Classroom - Compute: CPU-Only



GnuPG 2.2.27

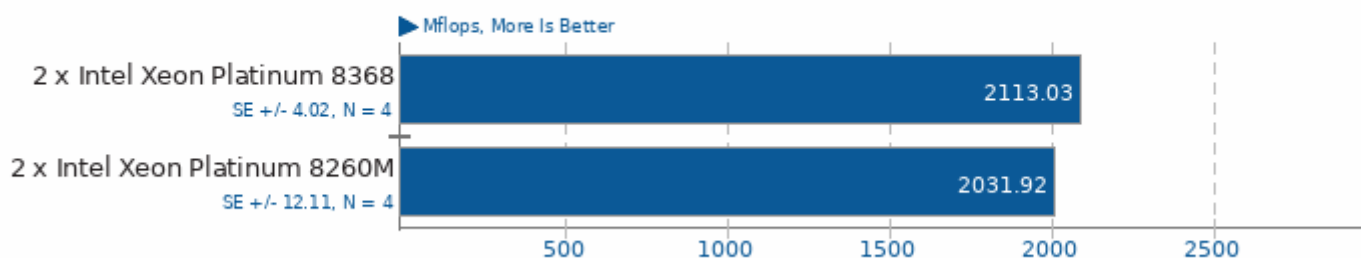
2.7GB Sample File Encryption



1. (CC) gcc options: -O2

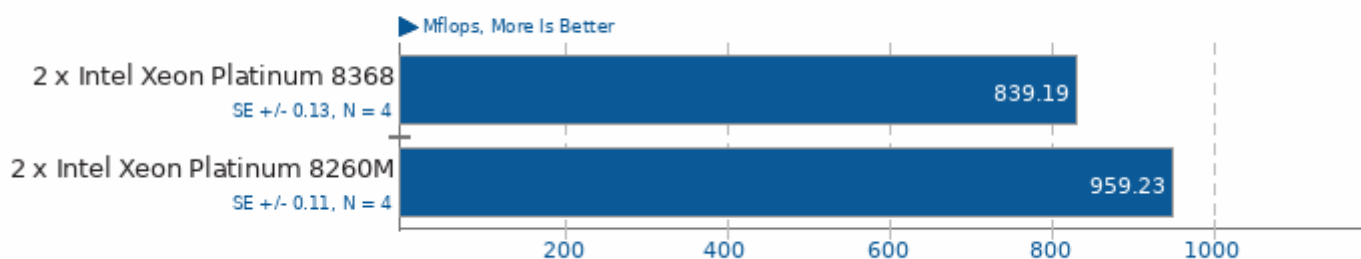
Java SciMark 2.0

Computational Test: Composite



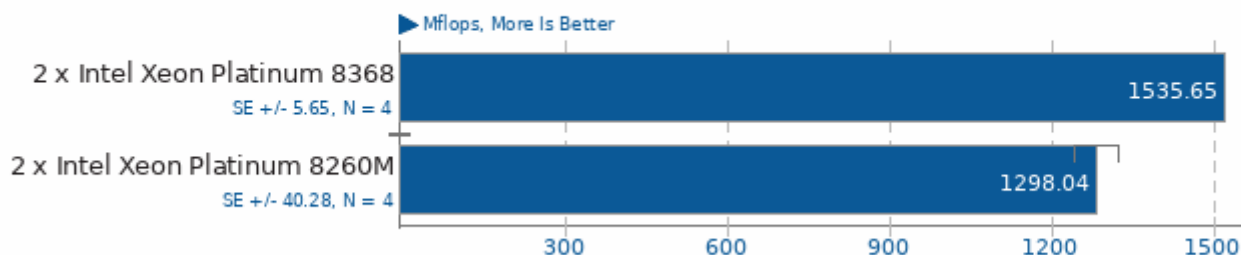
Java SciMark 2.0

Computational Test: Monte Carlo



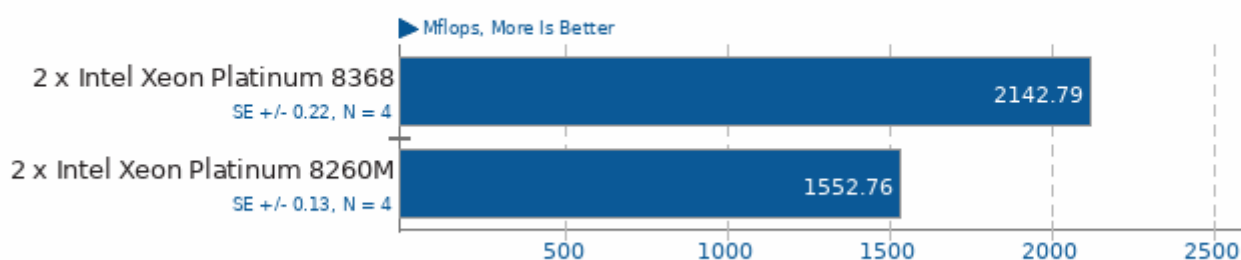
Java SciMark 2.0

Computational Test: Fast Fourier Transform



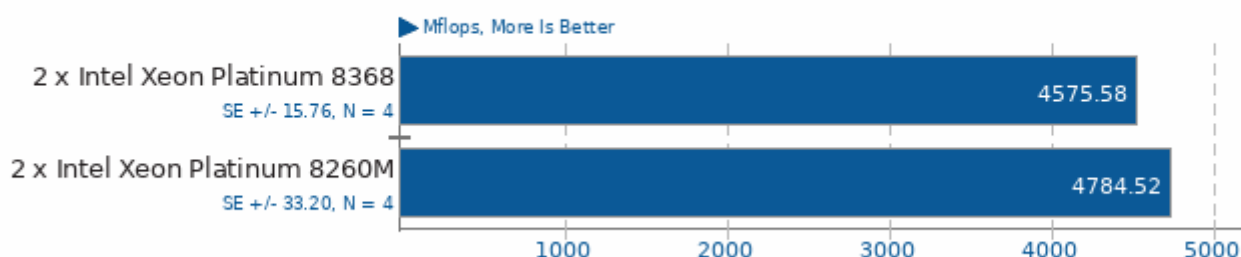
Java SciMark 2.0

Computational Test: Sparse Matrix Multiply



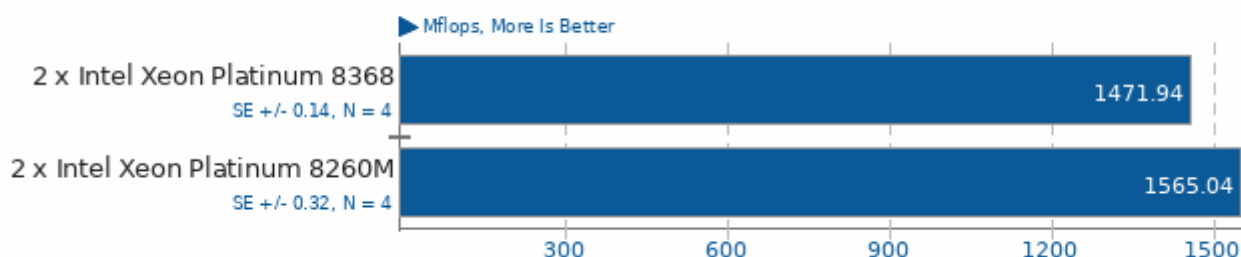
Java SciMark 2.0

Computational Test: Dense LU Matrix Factorization



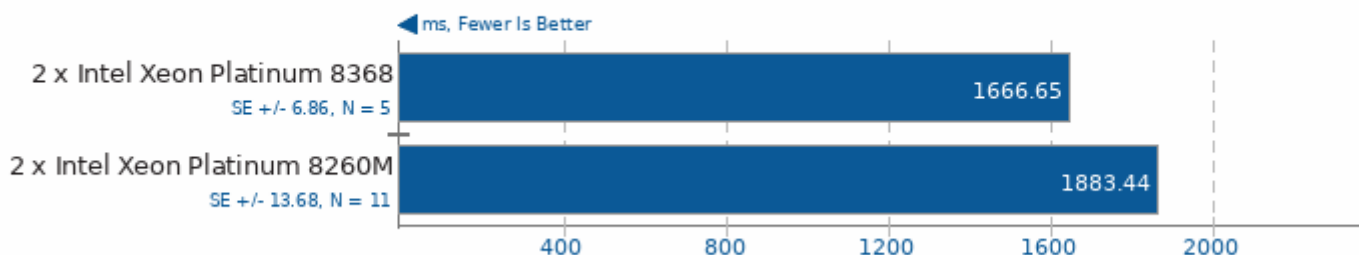
Java SciMark 2.0

Computational Test: Jacobi Successive Over-Relaxation



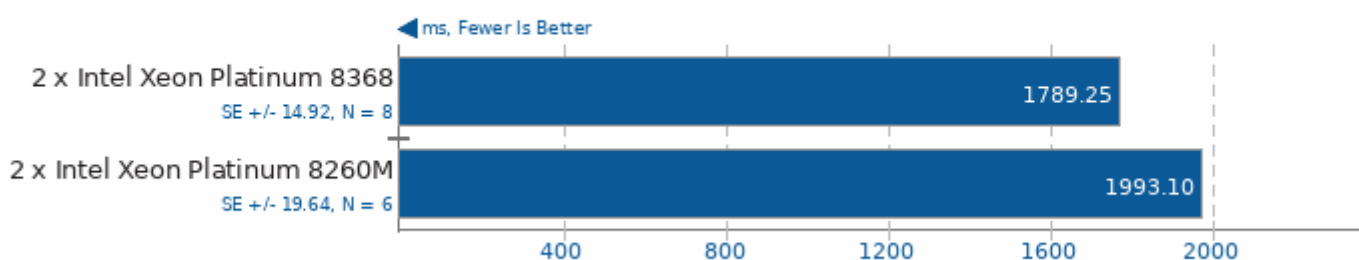
Renaissance 0.10.0

Test: Scala Dotty



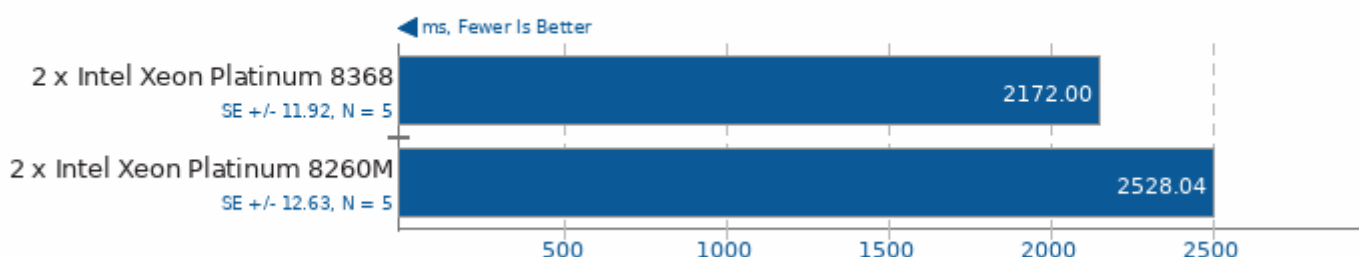
Renaissance 0.10.0

Test: Random Forest



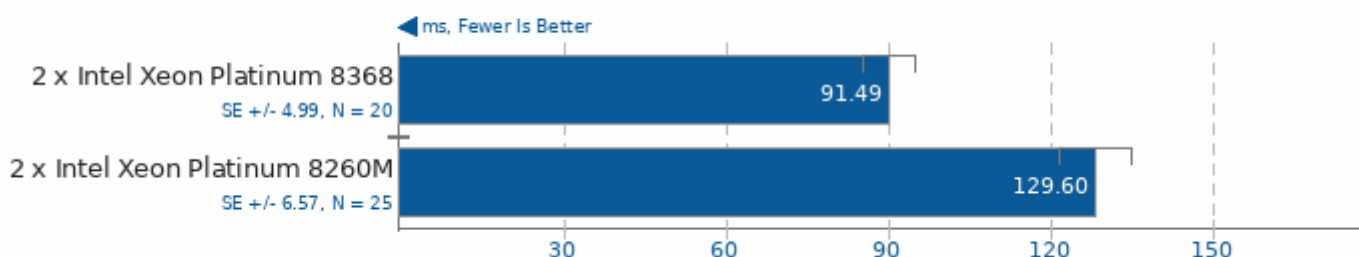
Renaissance 0.10.0

Test: Apache Spark ALS



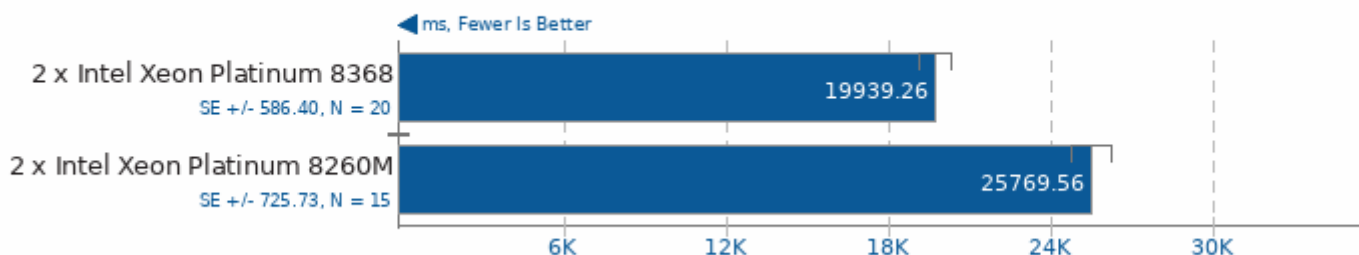
Renaissance 0.10.0

Test: Apache Spark Bayes



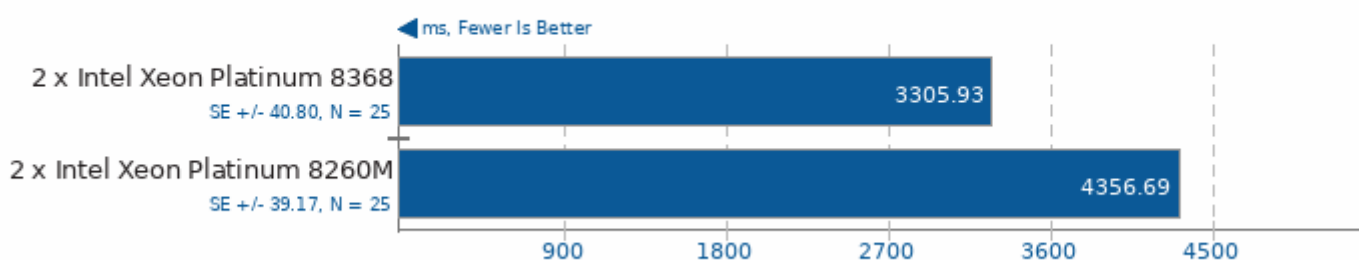
Renaissance 0.10.0

Test: Savina Reactors.IO



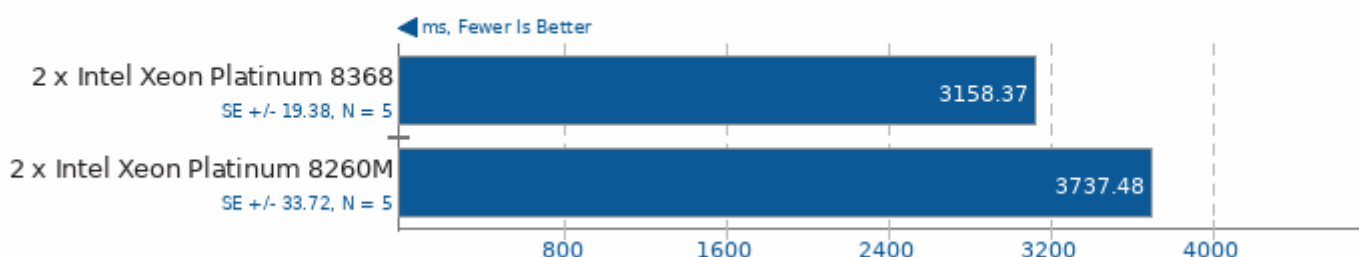
Renaissance 0.10.0

Test: Apache Spark PageRank



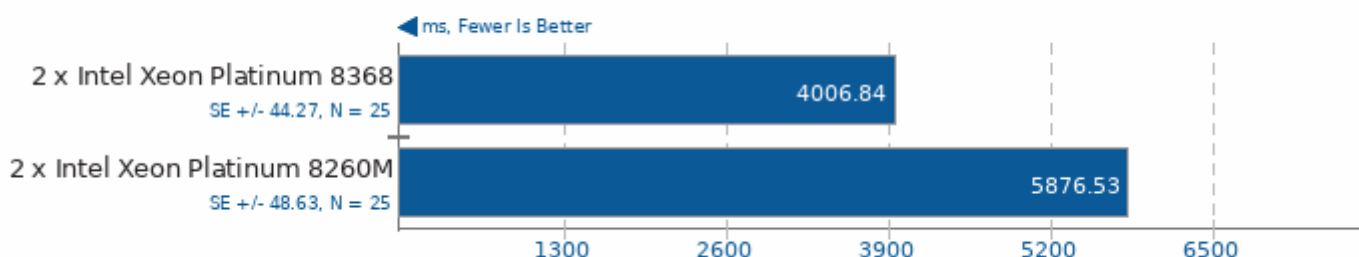
Renaissance 0.10.0

Test: Twitter HTTP Requests



Renaissance 0.10.0

Test: In-Memory Database Shootout



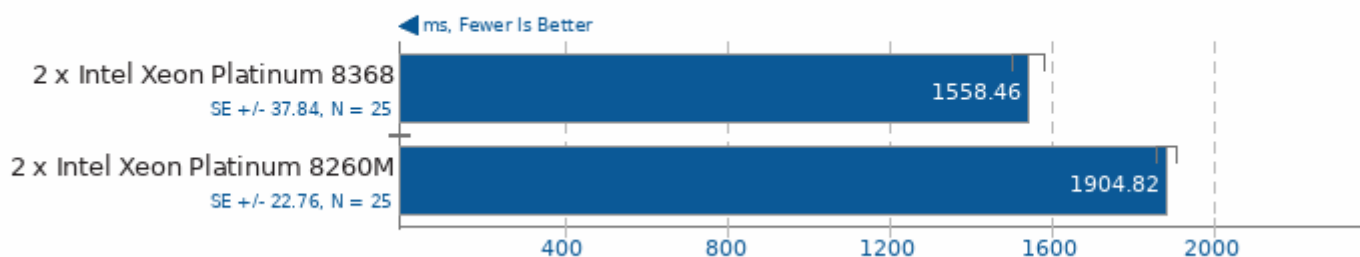
Renaissance 0.10.0

Test: Akka Unbalanced Cobwebbed Tree



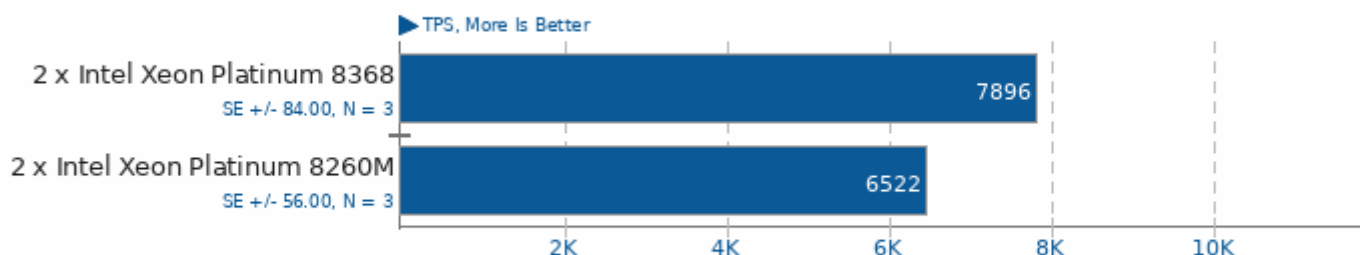
Renaissance 0.10.0

Test: Genetic Algorithm Using Jenetics + Futures



PostMark 1.51

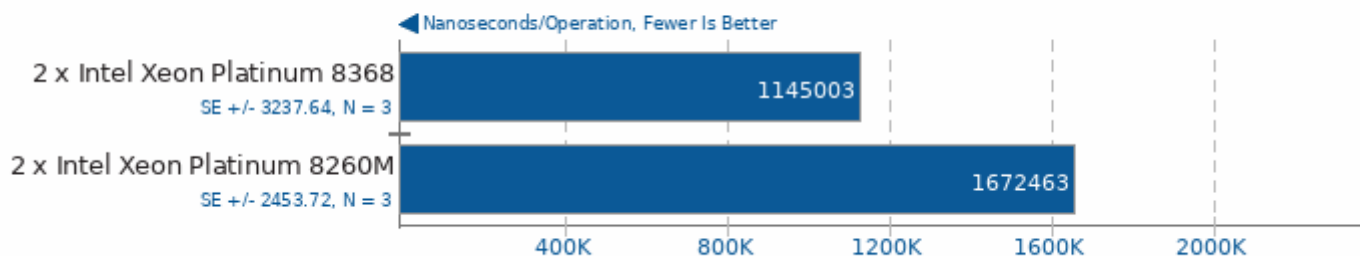
Disk Transaction Performance



1. (CC) gcc options: -O3

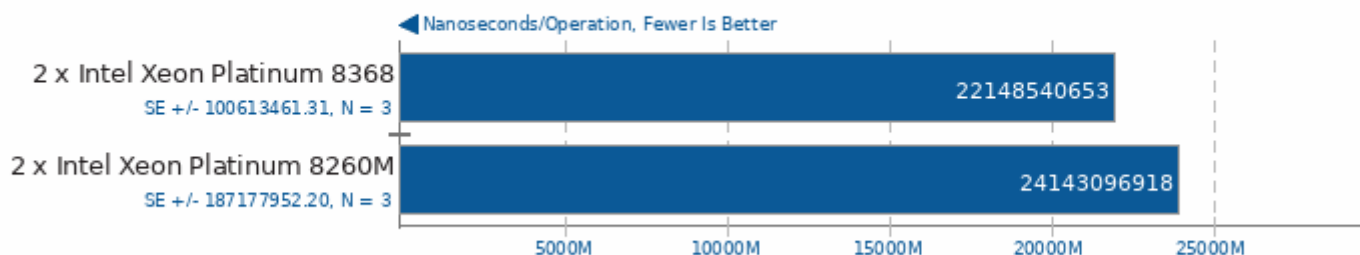
Go Benchmarks

Test: json



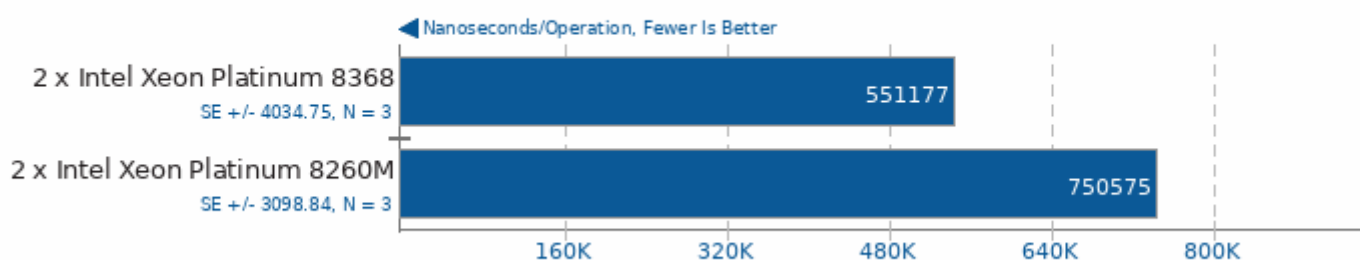
Go Benchmarks

Test: build



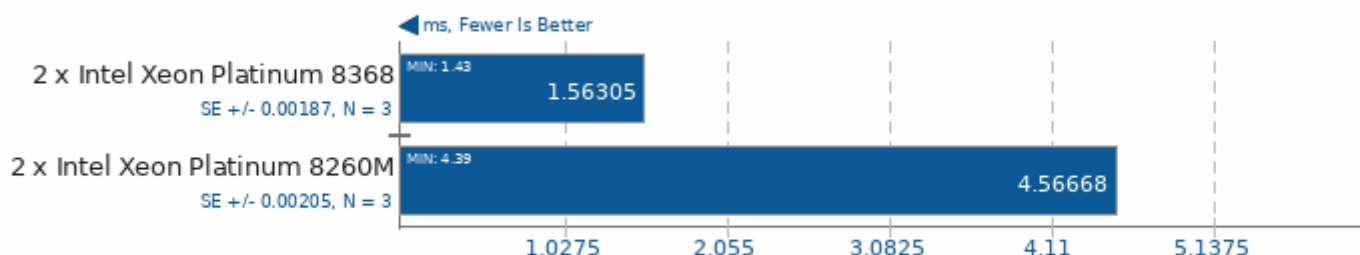
Go Benchmarks

Test: garbage



oneDNN 2.0

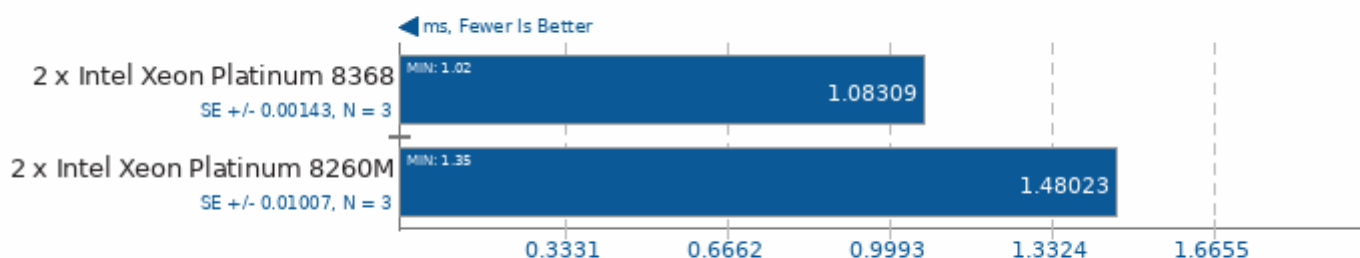
Harness: Convolution Batch Shapes Auto - Data Type: f32 - Engine: CPU



1. (CXX) g++ options: -O3 -std=c++11 -fopenmp -msse4.1 -fPIC -pie -lpthread

oneDNN 2.0

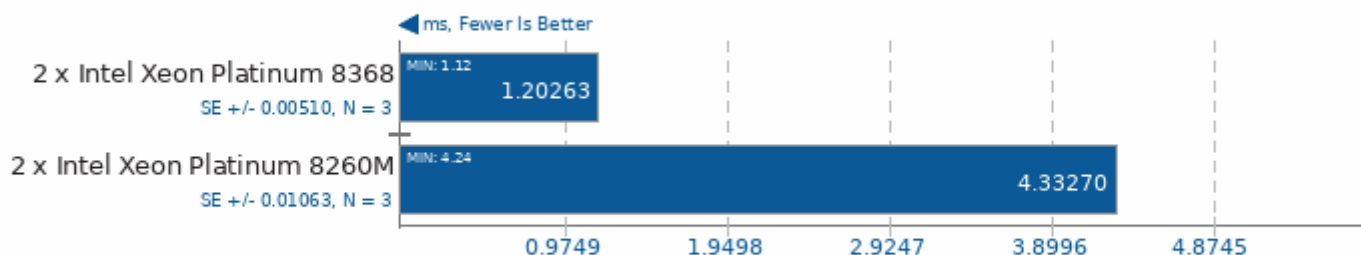
Harness: Deconvolution Batch shapes_1d - Data Type: f32 - Engine: CPU



1. (CXX) g++ options: -O3 -std=c++11 -fopenmp -msse4.1 -fPIC -pie -lpthread

oneDNN 2.0

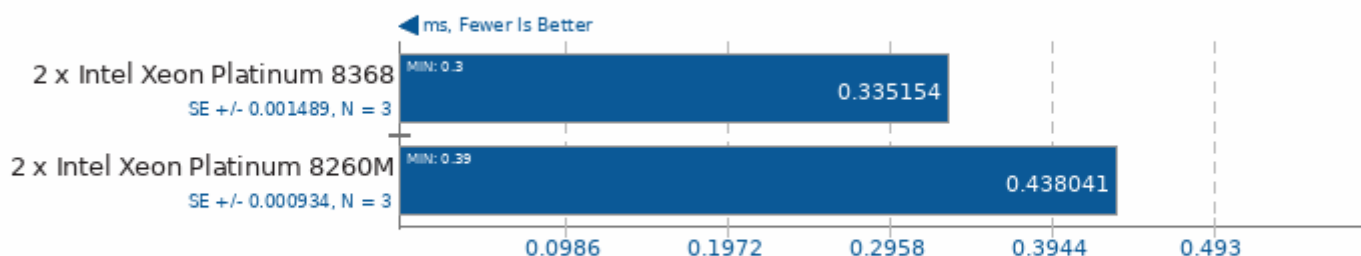
Harness: Convolution Batch Shapes Auto - Data Type: u8s8f32 - Engine: CPU



1. (CXX) g++ options: -O3 -std=c++11 -fopenmp -msse4.1 -fpic -pie -lpthread

oneDNN 2.0

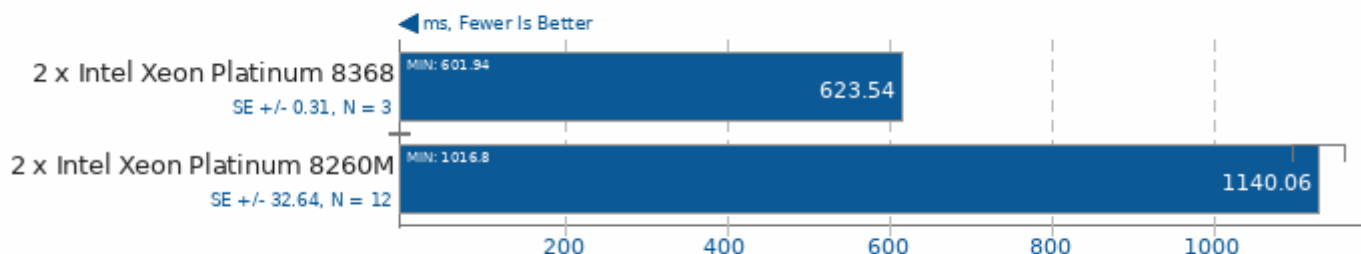
Harness: Deconvolution Batch shapes_1d - Data Type: u8s8f32 - Engine: CPU



1. (CXX) g++ options: -O3 -std=c++11 -fopenmp -msse4.1 -fpic -pie -lpthread

oneDNN 2.0

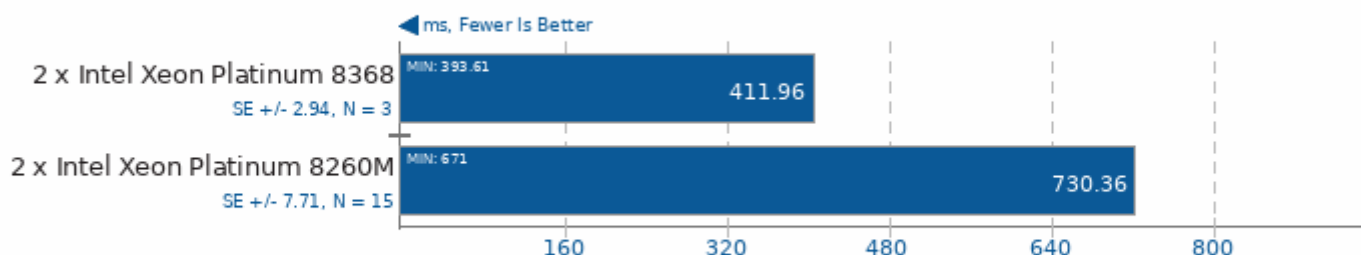
Harness: Recurrent Neural Network Training - Data Type: f32 - Engine: CPU



1. (CXX) g++ options: -O3 -std=c++11 -fopenmp -msse4.1 -fpic -pie -lpthread

oneDNN 2.0

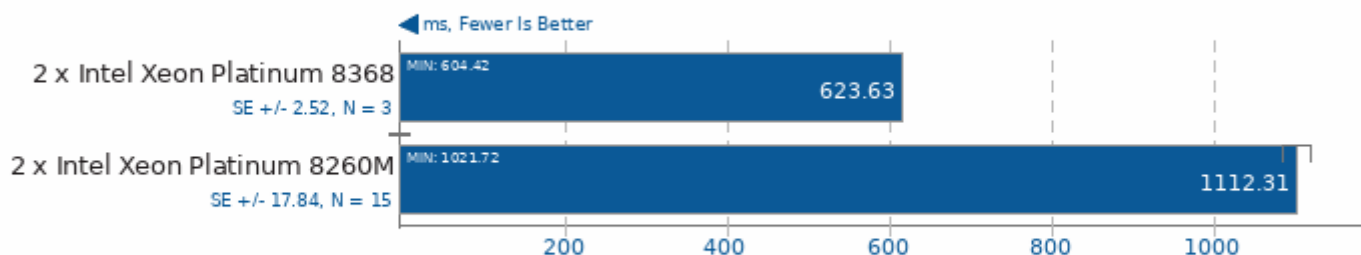
Harness: Recurrent Neural Network Inference - Data Type: f32 - Engine: CPU



1. (CXX) g++ options: -O3 -std=c++11 -fopenmp -msse4.1 -fpic -pie -lpthread

oneDNN 2.0

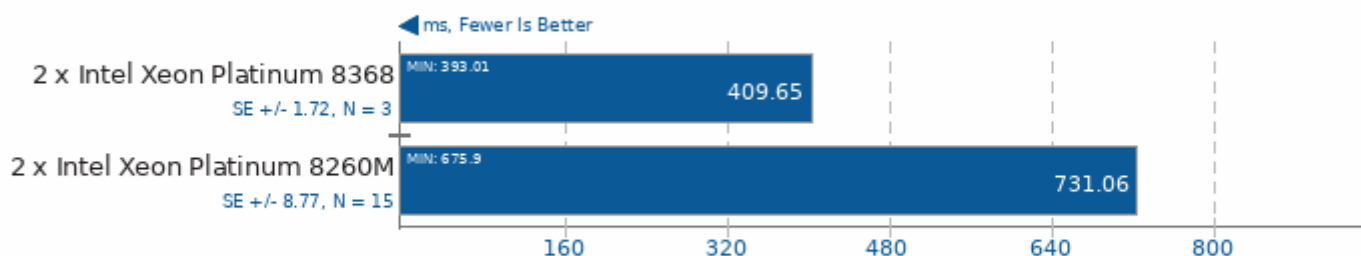
Harness: Recurrent Neural Network Training - Data Type: u8s8f32 - Engine: CPU



1. (CXX) g++ options: -O3 -std=c++11 -fopenmp -msse4.1 -fPIC -pie -lpthread

oneDNN 2.0

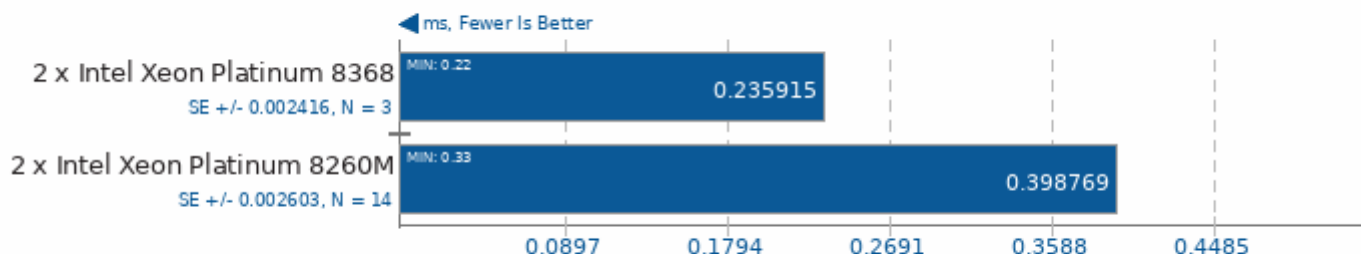
Harness: Recurrent Neural Network Inference - Data Type: u8s8f32 - Engine: CPU



1. (CXX) g++ options: -O3 -std=c++11 -fopenmp -msse4.1 -fPIC -pie -lpthread

oneDNN 2.0

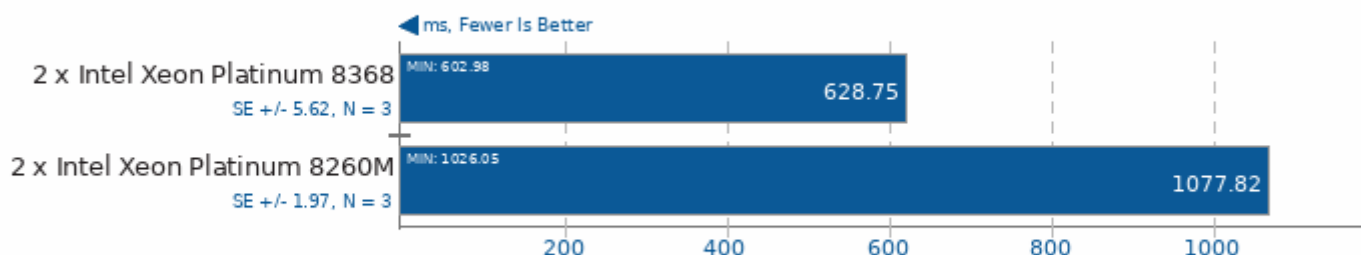
Harness: Matrix Multiply Batch Shapes Transformer - Data Type: f32 - Engine: CPU



1. (CXX) g++ options: -O3 -std=c++11 -fopenmp -msse4.1 -fPIC -pie -lpthread

oneDNN 2.0

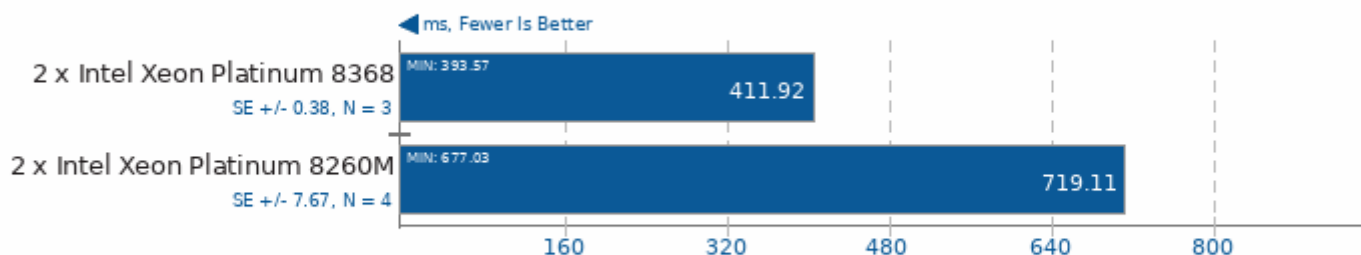
Harness: Recurrent Neural Network Training - Data Type: bf16bf16bf16 - Engine: CPU



1. (CXX) g++ options: -O3 -std=c++11 -fopenmp -msse4.1 -fPIC -pie -lpthread

oneDNN 2.0

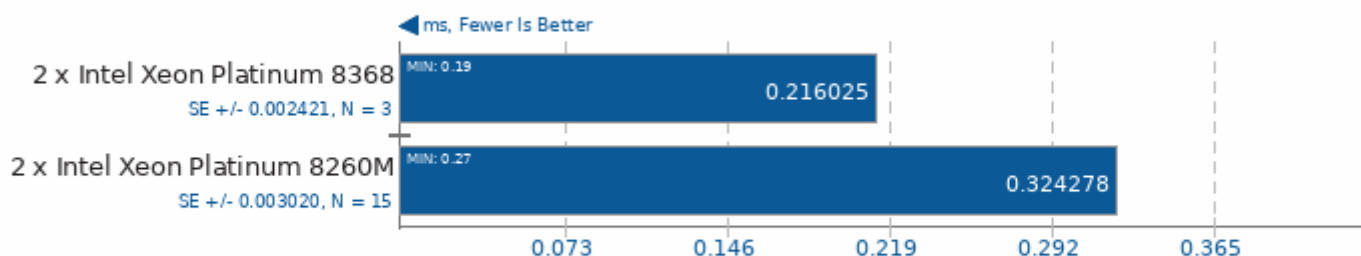
Harness: Recurrent Neural Network Inference - Data Type: bf16bf16bf16 - Engine: CPU



1. (CXX) g++ options: -O3 -std=c++11 -fopenmp -mssse4.1 -fPIC -pie -lpthread

oneDNN 2.0

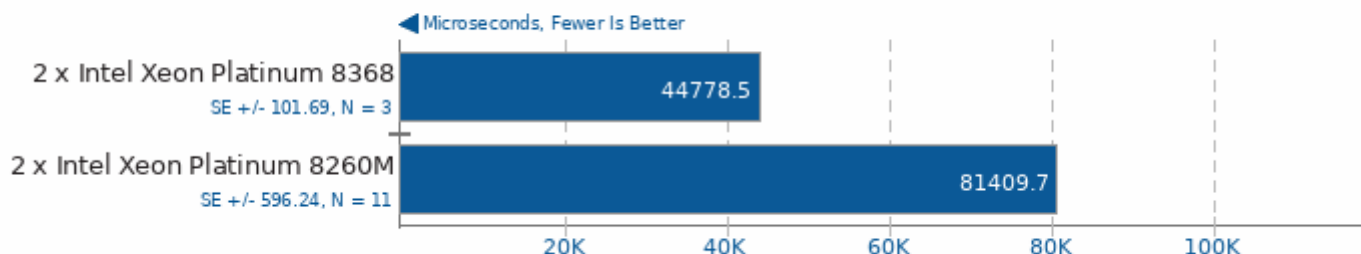
Harness: Matrix Multiply Batch Shapes Transformer - Data Type: u8s8f32 - Engine: CPU



1. (CXX) g++ options: -O3 -std=c++11 -fopenmp -mssse4.1 -fPIC -pie -lpthread

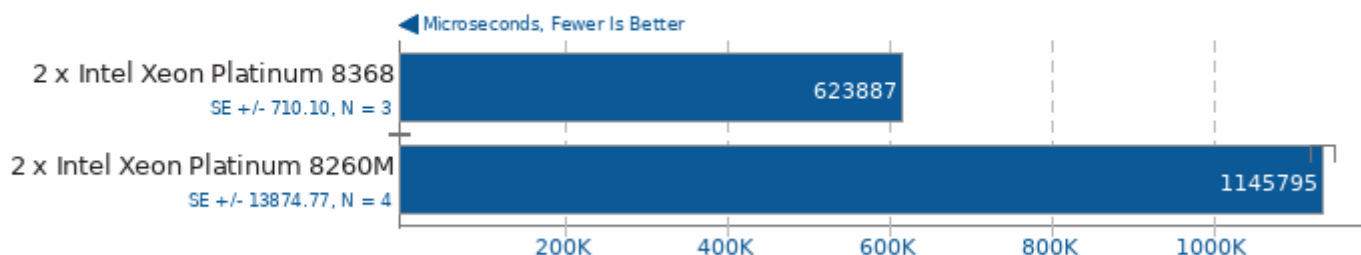
TensorFlow Lite 2020-08-23

Model: SqueezeNet



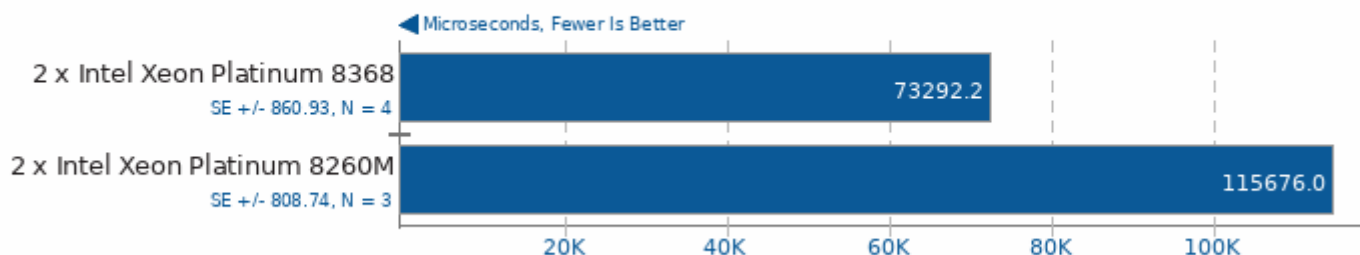
TensorFlow Lite 2020-08-23

Model: Inception V4



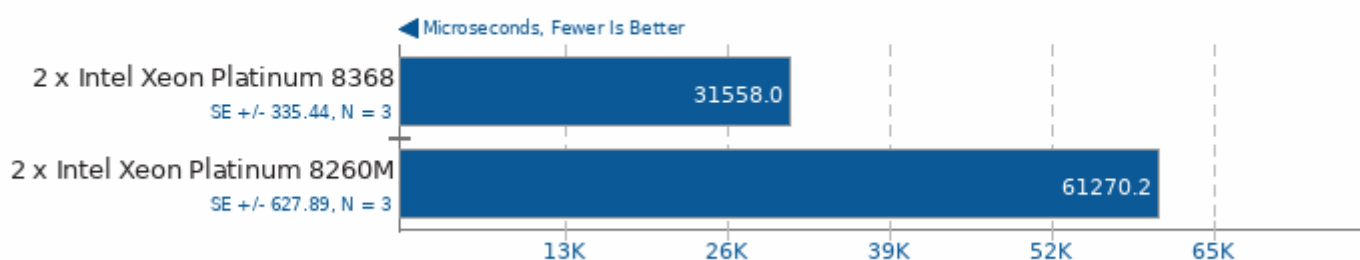
TensorFlow Lite 2020-08-23

Model: NASNet Mobile



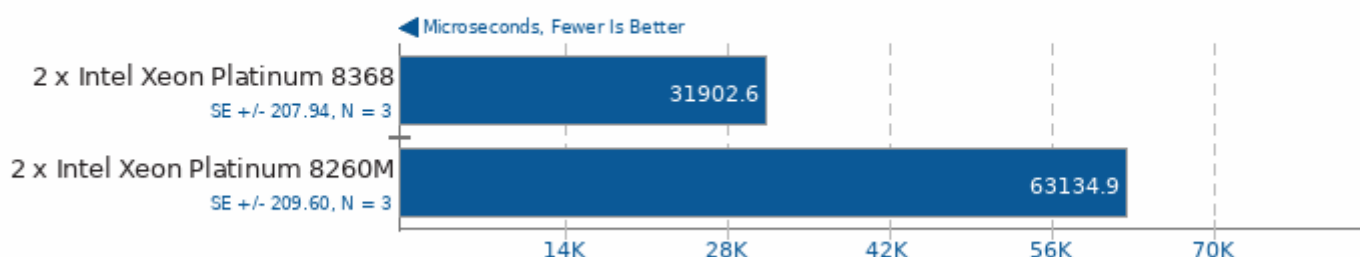
TensorFlow Lite 2020-08-23

Model: Mobilenet Float



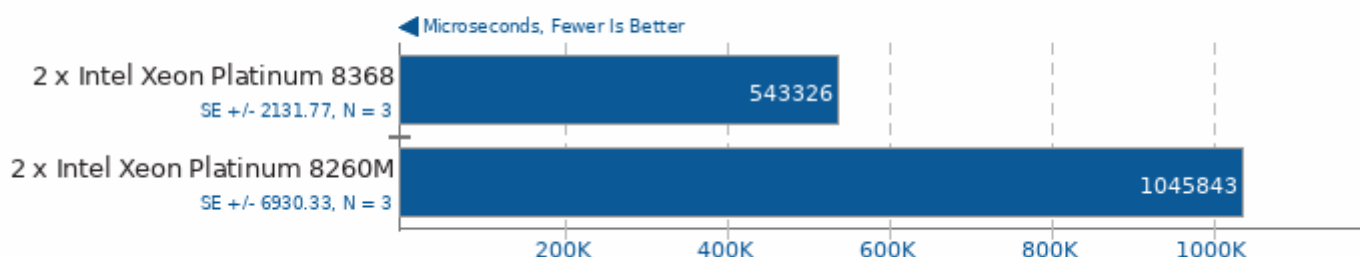
TensorFlow Lite 2020-08-23

Model: Mobilenet Quant



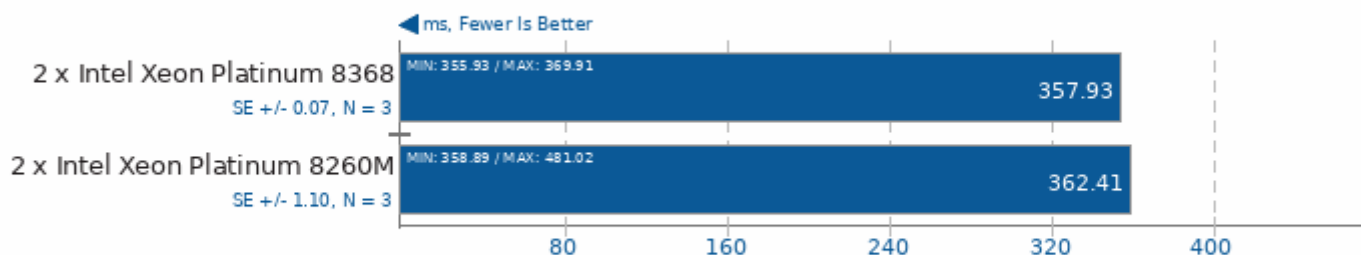
TensorFlow Lite 2020-08-23

Model: Inception ResNet V2



TNN 0.2.3

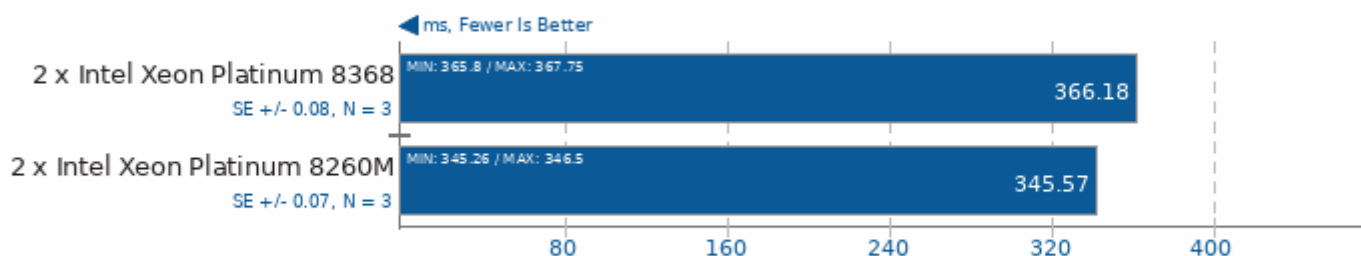
Target: CPU - Model: MobileNet v2



1. (CXX) g++ options: -fopenmp -pthread -fvisibility=hidden -O3 -rdynamic -ldl

TNN 0.2.3

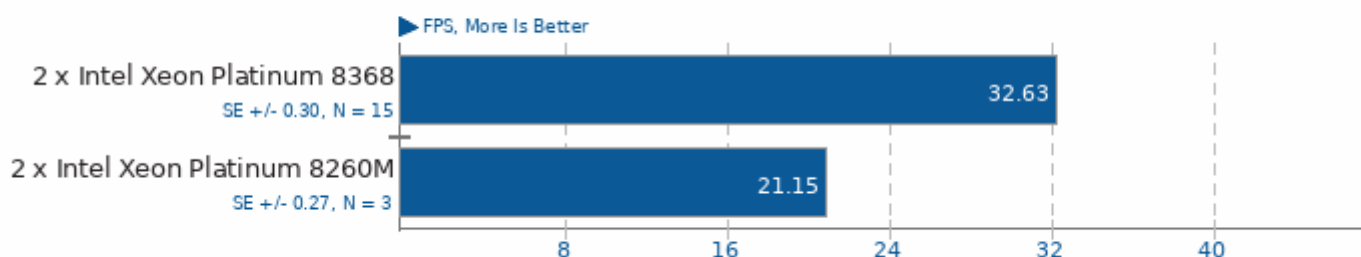
Target: CPU - Model: SqueezeNet v1.1



1. (CXX) g++ options: -fopenmp -pthread -fvisibility=hidden -O3 -rdynamic -ldl

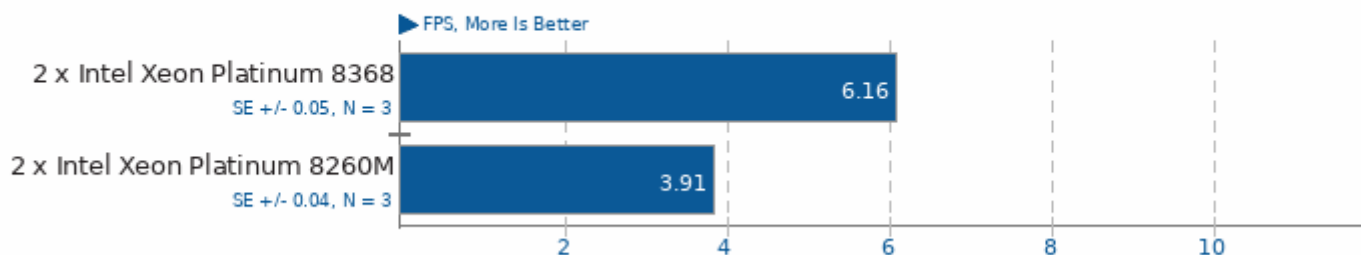
PlaidML

FP16: No - Mode: Inference - Network: VGG19 - Device: CPU



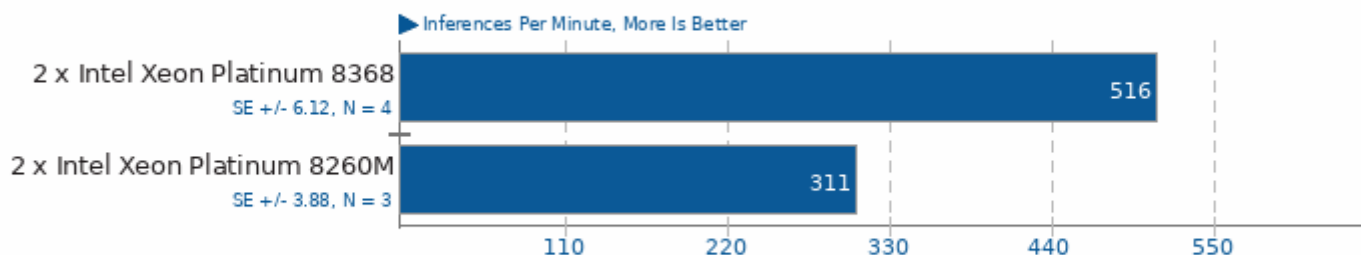
PlaidML

FP16: No - Mode: Inference - Network: ResNet 50 - Device: CPU



ONNX Runtime 1.6

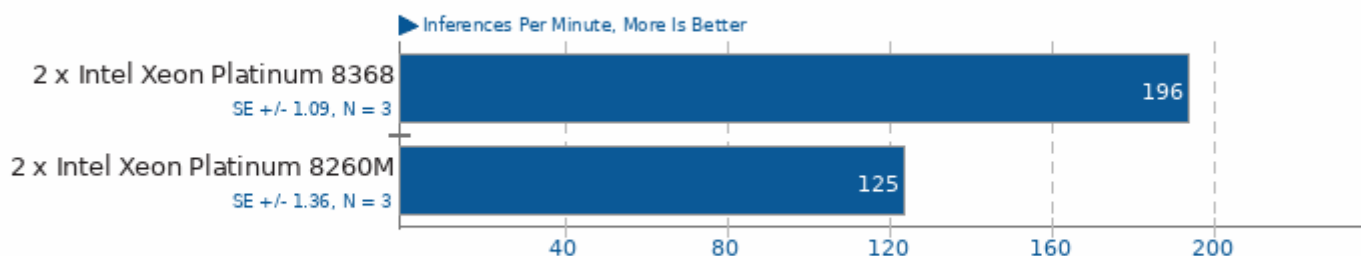
Model: yolov4 - Device: OpenMP CPU



1. (CXX) g++ options: -fopenmp -ffunction-sections -fdata-sections -O3 -ldl -lrt

ONNX Runtime 1.6

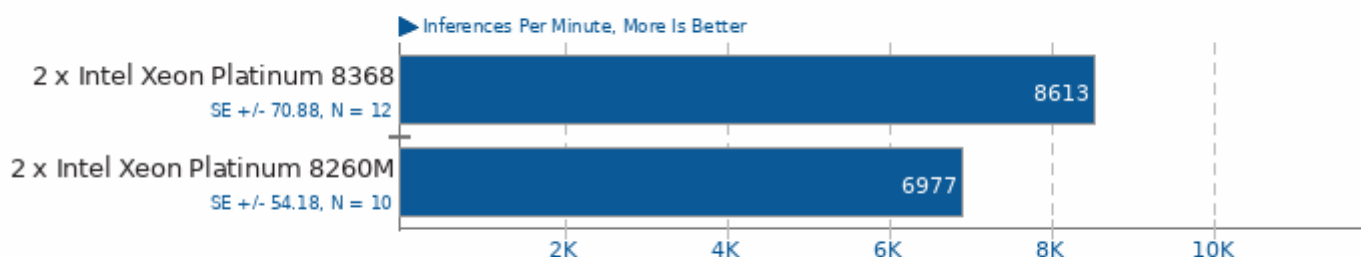
Model: fc-resnet101-11 - Device: OpenMP CPU



1. (CXX) g++ options: -fopenmp -ffunction-sections -fdata-sections -O3 -ldl -lrt

ONNX Runtime 1.6

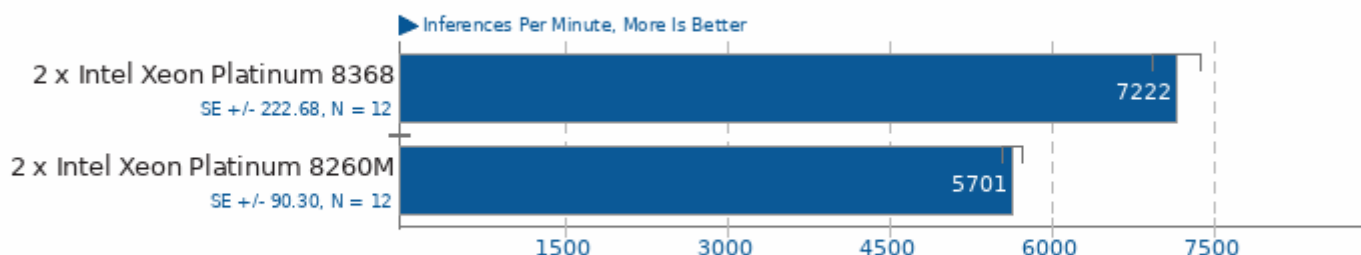
Model: shufflenet-v2-10 - Device: OpenMP CPU



1. (CXX) g++ options: -fopenmp -ffunction-sections -fdata-sections -O3 -ldl -lrt

ONNX Runtime 1.6

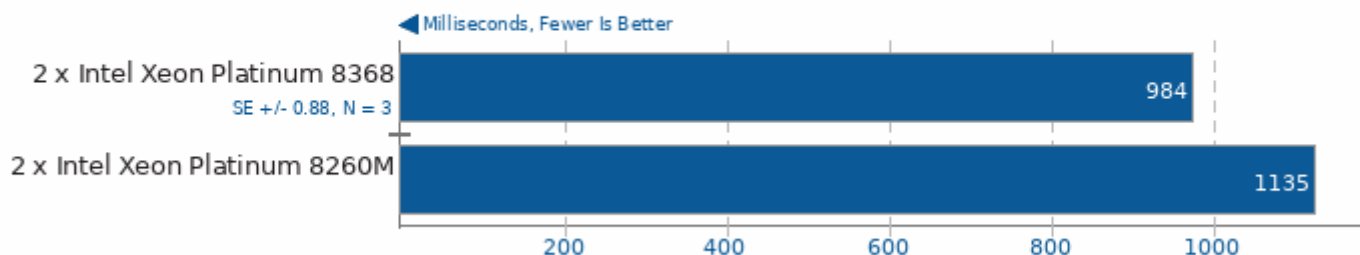
Model: super-resolution-10 - Device: OpenMP CPU



1. (CXX) g++ options: -fopenmp -ffunction-sections -fdata-sections -O3 -ldl -lrt

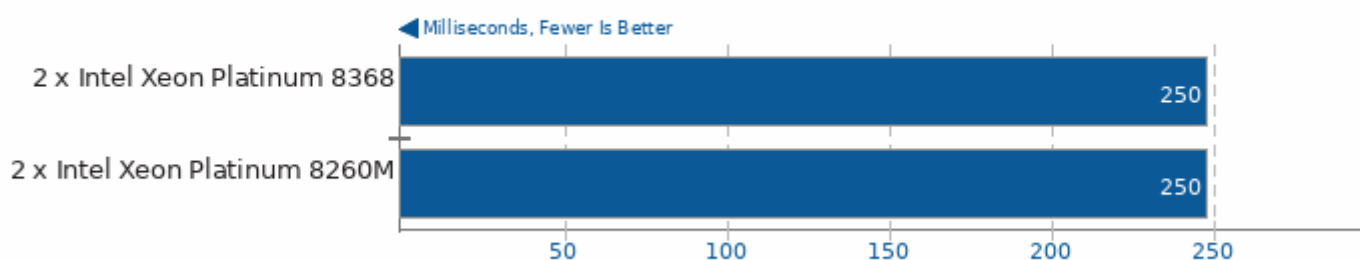
PyBench 2018-02-16

Total For Average Test Times



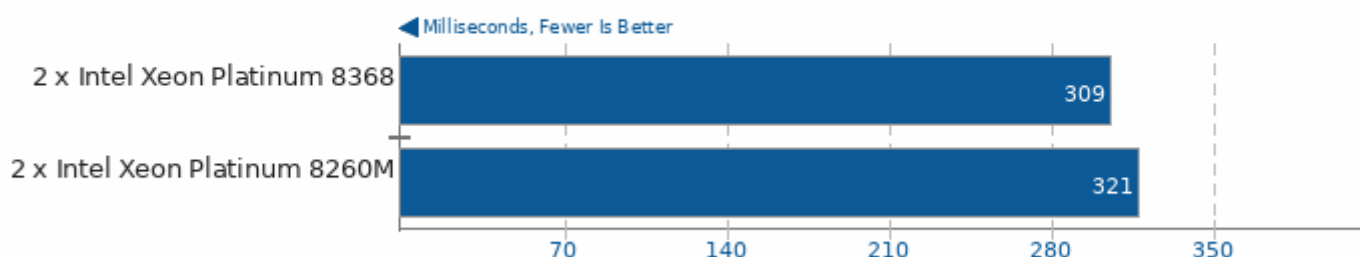
PyPerformance 1.0.0

Benchmark: go



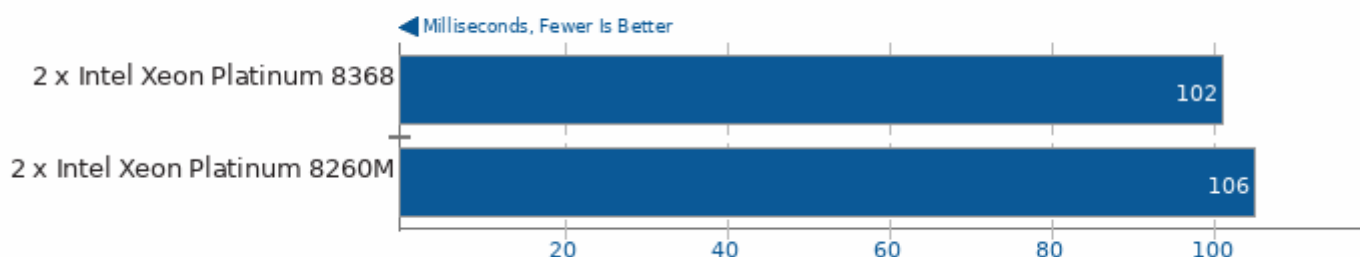
PyPerformance 1.0.0

Benchmark: 2to3



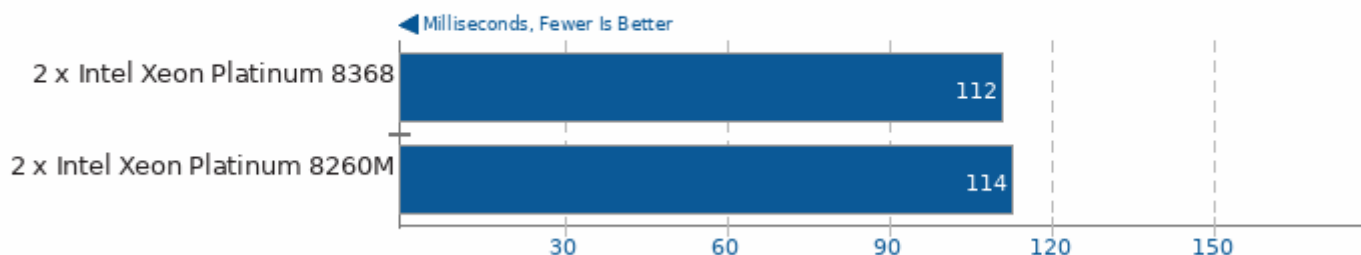
PyPerformance 1.0.0

Benchmark: chaos



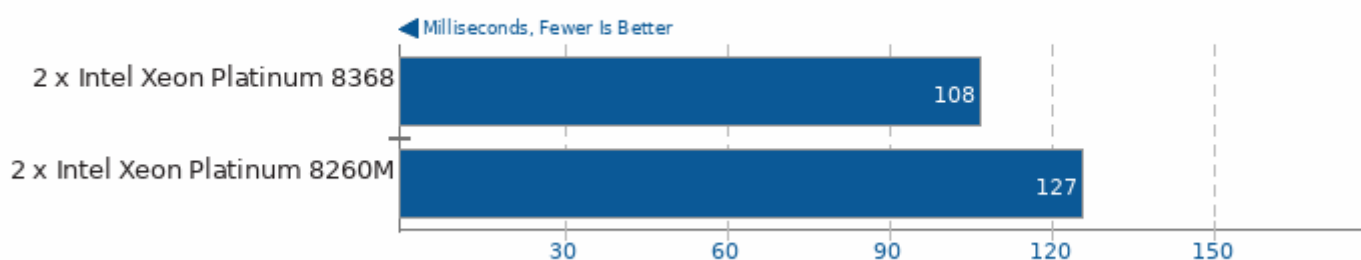
PyPerformance 1.0.0

Benchmark: float



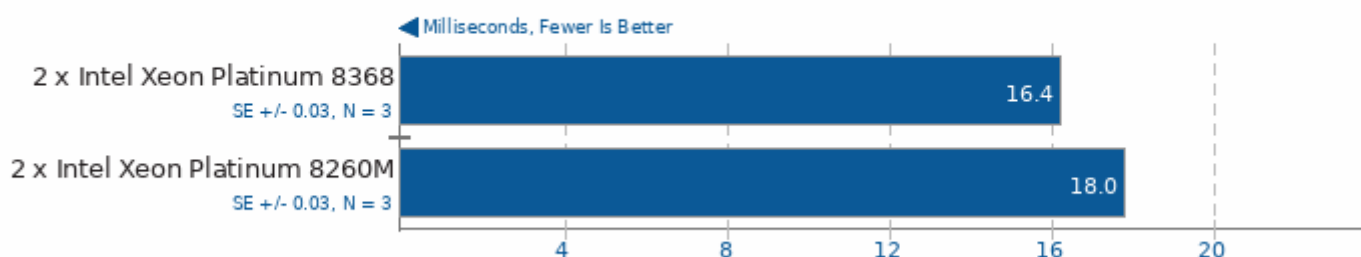
PyPerformance 1.0.0

Benchmark: nbody



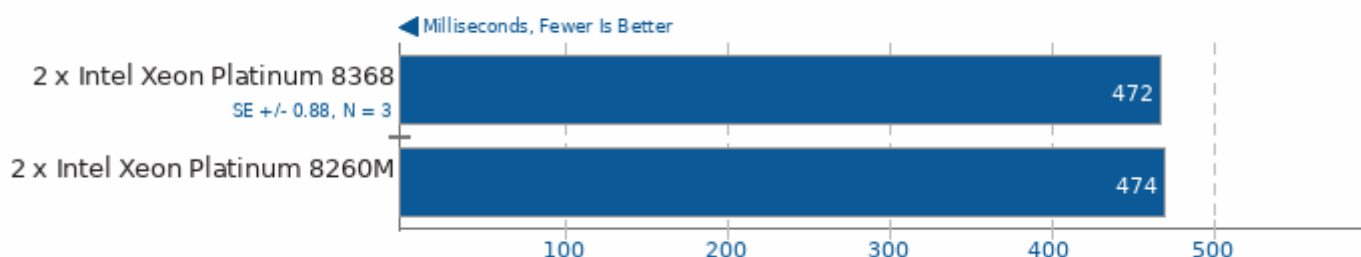
PyPerformance 1.0.0

Benchmark: pathlib



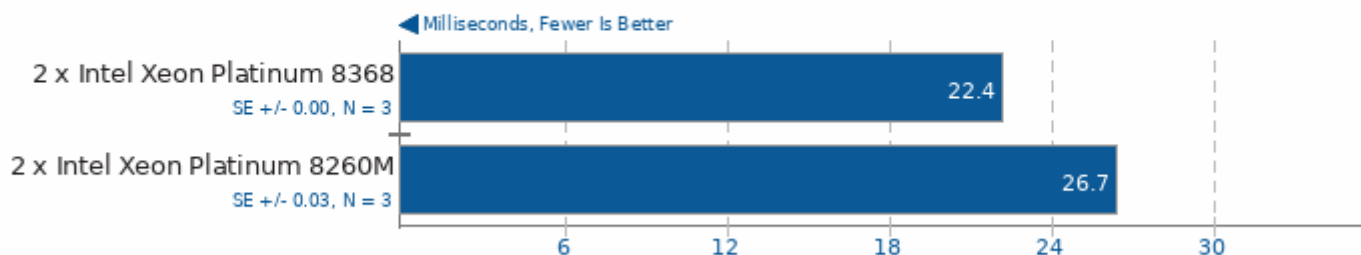
PyPerformance 1.0.0

Benchmark: raytrace



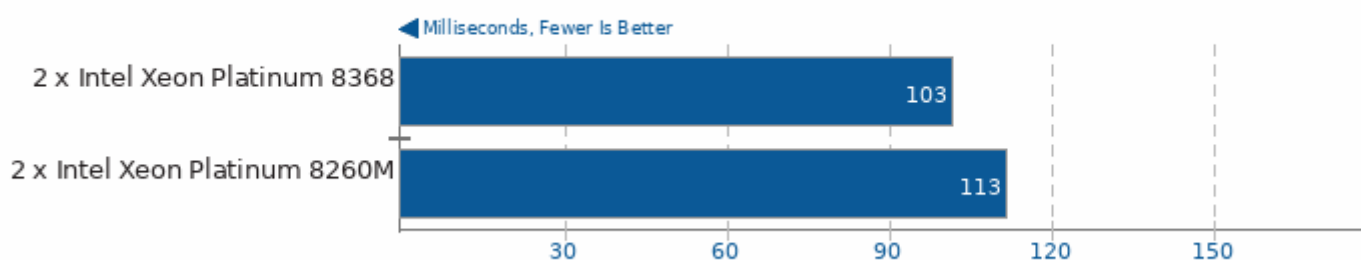
PyPerformance 1.0.0

Benchmark: json_loads



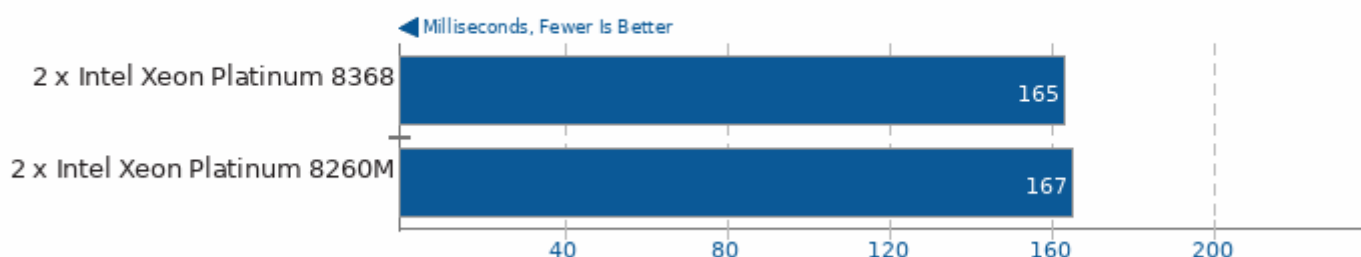
PyPerformance 1.0.0

Benchmark: crypto_pyaes



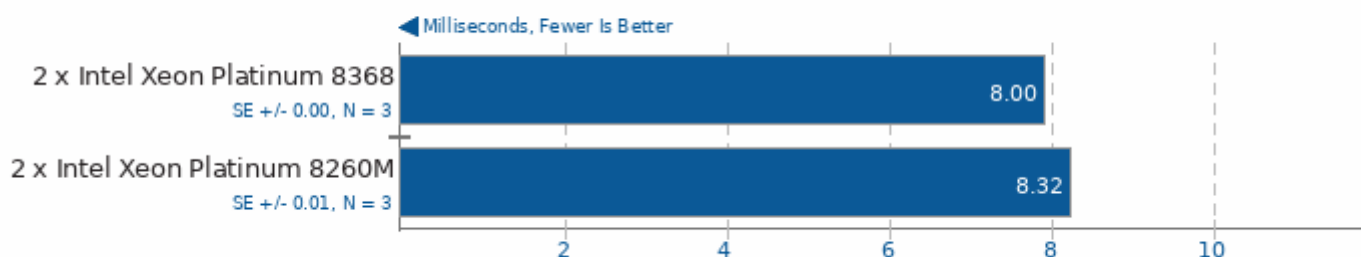
PyPerformance 1.0.0

Benchmark: regex_compile



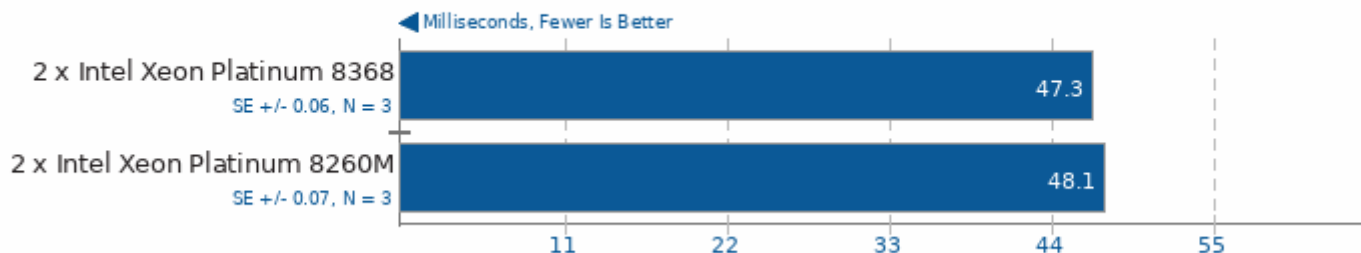
PyPerformance 1.0.0

Benchmark: python_startup



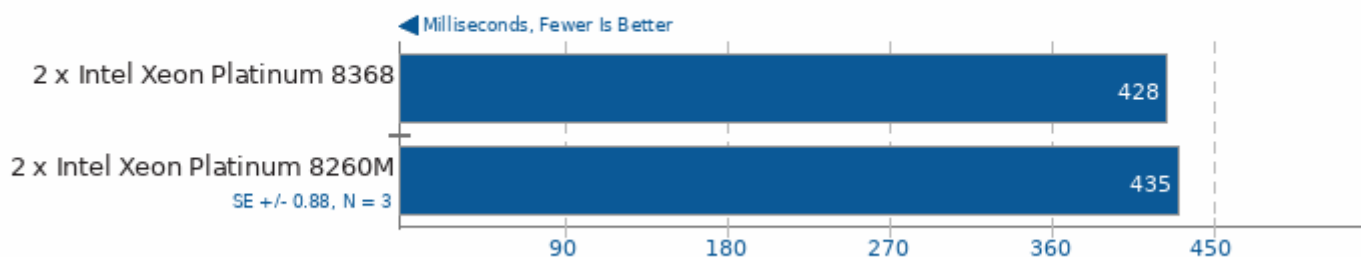
PyPerformance 1.0.0

Benchmark: django_template



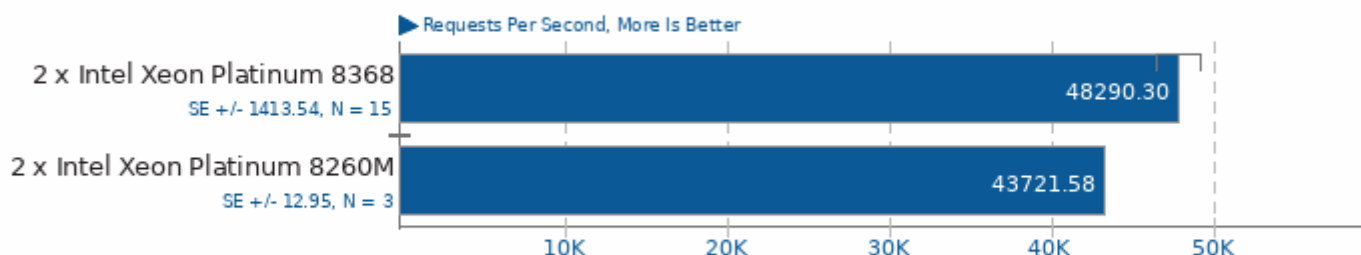
PyPerformance 1.0.0

Benchmark: pickle_pure_python



NGINX Benchmark 1.9.9

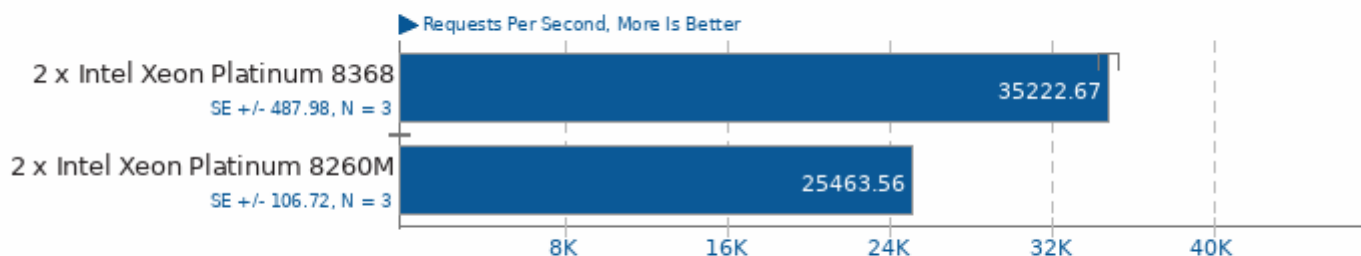
Static Web Page Serving



1. (CC) gcc options: -lpthread -lcrypt -lcrypto -lz -O3 -march=native

Apache Benchmark 2.4.29

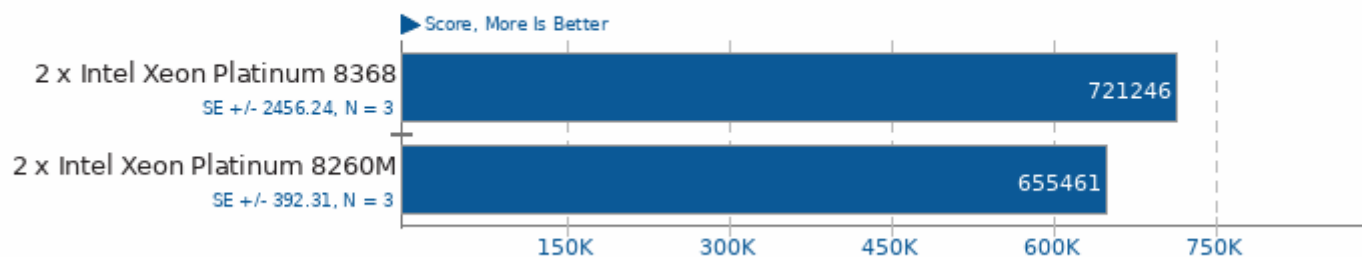
Static Web Page Serving



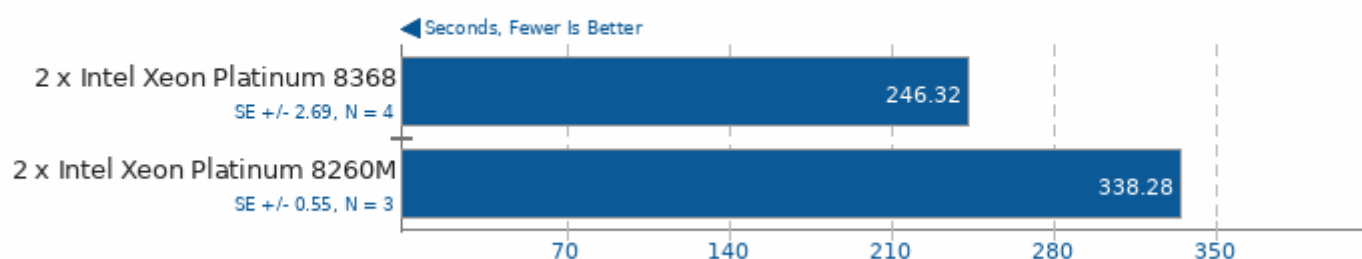
1. (CC) gcc options: -shared -fPIC -O2 -pthread

PHPBench 0.8.1

PHP Benchmark Suite



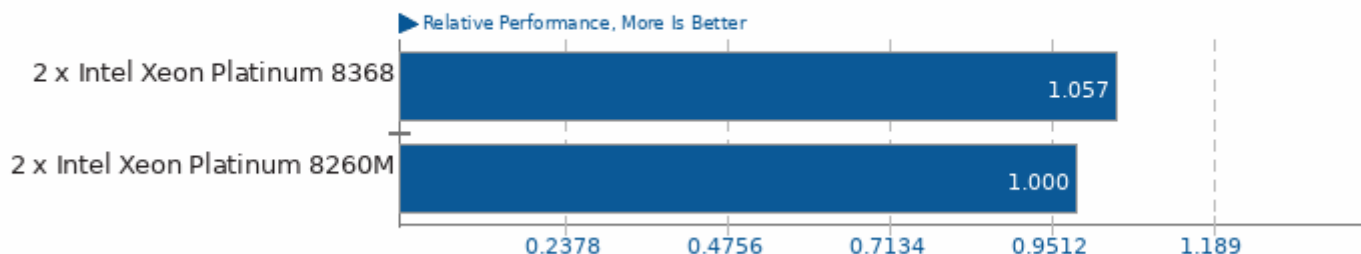
WireGuard + Linux Networking Stack Stress Test



These geometric means are based upon test groupings / test suites for this result file.

Geometric Mean Of Audio Encoding Tests

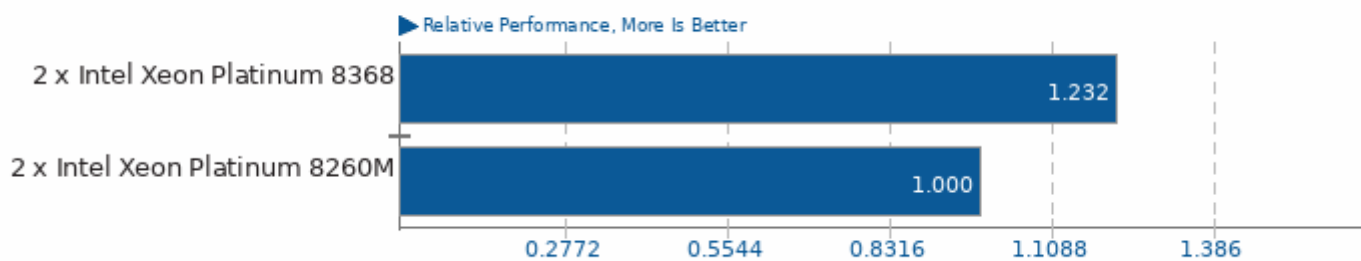
Result Composite



Geometric mean based upon tests: pts/encode-mp3 and pts/encode-flac

Geometric Mean Of Bioinformatics Tests

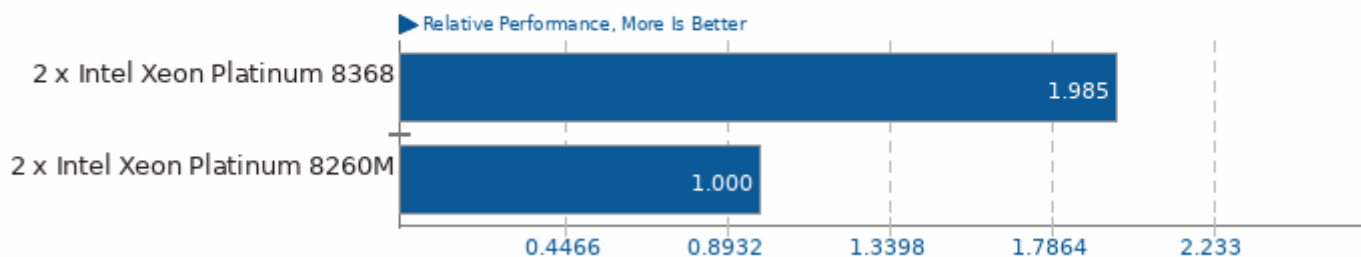
Result Composite



Geometric mean based upon tests: pts/himeno and pts/mafft

Geometric Mean Of C++ Boost Tests

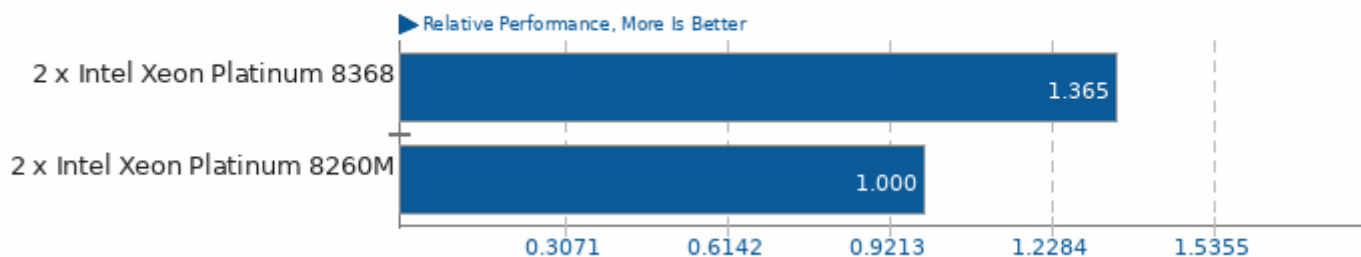
Result Composite



Geometric mean based upon tests: pts/openfoam and pts/povray

Geometric Mean Of Timed Code Compilation Tests

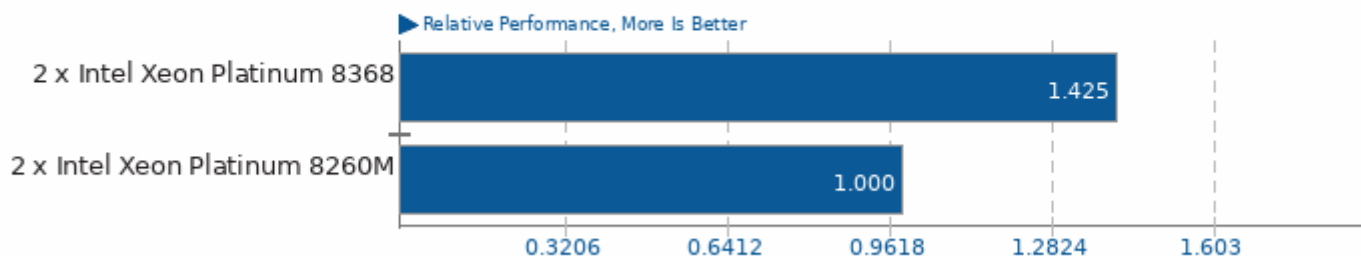
Result Composite



Geometric mean based upon tests: pts/build-linux-kernel, pts/build-gcc and pts/build-llvm

Geometric Mean Of Compression Tests

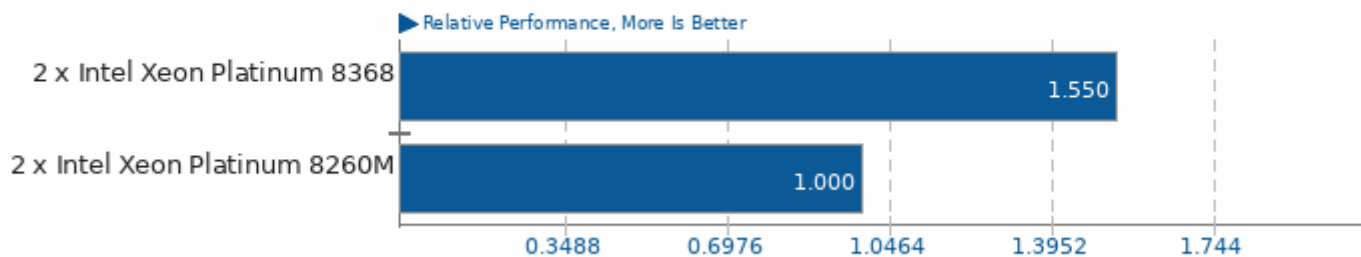
Result Composite



Geometric mean based upon tests: pts/compress-7zip, pts/compress-gzip and pts/compress-zstd

Geometric Mean Of CPU / Processor Suite Tests

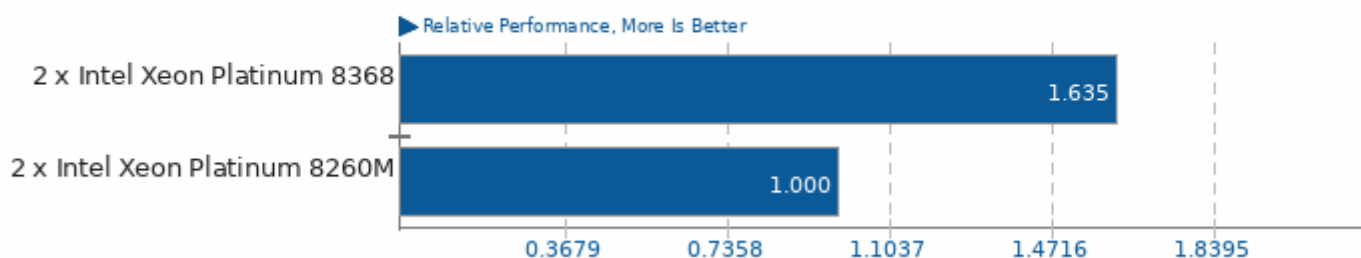
Result Composite



Geometric mean based upon tests: pts/rodinia, pts/namd, pts/x264, pts/x265, pts/compress-7zip, pts/blender, pts/build-linux-kernel, pts/build-gcc, pts/openssl, pts/ctx-clock, pts/sysbench and pts/povray

Geometric Mean Of Creator Workloads Tests

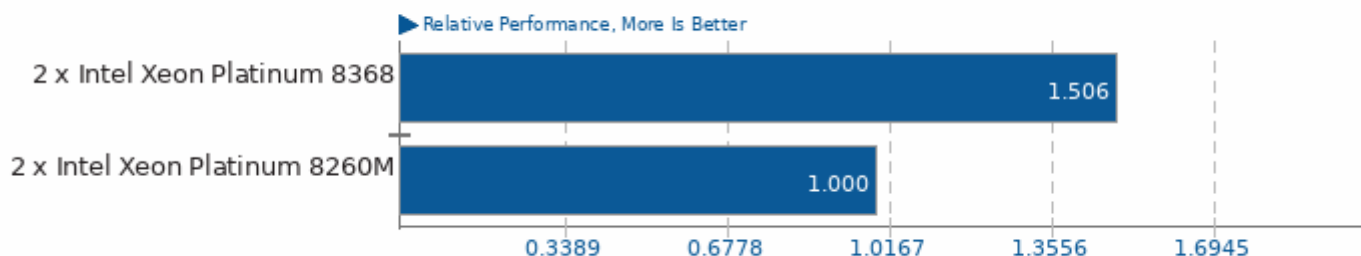
Result Composite



Geometric mean based upon tests: pts/ospray, pts/c-ray, pts/povray, pts/blender, pts/svt-vp9, pts/x264, pts/x265, pts/kvazaar, pts/dav1d, pts/encode-mp3, pts/encode-flac, pts/onednn and pts/ngspice

Geometric Mean Of Cryptography Tests

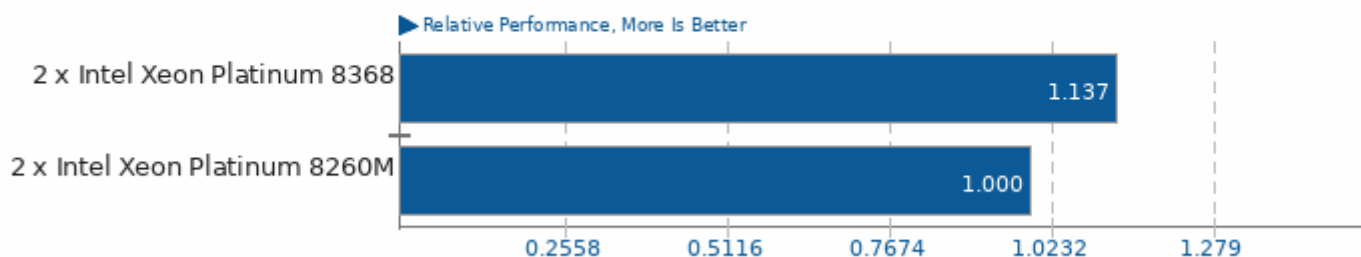
Result Composite



Geometric mean based upon tests: pts/gnupg, pts/openssl and pts/john-the-ripper

Geometric Mean Of Database Test Suite

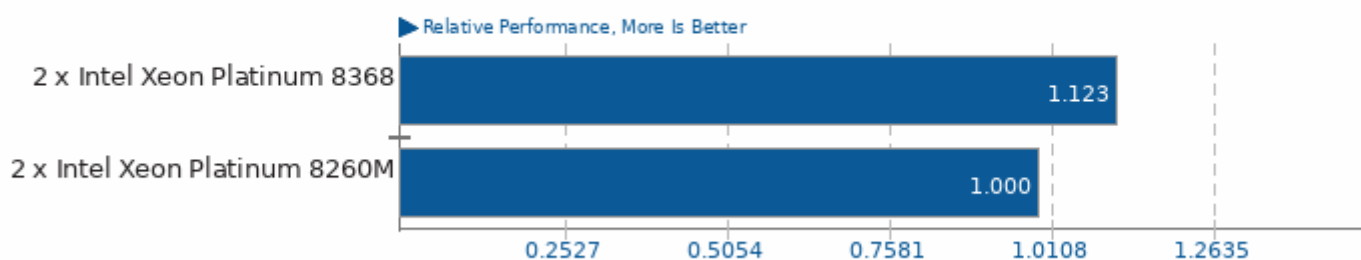
Result Composite



Geometric mean based upon tests: pts/sqlite-speedtest, pts/redis, pts/cassandra, pts/pgbench and pts/mysqslap

Geometric Mean Of Electronic Design Tests

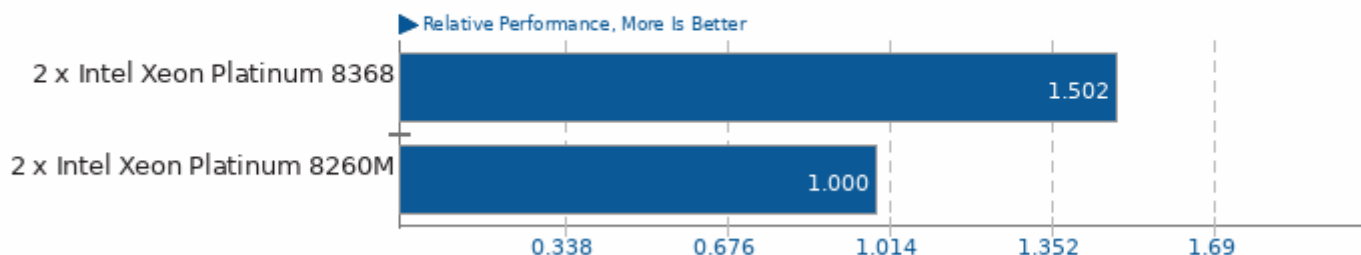
Result Composite



Geometric mean based upon tests: pts/ngspice

Geometric Mean Of Fortran Tests

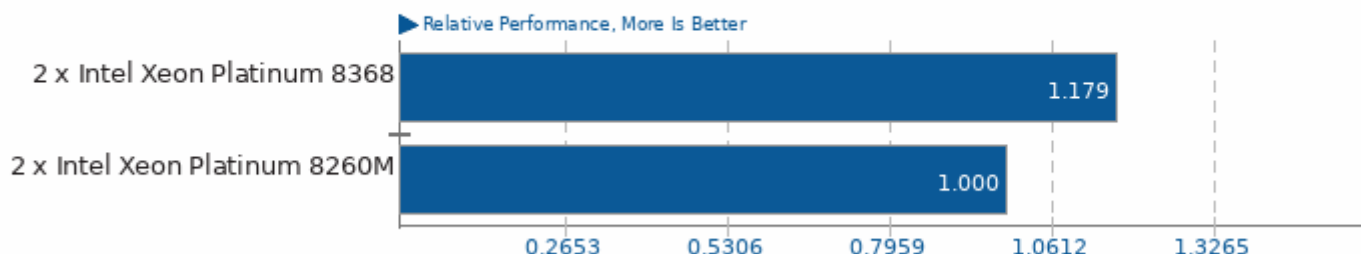
Result Composite



Geometric mean based upon tests: pts/lammps, pts/npb, pts/dolfyn, pts/neat and pts/qe

Geometric Mean Of Java Tests

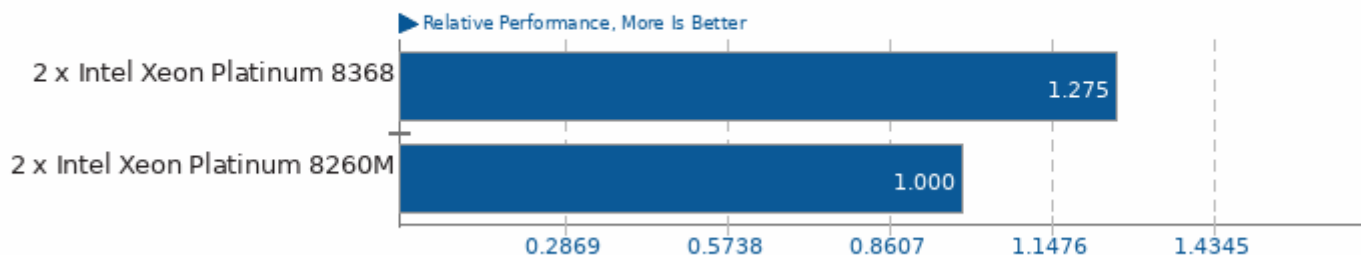
Result Composite



Geometric mean based upon tests: pts/java-scimark2 and pts/renaissance

Geometric Mean Of Common Kernel Benchmarks Tests

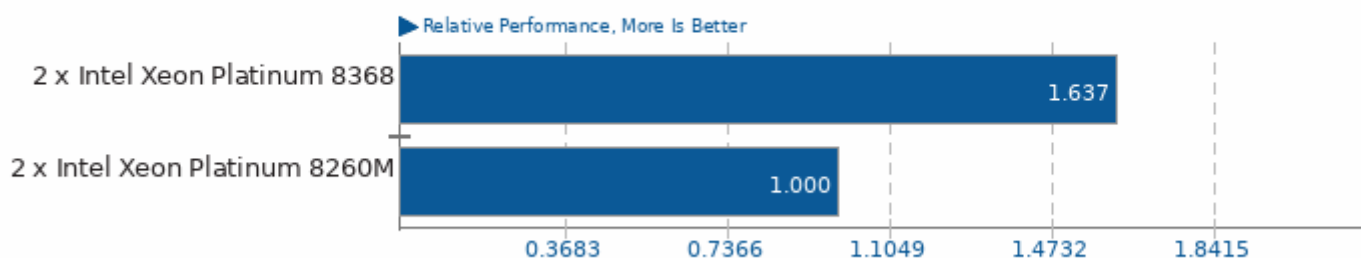
Result Composite



Geometric mean based upon tests: pts/apache, system/wireguard, pts/postmark, pts/sqlite-speedtest, pts/pgbench, pts/openssl, pts/ctx-clock and pts/osbench

Geometric Mean Of Machine Learning Tests

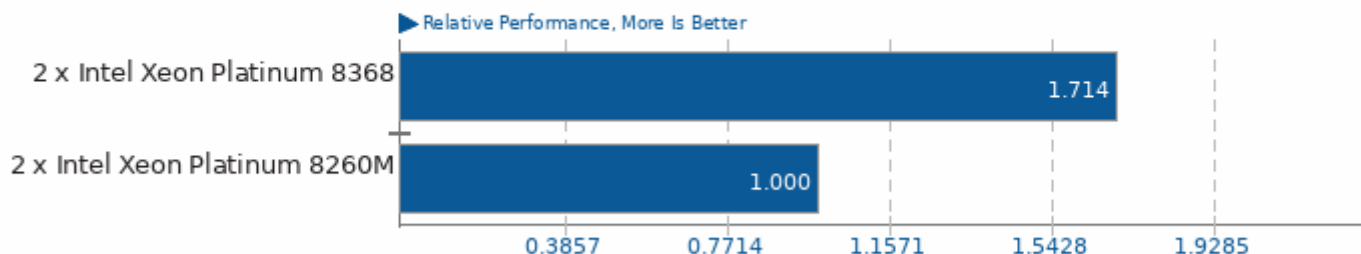
Result Composite



Geometric mean based upon tests: pts/tnn, pts/numpy, pts/tensorflow-lite, pts/onednn, pts/onnx and pts/plaidml

Geometric Mean Of Molecular Dynamics Tests

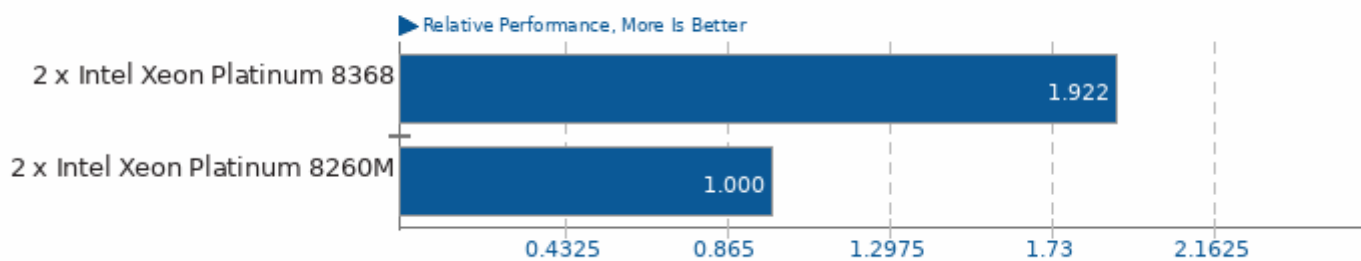
Result Composite



Geometric mean based upon tests: pts/namd, pts/dolfin, pts/lammps, pts/pennant and pts/openfoam

Geometric Mean Of MPI Benchmarks Tests

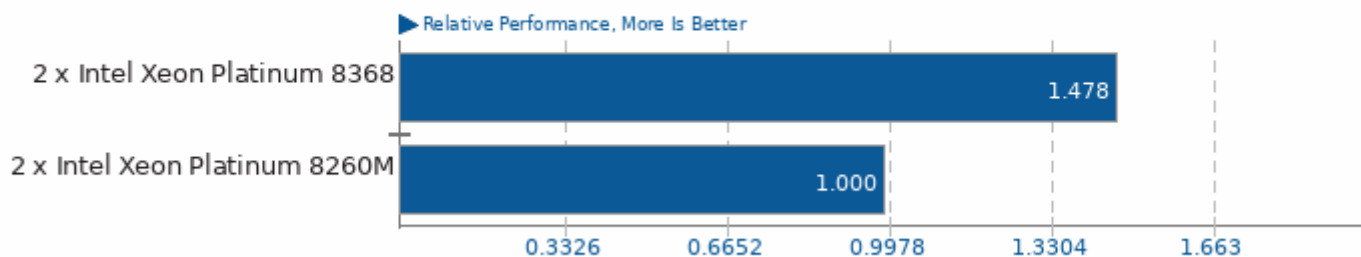
Result Composite



Geometric mean based upon tests: pts/lammps, pts/pennant and pts/npb

Geometric Mean Of NVIDIA GPU Compute Tests

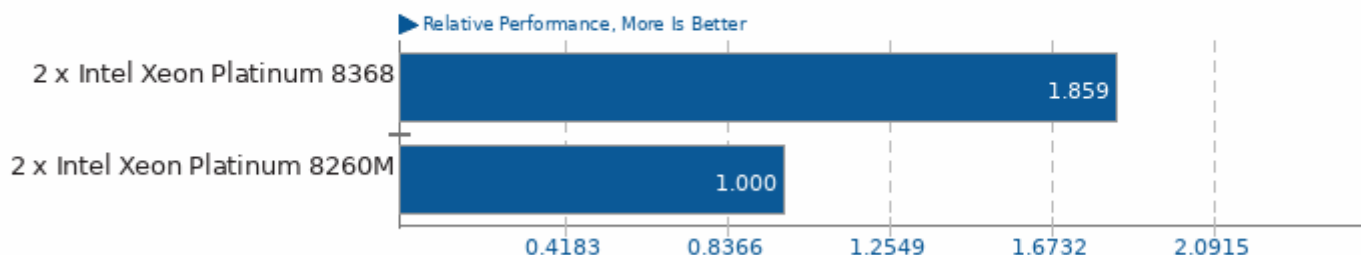
Result Composite



Geometric mean based upon tests: pts/rodinia, pts/financebench, pts/plaidml and pts/blender

Geometric Mean Of Intel oneAPI Tests

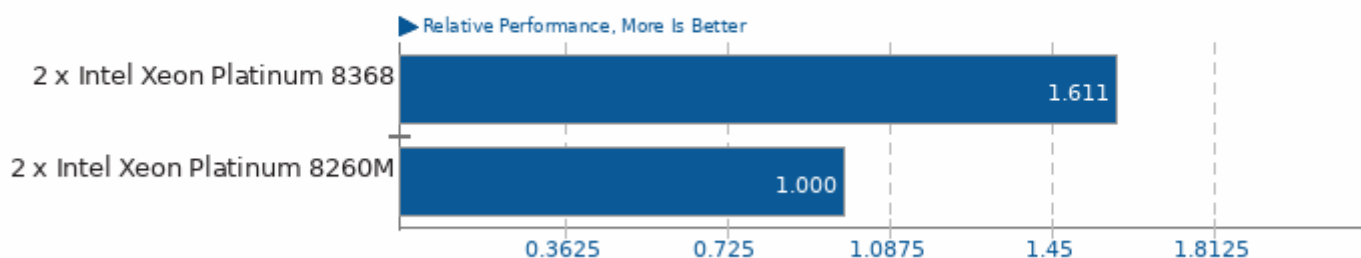
Result Composite



Geometric mean based upon tests: pts/onednn and pts/ospray

Geometric Mean Of OpenCL Tests

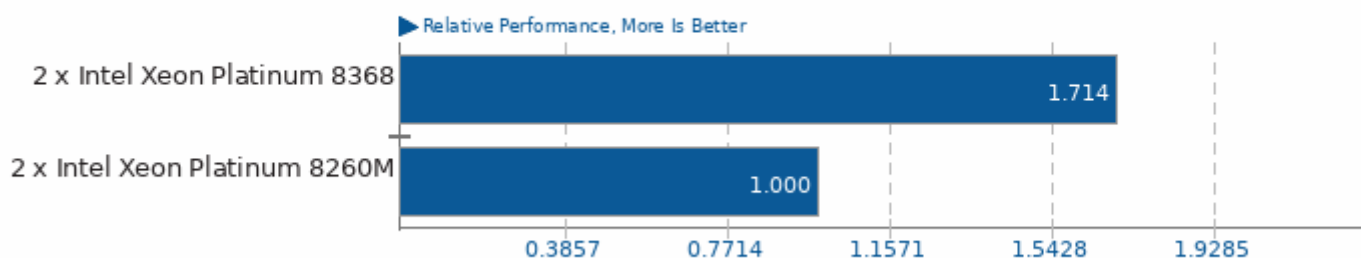
Result Composite



Geometric mean based upon tests: pts/rodinia and pts/blender

Geometric Mean Of OpenMPI Tests

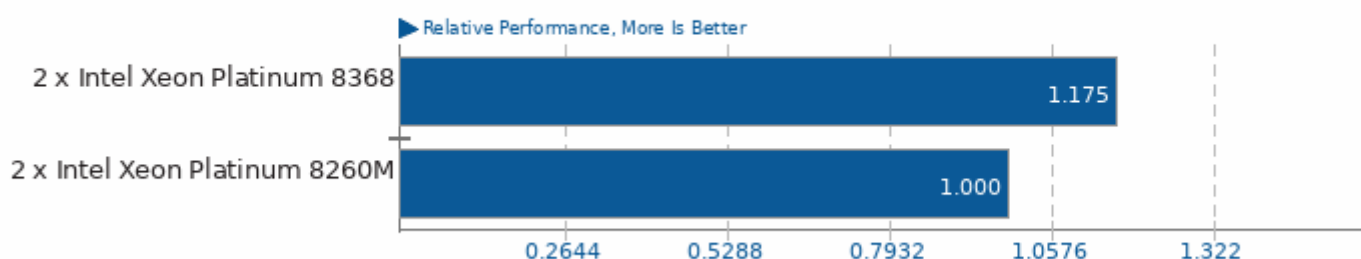
Result Composite



Geometric mean based upon tests: pts/lammps, pts/npb, pts/rodinia, pts/pennant, pts/openfoam and pts/qe

Geometric Mean Of Programmer / Developer System Benchmarks Tests

Result Composite

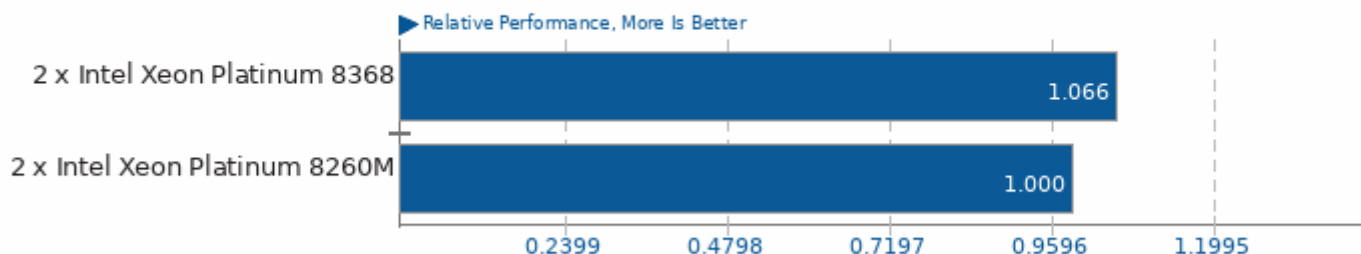


Geometric mean based upon tests: pts/sqlite-speedtest, pts/compress-zstd, pts/pyperformance, pts/pybench,

pts/build-linux-kernel, pts/build-gcc, pts/build-llvm and pts/mt-dgemm

Geometric Mean Of Python Tests

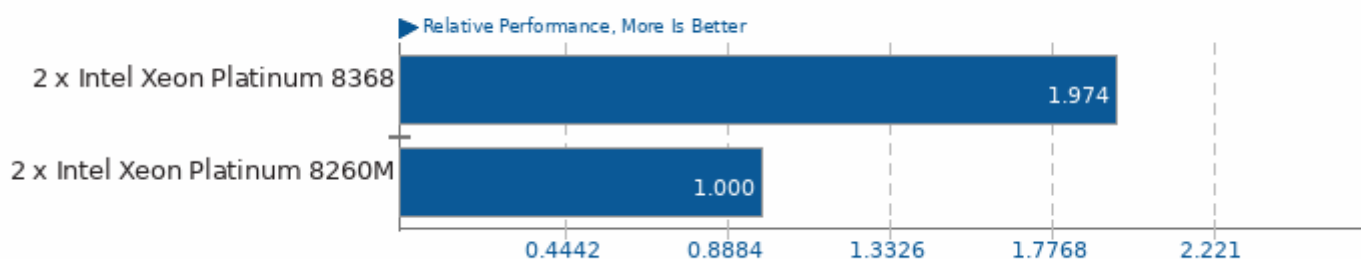
Result Composite



Geometric mean based upon tests: pts/pybench, pts/numpy and pts/pyperformance

Geometric Mean Of Raytracing Tests

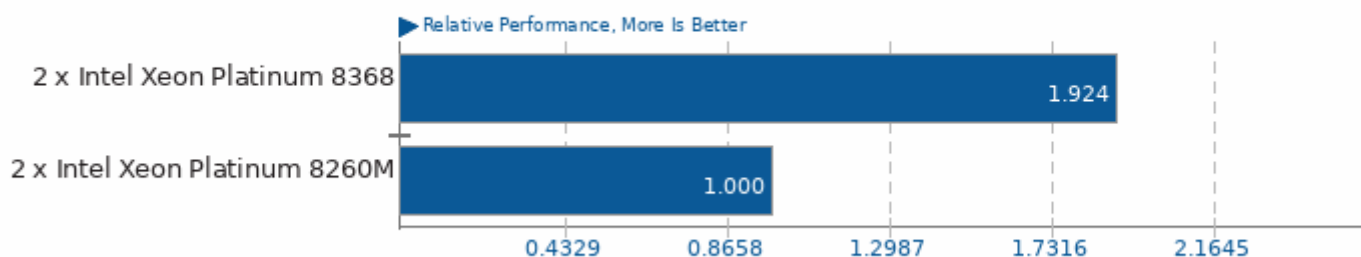
Result Composite



Geometric mean based upon tests: pts/ospray, pts/c-ray and pts/povray

Geometric Mean Of Renderers Tests

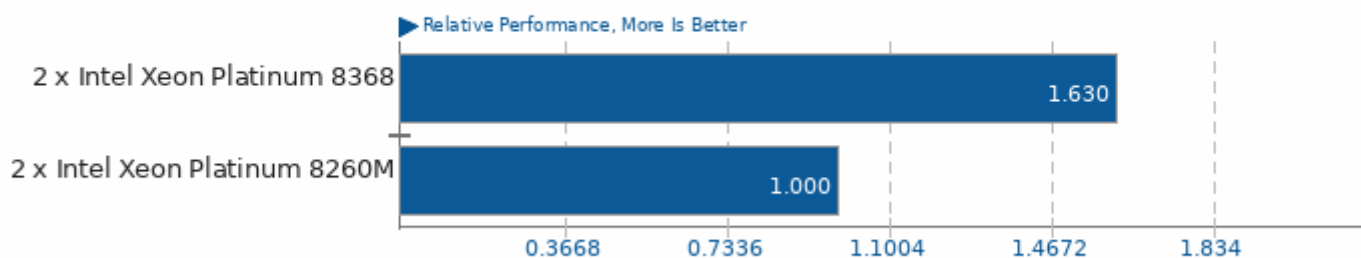
Result Composite



Geometric mean based upon tests: pts/ospray, pts/c-ray, pts/povray and pts/blender

Geometric Mean Of Scientific Computing Tests

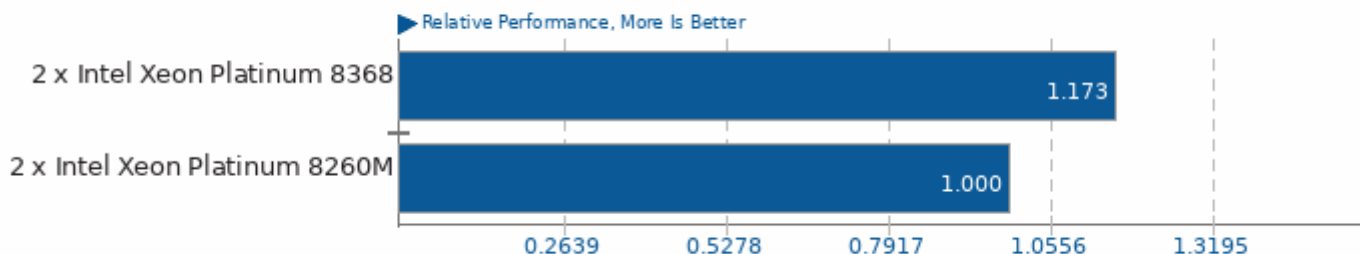
Result Composite



Geometric mean based upon tests: pts/neat, pts/mt-dgemm, pts/namd, pts/dolfyn, pts/lammps, pts/pennant, pts/openfoam, pts/himeno, pts/mafft, pts/qe and pts/kripke

Geometric Mean Of Server Tests

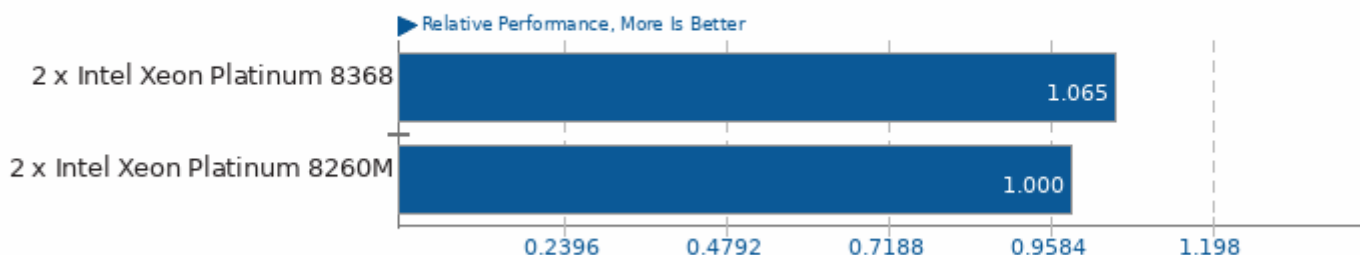
Result Composite



Geometric mean based upon tests: pts/apache, pts/nginx, pts/mysqslap, pts/pgbench, pts/redis, pts/cassandra, pts/phpbench, pts/openssl and pts/sqlite-speedtest

Geometric Mean Of Single-Threaded Tests

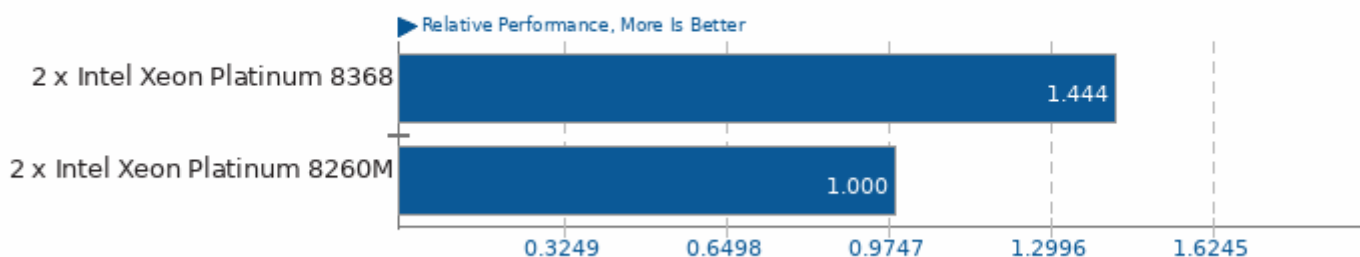
Result Composite



Geometric mean based upon tests: pts/java-scimark2, pts/byte, pts/cachebench, pts/numpy, pts/compress-gzip, pts/encode-flac, pts/encode-mp3, pts/gnupg, pts/redis, pts/pybench, pts/phpbench and pts/nginx

Geometric Mean Of Video Encoding Tests

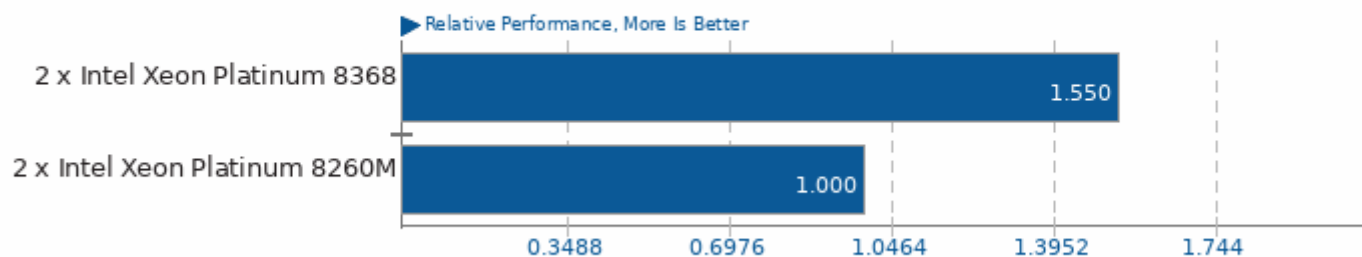
Result Composite



Geometric mean based upon tests: pts/svt-vp9, pts/x264, pts/x265, pts/kvazaar and pts/dav1d

Geometric Mean Of Common Workstation Benchmarks Tests

Result Composite



Geometric mean based upon tests: pts/blender, pts/rodinia, pts/himeno, pts/x265 and pts/sysbench

This file was automatically generated via the Phoronix Test Suite benchmarking software on Wednesday, 7 April 2021 04:03.