



SPEC® CINT2006 Result

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Supermicro

SuperServer 6028TP-HTR
(X10DRT-P, Intel Xeon E5-2670 v3)

SPECint®2006 = 58.4

SPECint_base2006 = 56.3

CPU2006 license: 001176

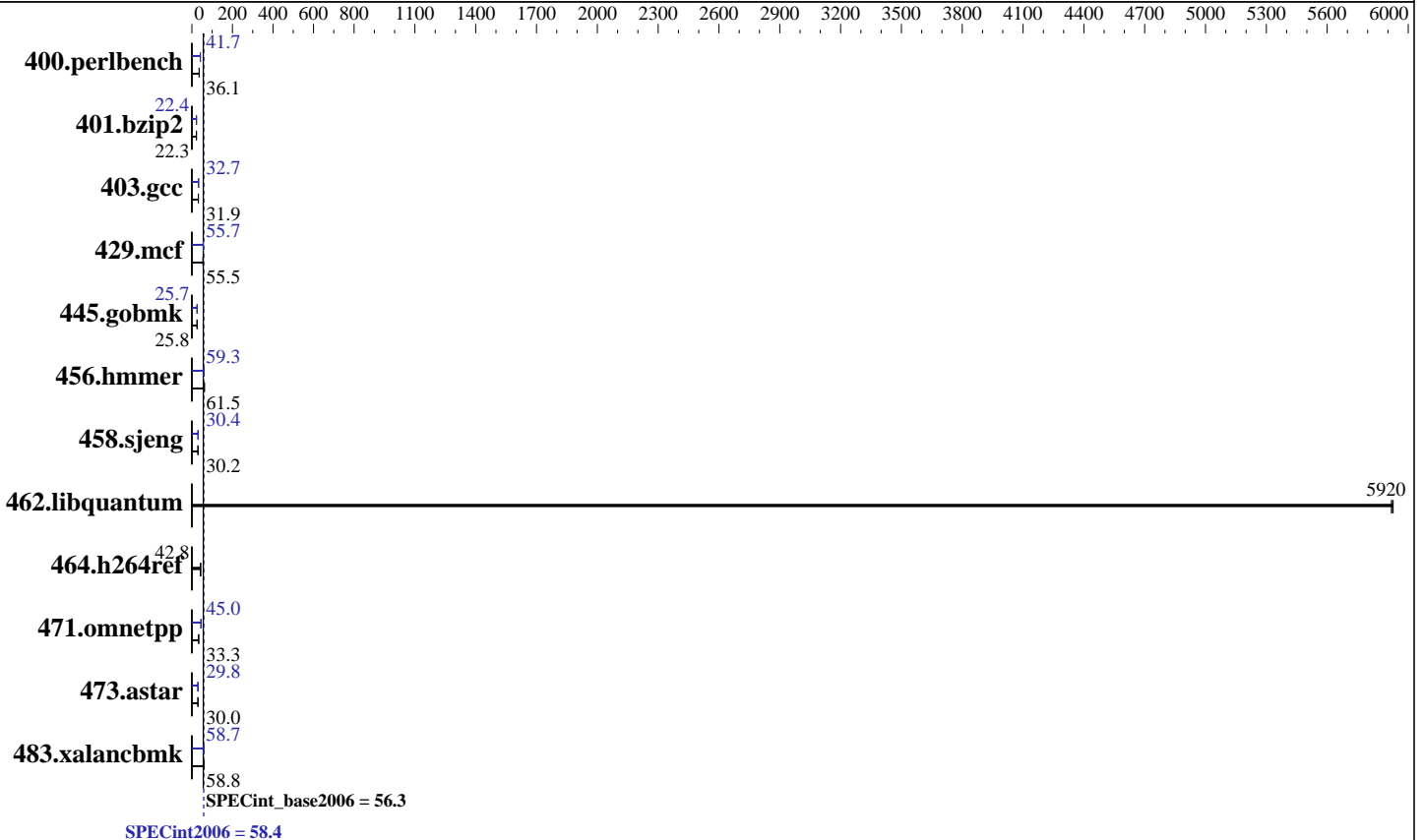
Test sponsor: Supermicro

Tested by: Supermicro

Test date: Oct-2014

Hardware Availability: Sep-2014

Software Availability: Sep-2014



Hardware

CPU Name: Intel Xeon E5-2670 v3
 CPU Characteristics: Intel Turbo Boost Technology up to 3.10 GHz
 CPU MHz: 2300
 FPU: Integrated
 CPU(s) enabled: 24 cores, 2 chips, 12 cores/chip
 CPU(s) orderable: 1,2 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 256 KB I+D on chip per core
 L3 Cache: 30 MB I+D on chip per chip
 Other Cache: None
 Memory: 256 GB (16 x 16 GB 2Rx4 PC4-2133P-R)
 Disk Subsystem: 1 x 1000 GB SATA III, 7200 RPM
 Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 7.0, Kernel 3.10.0-123.el7.x86_64
 Compiler: C/C++; Version 15.0.0.090 of Intel C++ Studio XE for Linux
 Auto Parallel: Yes
 File System: ext4
 System State: Run level 3 (multi-user)
 Base Pointers: 32/64-bit
 Peak Pointers: 32/64-bit
 Other Software: Microquill SmartHeap V10.0



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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	<u>271</u>	<u>36.1</u>	272	35.9	271	36.1	234	41.7	235	41.6	<u>234</u>	<u>41.7</u>
401.bzip2	432	22.3	<u>433</u>	<u>22.3</u>	434	22.3	430	22.5	<u>430</u>	<u>22.4</u>	430	22.4
403.gcc	252	31.9	<u>253</u>	<u>31.9</u>	253	31.8	247	32.6	<u>246</u>	<u>32.7</u>	246	32.7
429.mcf	166	54.9	164	55.5	<u>164</u>	<u>55.5</u>	164	55.7	164	55.8	<u>164</u>	<u>55.7</u>
445.gobmk	<u>407</u>	<u>25.8</u>	408	25.7	407	25.8	409	25.7	<u>409</u>	<u>25.7</u>	409	25.7
456.hammer	152	61.6	152	61.3	<u>152</u>	<u>61.5</u>	157	59.3	157	59.3	<u>157</u>	<u>59.3</u>
458.sjeng	<u>401</u>	<u>30.2</u>	400	30.2	401	30.2	<u>398</u>	<u>30.4</u>	399	30.4	398	30.4
462.libquantum	<u>3.50</u>	<u>5920</u>	3.50	5920	3.50	5930	<u>3.50</u>	<u>5920</u>	3.50	5920	3.50	5930
464.h264ref	<u>517</u>	<u>42.8</u>	517	42.8	519	42.7	<u>517</u>	<u>42.8</u>	517	42.8	519	42.7
471.omnetpp	<u>188</u>	<u>33.3</u>	188	33.3	189	33.0	140	44.7	138	45.1	<u>139</u>	<u>45.0</u>
473.astar	232	30.3	<u>234</u>	<u>30.0</u>	235	29.9	<u>236</u>	<u>29.8</u>	235	29.8	236	29.8
483.xalancbmk	<u>117</u>	<u>58.8</u>	118	58.6	117	58.9	118	58.6	117	58.8	<u>117</u>	<u>58.7</u>

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Submit Notes

The config file option 'submit' was used.

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

Platform Notes

BIOS Settings:
Hyper-Threading (All) = Disable
Early Snoop = Disable
Enforce POR = Disabled

General Notes

Environment variables set by runspec before the start of the run:

KMP_AFFINITY = "granularity=fine,scatter"

LD_LIBRARY_PATH = "/home/spec2k6/SPEC2006-V12/libs/32:/home/spec2k6/SPEC2006-V12/libs/64:/home/spec2k6/SPEC2006-V12/sh"

OMP_NUM_THREADS = "24"

Binaries compiled on a system with 1x Core i5-4670K CPU + 16GB memory using RedHat EL 7.0

Transparent Huge Pages enabled with:

echo always > /sys/kernel/mm/transparent_hugepage/enabled



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Base Compiler Invocation

C benchmarks:
icc -m64

C++ benchmarks:
icpc -m64

Base Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
429.mcf: -DSPEC_CPU_LP64
445.gobmk: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
464.h264ref: -DSPEC_CPU_LP64
471.omnetpp: -DSPEC_CPU_LP64
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32

C++ benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-Wl,-z,muldefs -L/sh -lsmartheap64

Base Other Flags

C benchmarks:
403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):
icc -m64

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Peak Compiler Invocation (Continued)

400.perlbench: `icc -m32 -L/opt/intel/composer_xe_2015/lib/ia32`

445.gobmk: `icc -m32 -L/opt/intel/composer_xe_2015/lib/ia32`

C++ benchmarks (except as noted below):

`icpc -m32 -L/opt/intel/composer_xe_2015/lib/ia32`

473.astar: `icpc -m64`

Peak Portability Flags

400.perlbench: `-DSPEC_CPU_LINUX_IA32`

401.bzip2: `-DSPEC_CPU_LP64`

403.gcc: `-DSPEC_CPU_LP64`

429.mcf: `-DSPEC_CPU_LP64`

456.hmmer: `-DSPEC_CPU_LP64`

458.sjeng: `-DSPEC_CPU_LP64`

462.libquantum: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX`

464.h264ref: `-DSPEC_CPU_LP64`

473.astar: `-DSPEC_CPU_LP64`

483.xalancbmk: `-DSPEC_CPU_LINUX`

Peak Optimization Flags

C benchmarks:

400.perlbench: `-xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-opt-prefetch -ansi-alias`

401.bzip2: `-xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div -prof-use(pass 2) -auto-ilp32
-opt-prefetch -ansi-alias`

403.gcc: `-xCORE-AVX2 -ipo -O3 -no-prec-div -inline-calloc
-opt-malloc-options=3 -auto-ilp32`

429.mcf: `-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel
-opt-prefetch -auto-p32`

445.gobmk: `-xCORE-AVX2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
-ansi-alias`

456.hmmer: `-xCORE-AVX2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
-ansi-alias`

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Peak Optimization Flags (Continued)

458.sjeng: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-unroll4

462.libquantum: basepeak = yes

464.h264ref: basepeak = yes

C++ benchmarks:

471.omnetpp: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-opt-ra-region-strategy=block -ansi-alias
-Wl,-z,muldefs -L/sh -lsmarheap

473.astar: -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
-auto-p32 -Wl,-z,muldefs -L/sh -lsmarheap64

483.xalancbmk: -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
-ansi-alias -Wl,-z,muldefs -L/sh -lsmarheap

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.html>

<http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revE.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.xml>

<http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revE.xml>

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For other inquiries, please contact webmaster@spec.org.

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