



SPEC® CINT2006 Result

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Fujitsu

SPECint®2006 = 64.0

PRIMERGY BX2560 M1, Intel Xeon E5-2637 v3, 3.5 GHz

SPECint_base2006 = 61.5

CPU2006 license: 19

Test date: Jan-2015

Test sponsor: Fujitsu

Hardware Availability: Sep-2014

Tested by: Fujitsu

Software Availability: Sep-2014



Hardware

CPU Name: Intel Xeon E5-2637 v3
 CPU Characteristics: Intel Turbo Boost Technology up to 3.70 GHz
 CPU MHz: 3500
 FPU: Integrated
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip, 2 threads/core
 CPU(s) orderable: 1,2 chip
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 256 KB I+D on chip per core
 L3 Cache: 15 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 SATA, 500 GB, 7200 RPM
 Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 7.0 (Maipo)
 Kernel 3.10.0-123.8.1.el7.x86_64
 Compiler: C/C++: Version 15.0.0.090 of Intel C++ Studio XE for Linux
 Auto Parallel: Yes
 File System: xfs
 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>228</u> | <u>42.8</u> | 228 | 42.8 | 230 | 42.6 | 198 | 49.2 | 198 | 49.3 | <u>198</u> | <u>49.3</u> |
| 401.bzip2 | 365 | 26.4 | <u>364</u> | <u>26.5</u> | 362 | 26.6 | 359 | 26.9 | 360 | 26.8 | <u>360</u> | <u>26.8</u> |
| 403.gcc | 224 | 35.9 | 224 | 35.9 | <u>224</u> | <u>35.9</u> | <u>220</u> | <u>36.5</u> | 220 | 36.6 | 220 | 36.5 |
| 429.mcf | 133 | 68.7 | <u>135</u> | <u>67.4</u> | 136 | 67.1 | 132 | 69.1 | 135 | 67.6 | <u>134</u> | <u>68.0</u> |
| 445.gobmk | <u>346</u> | <u>30.3</u> | 348 | 30.1 | 346 | 30.4 | 344 | 30.5 | <u>344</u> | <u>30.5</u> | 344 | 30.5 |
| 456.hammer | 129 | 72.6 | 128 | 72.8 | <u>128</u> | <u>72.7</u> | 129 | 72.6 | 128 | 72.8 | <u>128</u> | <u>72.7</u> |
| 458.sjeng | 336 | 36.0 | <u>336</u> | <u>36.0</u> | 336 | 36.0 | 335 | 36.1 | 335 | 36.1 | <u>335</u> | <u>36.1</u> |
| 462.libquantum | <u>5.20</u> | <u>3980</u> | 5.25 | 3950 | 5.20 | 3990 | <u>5.20</u> | <u>3980</u> | 5.25 | 3950 | 5.20 | 3990 |
| 464.h264ref | <u>387</u> | <u>57.2</u> | 387 | 57.2 | 384 | 57.6 | <u>387</u> | <u>57.2</u> | 387 | 57.2 | 384 | 57.6 |
| 471.omnetpp | 252 | 24.8 | <u>252</u> | <u>24.8</u> | 252 | 24.8 | 190 | 32.8 | 186 | 33.6 | <u>189</u> | <u>33.0</u> |
| 473.astar | <u>202</u> | <u>34.8</u> | 202 | 34.7 | 201 | 34.9 | <u>202</u> | <u>34.8</u> | 202 | 34.7 | 201 | 34.9 |
| 483.xalancbmk | <u>100</u> | <u>68.8</u> | 101 | 68.6 | 100 | 68.9 | <u>100</u> | <u>68.8</u> | 101 | 68.6 | 100 | 68.9 |

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 configuration:
Energy Performance = Performance
Utilization Profile = Unbalanced
QPI snoop mode: Home Snoop
COD Enable = Disabled, Early Snoop = Disabled
CPU C1E Support = Disabled

General Notes

Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,scatter"
LD_LIBRARY_PATH = "/home/SPECcpu2006/libs/32:/home/SPECcpu2006/libs/64:/home/SPECcpu2006/sh"
OMP_NUM_THREADS = "8"

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

For information about Fujitsu please visit: <http://www.fujitsu.com>



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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 -m64`

471.omnetpp: `icpc -m32 -L/opt/intel/composer_xe_2015/lib/ia32`

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.hmmmer: `-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_LP64 -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.hmmmer: `basepeak = yes`

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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 -lsmartheap

473.astar: basepeak = yes

483.xalancbmk: basepeak = yes

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/Fujitsu-Platform-Settings-V1.2-HSW-RevA.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/Fujitsu-Platform-Settings-V1.2-HSW-RevA.xml>

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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