



SPEC® CFP2006 Result

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Fujitsu

PRIMERGY CX2550 M1, Intel Xeon E5-2650L v3, 1.8 GHz

SPECfp®2006 = **92.0**

SPECfp_base2006 = **88.1**

CPU2006 license: 19

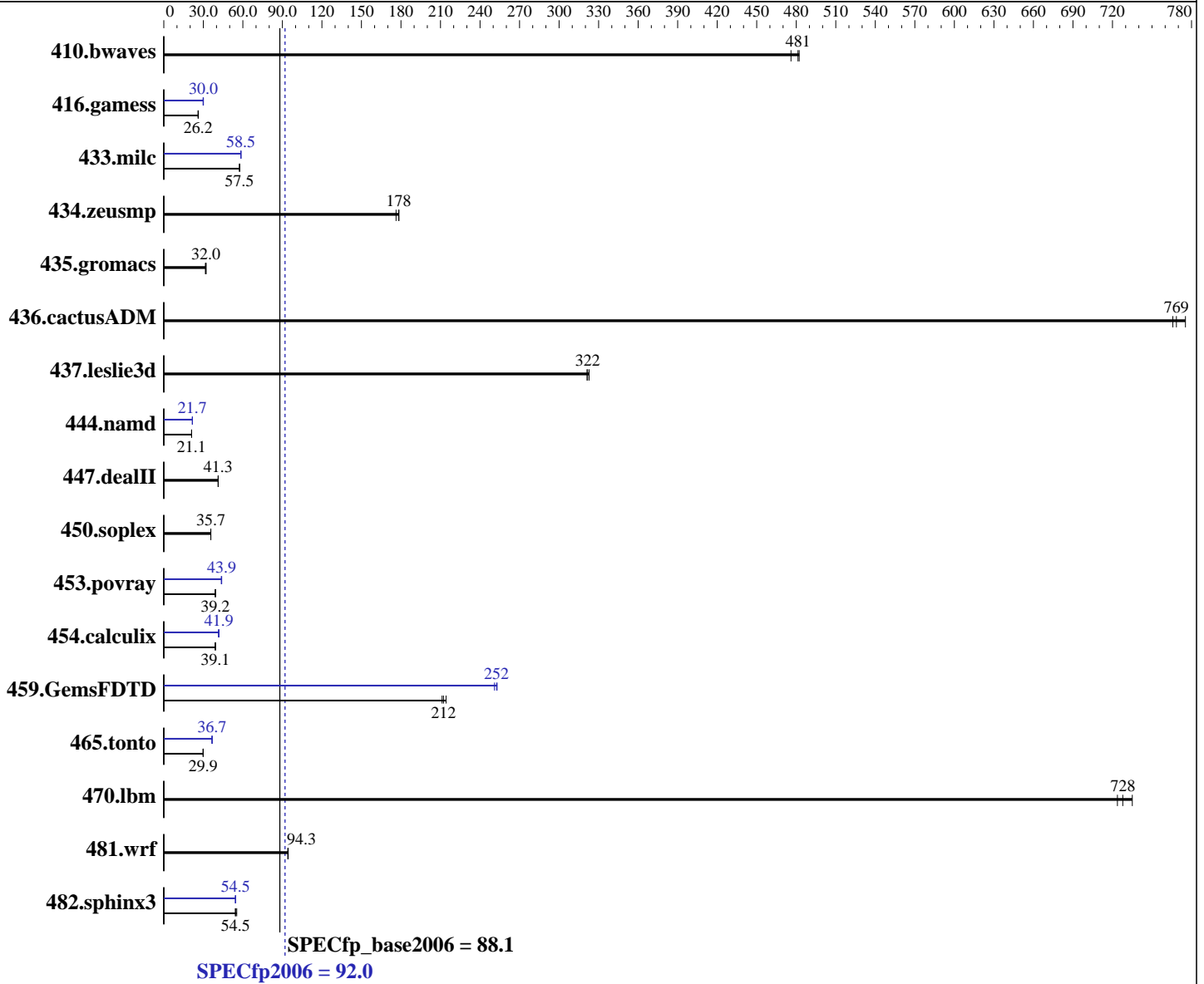
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Dec-2014

Hardware Availability: Sep-2014

Software Availability: Sep-2014



Hardware

CPU Name: Intel Xeon E5-2650L v3
 CPU Characteristics: Intel Turbo Boost Technology up to 2.50 GHz
 CPU MHz: 1800
 FPU: Integrated
 CPU(s) enabled: 24 cores, 2 chips, 12 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

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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;
 Fortran: Version 15.0.0.090 of Intel Fortran Studio XE for Linux
 Auto Parallel: Yes
 File System: xfs

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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 SATA, 500 GB, 7200 RPM
Other Hardware: None

System State: Run level 3 (multi-user)
Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other Software: None

Results Table

| Benchmark | Base | | | | | | Peak | | | | | |
|---------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|------------|-------------|-------------|-------------|
| | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 410.bwaves | <u>28.2</u> | <u>481</u> | 28.2 | 482 | 28.5 | 476 | <u>28.2</u> | <u>481</u> | 28.2 | 482 | 28.5 | 476 |
| 416.gamess | 755 | 25.9 | <u>748</u> | <u>26.2</u> | 745 | 26.3 | <u>653</u> | <u>30.0</u> | 651 | 30.1 | 657 | 29.8 |
| 433.milc | 159 | 57.6 | 160 | 57.4 | <u>160</u> | <u>57.5</u> | <u>157</u> | <u>58.5</u> | 157 | 58.6 | 157 | 58.5 |
| 434.zeusmp | <u>51.0</u> | <u>178</u> | 51.0 | 178 | 51.6 | 176 | <u>51.0</u> | <u>178</u> | 51.0 | 178 | 51.6 | 176 |
| 435.gromacs | 223 | 32.0 | 226 | 31.6 | <u>223</u> | <u>32.0</u> | 223 | 32.0 | 226 | 31.6 | <u>223</u> | <u>32.0</u> |
| 436.cactusADM | 15.4 | 775 | 15.6 | 766 | <u>15.5</u> | <u>769</u> | 15.4 | 775 | 15.6 | 766 | <u>15.5</u> | <u>769</u> |
| 437.leslie3d | 29.1 | 323 | 29.3 | 321 | <u>29.2</u> | <u>322</u> | 29.1 | 323 | 29.3 | 321 | <u>29.2</u> | <u>322</u> |
| 444.namd | 380 | 21.1 | <u>380</u> | <u>21.1</u> | 380 | 21.1 | 369 | 21.7 | 370 | 21.7 | <u>370</u> | <u>21.7</u> |
| 447.dealII | 277 | 41.2 | <u>277</u> | <u>41.3</u> | 277 | 41.3 | 277 | 41.2 | <u>277</u> | <u>41.3</u> | 277 | 41.3 |
| 450.soplex | 234 | 35.7 | 233 | 35.7 | <u>234</u> | <u>35.7</u> | 234 | 35.7 | 233 | 35.7 | <u>234</u> | <u>35.7</u> |
| 453.povray | 136 | 39.2 | 136 | 39.0 | <u>136</u> | <u>39.2</u> | <u>121</u> | <u>43.9</u> | 121 | 43.9 | 122 | 43.6 |
| 454.calculix | <u>211</u> | <u>39.1</u> | 210 | 39.2 | 211 | 39.1 | <u>197</u> | <u>41.9</u> | 197 | 41.9 | 199 | 41.4 |
| 459.GemsFDTD | 49.5 | 214 | <u>50.0</u> | <u>212</u> | 50.2 | 211 | <u>42.0</u> | <u>252</u> | 42.3 | 251 | 41.9 | 253 |
| 465.tonto | 330 | 29.8 | <u>329</u> | <u>29.9</u> | 329 | 29.9 | <u>268</u> | <u>36.7</u> | 270 | 36.5 | 268 | 36.7 |
| 470.lbm | <u>18.9</u> | <u>728</u> | 19.0 | 724 | 18.7 | 735 | <u>18.9</u> | <u>728</u> | 19.0 | 724 | 18.7 | 735 |
| 481.wrf | 119 | 94.1 | <u>118</u> | <u>94.3</u> | 118 | 94.4 | 119 | 94.1 | <u>118</u> | <u>94.3</u> | 118 | 94.4 |
| 482.sphinx3 | 359 | 54.3 | <u>358</u> | <u>54.5</u> | 352 | 55.4 | 357 | 54.5 | <u>358</u> | <u>54.5</u> | 359 | 54.3 |

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

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 ClE Support = Disabled



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General Notes

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

KMP_AFFINITY = "granularity=fine,compact,1,0"

LD_LIBRARY_PATH = "/home/SPECcpu2006/libs/32:/home/SPECcpu2006/libs/64:/home/SPECcpu2006/sh"

OMP_NUM_THREADS = "24"

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

This result was measured on the PRIMERGY CX2550 M1. The PRIMERGY CX2550 M1 and the PRIMERGY CX2570 M1 are electronically equivalent.

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

Base Compiler Invocation

C benchmarks:

icc -m64

C++ benchmarks:

icpc -m64

Fortran benchmarks:

ifort -m64

Benchmarks using both Fortran and C:

icc -m64 ifort -m64

Base Portability Flags

410.bwaves: -DSPEC_CPU_LP64
 416.gamess: -DSPEC_CPU_LP64
 433.milc: -DSPEC_CPU_LP64
 434.zeusmp: -DSPEC_CPU_LP64
 435.gromacs: -DSPEC_CPU_LP64 -nofor_main
 436.cactusADM: -DSPEC_CPU_LP64 -nofor_main
 437.leslie3d: -DSPEC_CPU_LP64
 444.namd: -DSPEC_CPU_LP64
 447.deallI: -DSPEC_CPU_LP64
 450.soplex: -DSPEC_CPU_LP64
 453.povray: -DSPEC_CPU_LP64
 454.calculix: -DSPEC_CPU_LP64 -nofor_main
 459.GemsFDTD: -DSPEC_CPU_LP64
 465.tonto: -DSPEC_CPU_LP64
 470.lbm: -DSPEC_CPU_LP64
 481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
 482.sphinx3: -DSPEC_CPU_LP64



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Base Optimization Flags

C benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch
-ansi-alias

C++ benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias

Fortran benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch

Benchmarks using both Fortran and C:

-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch
-ansi-alias

Peak Compiler Invocation

C benchmarks:

icc -m64

C++ benchmarks:

icpc -m64

Fortran benchmarks:

ifort -m64

Benchmarks using both Fortran and C:

icc -m64 ifort -m64

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

433.milc: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-auto-ilp32 -ansi-alias

470.lbm: basepeak = yes

482.sphinx3: -xCORE-AVX2 -ipo -O3 -no-prec-div -unroll2 -ansi-alias
-parallel

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Peak Optimization Flags (Continued)

C++ benchmarks:

444.namd: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-fno-alias -auto-ilp32

447.dealII: basepeak = yes

450.soplex: basepeak = yes

453.povray: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll4
-ansi-alias

Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll2
-inline-level=0 -scalar-rep-

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll2
-inline-level=0 -opt-prefetch -parallel

465.tonto: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-inline-calloc -opt-malloc-options=3 -auto -unroll4

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

436.cactusADM: basepeak = yes

454.calculix: -xCORE-AVX2 -ipo -O3 -no-prec-div -auto-ilp32 -ansi-alias

481.wrf: basepeak = yes

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>



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<http://www.spec.org/cpu2006/flags/Fujitsu-Platform-Settings-V1.2-HSW-RevA.xml>

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