



SPEC[®] CFP2006 Result

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Fujitsu

SPECfp[®]2006 = **108**

PRIMERGY RX2540 M1, Intel Xeon E5-2670 v3, 2.3 GHz

SPECfp_base2006 = **104**

CPU2006 license: 19

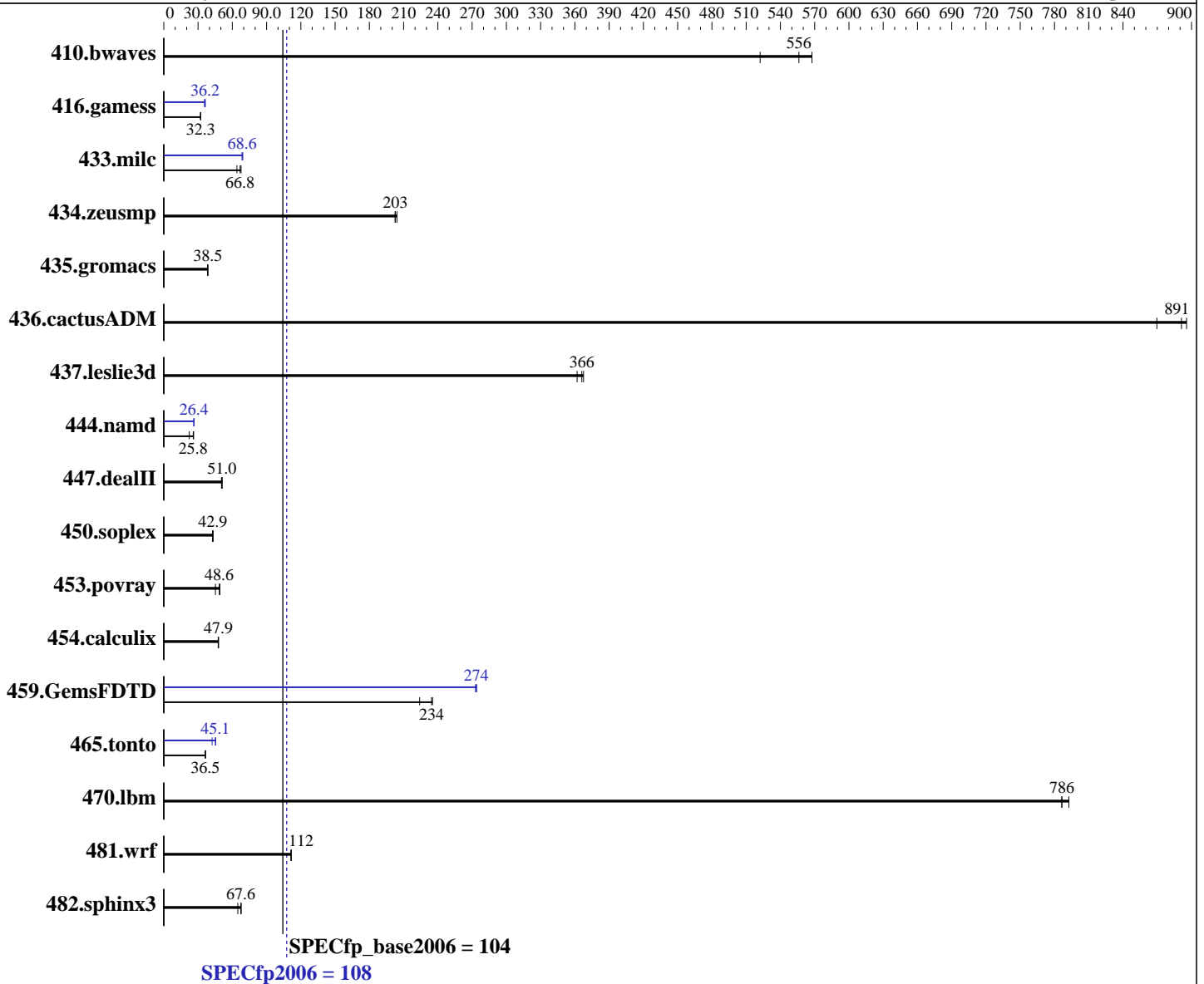
Test date: Dec-2014

Test sponsor: Fujitsu

Hardware Availability: Sep-2014

Tested by: Fujitsu

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, 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	26.0	522	23.9	568	<u>24.4</u>	<u>556</u>	26.0	522	23.9	568	<u>24.4</u>	<u>556</u>
416.gamess	<u>606</u>	<u>32.3</u>	605	32.4	611	32.0	540	36.3	550	35.6	<u>541</u>	<u>36.2</u>
433.milc	<u>137</u>	<u>66.8</u>	143	64.0	136	67.6	133	69.2	<u>134</u>	<u>68.6</u>	134	68.6
434.zeusmp	44.6	204	<u>44.9</u>	<u>203</u>	44.9	203	44.6	204	<u>44.9</u>	<u>203</u>	44.9	203
435.gromacs	185	38.6	<u>185</u>	<u>38.5</u>	186	38.3	185	38.6	<u>185</u>	<u>38.5</u>	186	38.3
436.cactusADM	13.3	896	13.7	870	<u>13.4</u>	<u>891</u>	13.3	896	13.7	870	<u>13.4</u>	<u>891</u>
437.leslie3d	<u>25.7</u>	<u>366</u>	26.0	362	25.6	368	<u>25.7</u>	<u>366</u>	26.0	362	25.6	368
444.namd	360	22.3	<u>311</u>	<u>25.8</u>	307	26.2	302	26.5	<u>304</u>	<u>26.4</u>	306	26.2
447.dealII	227	50.5	<u>224</u>	<u>51.0</u>	224	51.1	227	50.5	<u>224</u>	<u>51.0</u>	224	51.1
450.soplex	<u>194</u>	<u>42.9</u>	193	43.2	196	42.6	<u>194</u>	<u>42.9</u>	193	43.2	196	42.6
453.povray	<u>109</u>	<u>48.6</u>	108	49.1	118	45.2	<u>109</u>	<u>48.6</u>	108	49.1	118	45.2
454.calculix	172	47.9	<u>172</u>	<u>47.9</u>	173	47.6	172	47.9	<u>172</u>	<u>47.9</u>	173	47.6
459.GemsFDTD	47.4	224	<u>45.2</u>	<u>234</u>	45.1	235	<u>38.8</u>	<u>274</u>	38.7	274	38.9	273
465.tonto	271	36.3	269	36.5	<u>270</u>	<u>36.5</u>	<u>218</u>	<u>45.1</u>	216	45.5	233	42.3
470.lbm	17.5	786	<u>17.5</u>	<u>786</u>	17.3	793	17.5	786	<u>17.5</u>	<u>786</u>	17.3	793
481.wrf	100	112	<u>100</u>	<u>112</u>	100	111	100	112	<u>100</u>	<u>112</u>	100	111
482.sphinx3	288	67.7	<u>289</u>	<u>67.6</u>	301	64.8	288	67.7	<u>289</u>	<u>67.6</u>	301	64.8

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: Hone Snoop
 COD Enable = Disabled, Early Snoop = Disabled
 CPU C1E 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

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.dealII: -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: basepeak = yes

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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.dealIII: basepeak = yes

450.soplex: basepeak = yes

453.povray: basepeak = yes

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: basepeak = yes

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>

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 other inquiries, please contact webmaster@spec.org.

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