



SPEC® CFP2006 Result

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Fujitsu

SPECfp®2006 = 104

PRIMERGY BX2560 M1, Intel Xeon E5-2683 v3, 2.0 GHz

SPECfp_base2006 = 99.5

CPU2006 license: 19

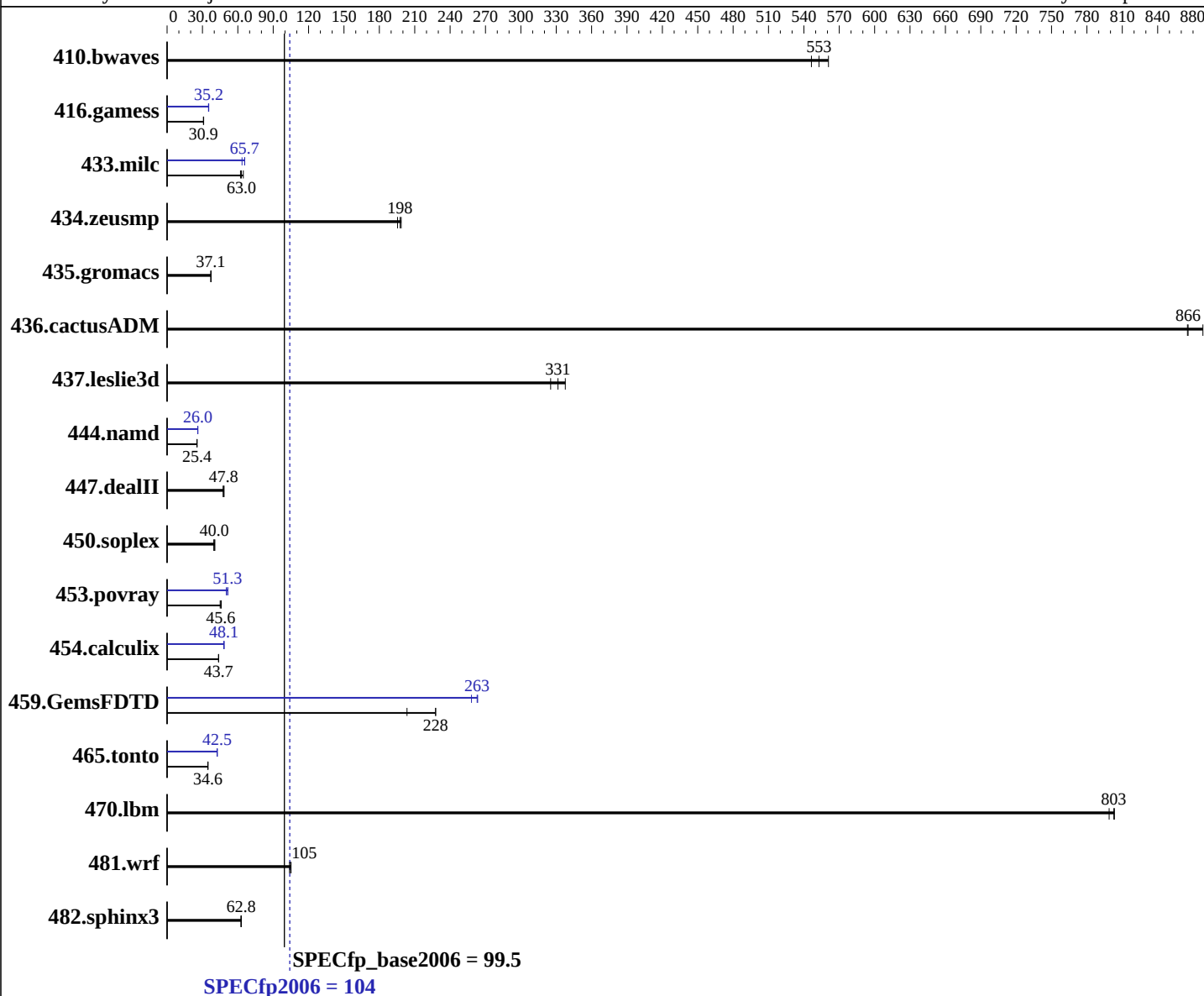
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Dec-2014

Hardware Availability: Sep-2014

Software Availability: Sep-2014



Hardware

CPU Name: Intel Xeon E5-2683 v3
CPU Characteristics: Intel Turbo Boost Technology up to 3.00 GHz
CPU MHz: 2000
FPU: Integrated
CPU(s) enabled: 28 cores, 2 chips, 14 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: 35 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>24.6</u>	<u>553</u>	24.2	561	24.9	546	<u>24.6</u>	<u>553</u>	24.2	561	24.9	546
416.gamess	<u>633</u>	<u>30.9</u>	635	30.8	631	31.0	558	35.1	<u>556</u>	<u>35.2</u>	554	35.4
433.milc	142	64.6	<u>146</u>	<u>63.0</u>	147	62.2	144	63.6	139	65.9	<u>140</u>	<u>65.7</u>
434.zeusmp	46.6	195	<u>46.0</u>	<u>198</u>	45.8	199	46.6	195	<u>46.0</u>	<u>198</u>	45.8	199
435.gromacs	<u>192</u>	<u>37.1</u>	192	37.1	191	37.3	<u>192</u>	<u>37.1</u>	192	37.1	191	37.3
436.cactusADM	13.6	878	13.8	865	<u>13.8</u>	<u>866</u>	13.6	878	13.8	865	<u>13.8</u>	<u>866</u>
437.leslie3d	<u>28.4</u>	<u>331</u>	28.9	325	27.8	338	<u>28.4</u>	<u>331</u>	28.9	325	27.8	338
444.namd	316	25.4	<u>316</u>	<u>25.4</u>	316	25.3	308	26.0	308	26.1	<u>308</u>	<u>26.0</u>
447.dealII	241	47.5	<u>239</u>	<u>47.8</u>	237	48.3	241	47.5	<u>239</u>	<u>47.8</u>	237	48.3
450.soplex	<u>208</u>	<u>40.0</u>	210	39.6	206	40.5	<u>208</u>	<u>40.0</u>	210	39.6	206	40.5
453.povray	118	45.0	116	45.9	<u>117</u>	<u>45.6</u>	103	51.5	106	50.2	<u>104</u>	<u>51.3</u>
454.calculix	189	43.7	189	43.7	<u>189</u>	<u>43.7</u>	171	48.1	<u>171</u>	<u>48.1</u>	170	48.4
459.GemsFDTD	52.2	203	46.6	228	<u>46.6</u>	<u>228</u>	41.1	258	40.3	263	<u>40.4</u>	<u>263</u>
465.tonto	<u>285</u>	<u>34.6</u>	283	34.8	285	34.5	<u>232</u>	<u>42.5</u>	231	42.6	232	42.4
470.lbm	17.1	803	<u>17.1</u>	<u>803</u>	17.2	799	17.1	803	<u>17.1</u>	<u>803</u>	17.2	799
481.wrf	<u>107</u>	<u>105</u>	108	104	106	105	<u>107</u>	<u>105</u>	108	104	106	105
482.sphinx3	309	63.0	<u>310</u>	<u>62.8</u>	311	62.6	309	63.0	<u>310</u>	<u>62.8</u>	311	62.6

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 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 = "28"

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.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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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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