



SPEC® CFP2006 Result

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Fujitsu

PRIMERGY RX2520 M1, Intel Xeon E5-2430L v2, 2.40 GHz

SPECfp®2006 = 74.9

SPECfp_base2006 = 72.3

CPU2006 license: 19

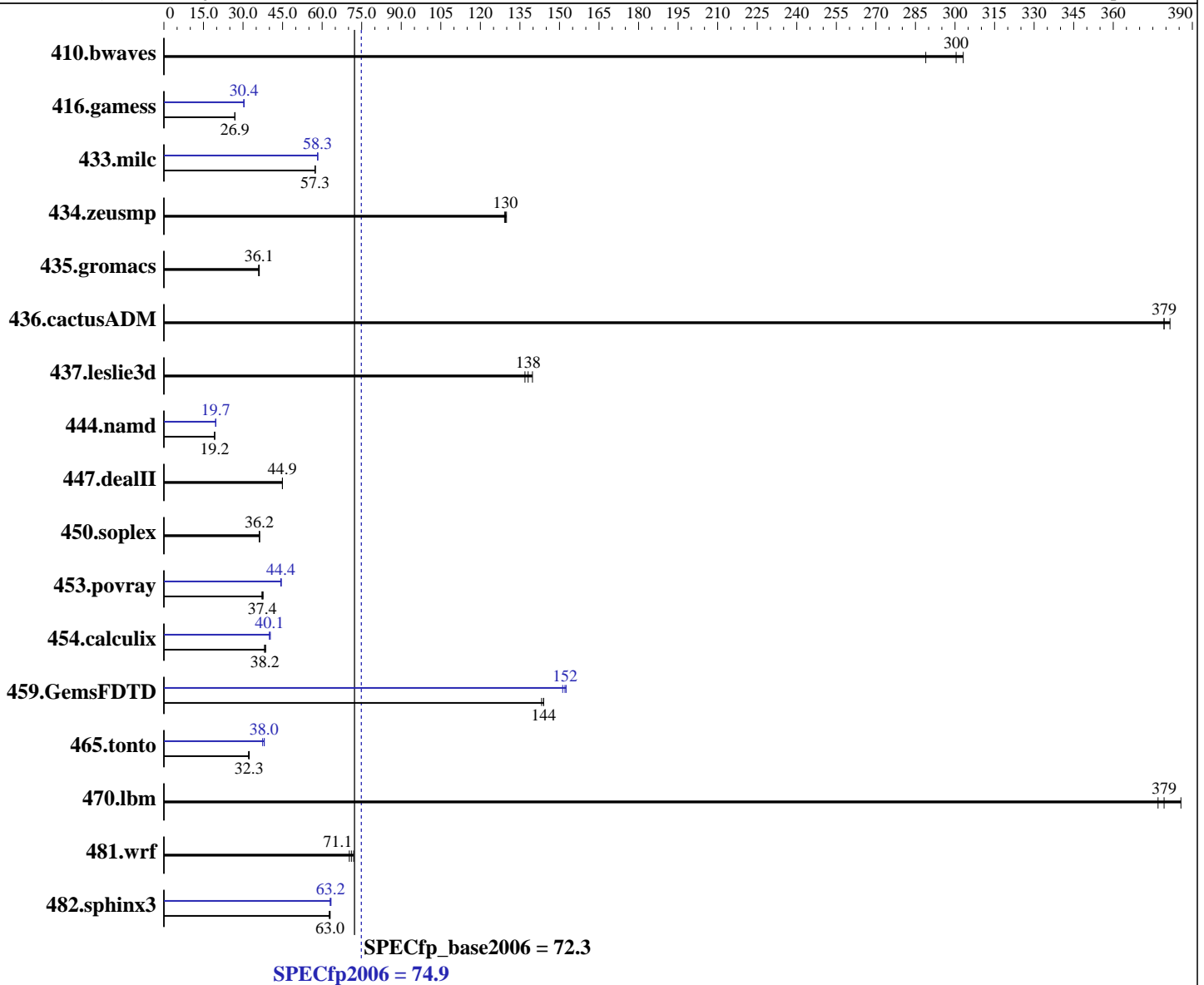
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Jan-2014

Hardware Availability: Feb-2014

Software Availability: Sep-2013



Hardware

CPU Name: Intel Xeon E5-2430L v2
 CPU Characteristics: Intel Turbo Boost Technology up to 2.80 GHz
 CPU MHz: 2400
 FPU: Integrated
 CPU(s) enabled: 12 cores, 2 chips, 6 cores/chip, 2 threads/core
 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

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Software

Operating System: Red Hat Enterprise Linux Server release 6.4 (Santiago)
 2.6.32-358.11.1.el6.x86_64
 Compiler: C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux;
 Fortran: Version 14.0.0.080 of Intel Fortran Studio XE for Linux
 Auto Parallel: Yes
 File System: ext4

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L3 Cache: 15 MB I+D on chip per chip
Other Cache: None
Memory: 192 GB (12 x 16 GB 2Rx4 PC3L-12800R-11, ECC)
Disk Subsystem: 1 x SATA, 500 GB, 7200 RPM
Other Hardware: None

System State: Run level 5 (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	47.0	289	<u>45.2</u>	<u>300</u>	44.8	303	47.0	289	<u>45.2</u>	<u>300</u>	44.8	303
416.gamess	728	26.9	<u>727</u>	<u>26.9</u>	727	26.9	647	30.3	<u>644</u>	<u>30.4</u>	644	30.4
433.milc	160	57.5	<u>160</u>	<u>57.3</u>	160	57.3	158	58.3	<u>157</u>	<u>58.3</u>	157	58.3
434.zeusmp	<u>70.2</u>	<u>130</u>	70.4	129	70.0	130	<u>70.2</u>	<u>130</u>	70.4	129	70.0	130
435.gromacs	199	35.9	197	36.2	<u>198</u>	<u>36.1</u>	199	35.9	197	36.2	<u>198</u>	<u>36.1</u>
436.cactusADM	31.5	379	31.3	382	<u>31.5</u>	<u>379</u>	31.5	379	31.3	382	<u>31.5</u>	<u>379</u>
437.leslie3d	67.3	140	68.7	137	<u>68.1</u>	<u>138</u>	67.3	140	68.7	137	<u>68.1</u>	<u>138</u>
444.namd	417	19.2	<u>417</u>	<u>19.2</u>	417	19.2	408	19.6	408	19.7	<u>408</u>	<u>19.7</u>
447.dealII	<u>255</u>	<u>44.9</u>	255	44.9	254	45.0	<u>255</u>	<u>44.9</u>	255	44.9	254	45.0
450.soplex	<u>231</u>	<u>36.2</u>	231	36.1	230	36.3	<u>231</u>	<u>36.2</u>	231	36.1	230	36.3
453.povray	143	37.2	<u>142</u>	<u>37.4</u>	141	37.6	120	44.3	119	44.6	<u>120</u>	<u>44.4</u>
454.calculix	<u>216</u>	<u>38.2</u>	214	38.6	216	38.2	206	40.0	204	40.4	<u>206</u>	<u>40.1</u>
459.GemsFDTD	74.1	143	73.7	144	<u>73.7</u>	<u>144</u>	69.6	153	70.2	151	<u>69.8</u>	<u>152</u>
465.tonto	304	32.4	<u>305</u>	<u>32.3</u>	307	32.1	<u>259</u>	<u>38.0</u>	263	37.4	258	38.1
470.lbm	36.4	377	35.6	386	<u>36.2</u>	<u>379</u>	36.4	377	35.6	386	<u>36.2</u>	<u>379</u>
481.wrf	155	71.9	159	70.3	<u>157</u>	<u>71.1</u>	155	71.9	159	70.3	<u>157</u>	<u>71.1</u>
482.sphinx3	<u>310</u>	<u>63.0</u>	309	63.0	311	62.7	<u>308</u>	<u>63.2</u>	308	63.4	309	63.0

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

General Notes

Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,scatter,1,0"
LD_LIBRARY_PATH = "/SPECcpu2006/libs/32:/SPECcpu2006/libs/64:/SPECcpu2006/sh"

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General Notes (Continued)

OMP_NUM_THREADS = "12"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RedHat EL 6.4

Transparent Huge Pages enabled with:

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

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:
-xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch -ansi-alias

C++ benchmarks:
-xAVX -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias

Fortran benchmarks:
-xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch

Benchmarks using both Fortran and C:
-xAVX -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: -xAVX(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: -xAVX -ipo -O3 -no-prec-div -unroll2 -ansi-alias
-parallel

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Peak Optimization Flags (Continued)

C++ benchmarks:

444.namd: -xAVX(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: -xAVX(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: -xAVX(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: -xAVX(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: -xAVX(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: -xAVX -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-ic14.0-official-linux64.20140128.html>
<http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20131009.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.xml>
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Tested with SPEC CPU2006 v1.2.
Report generated on Thu Jul 24 21:37:00 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 11 March 2014.