



SPEC[®] CFP2006 Result

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Fujitsu

SPECfp[®]2006 = 54.1

PRIMERGY TX1330 M1, Intel Pentium G3420, 3.20 GHz

SPECfp_base2006 = 53.5

CPU2006 license: 19

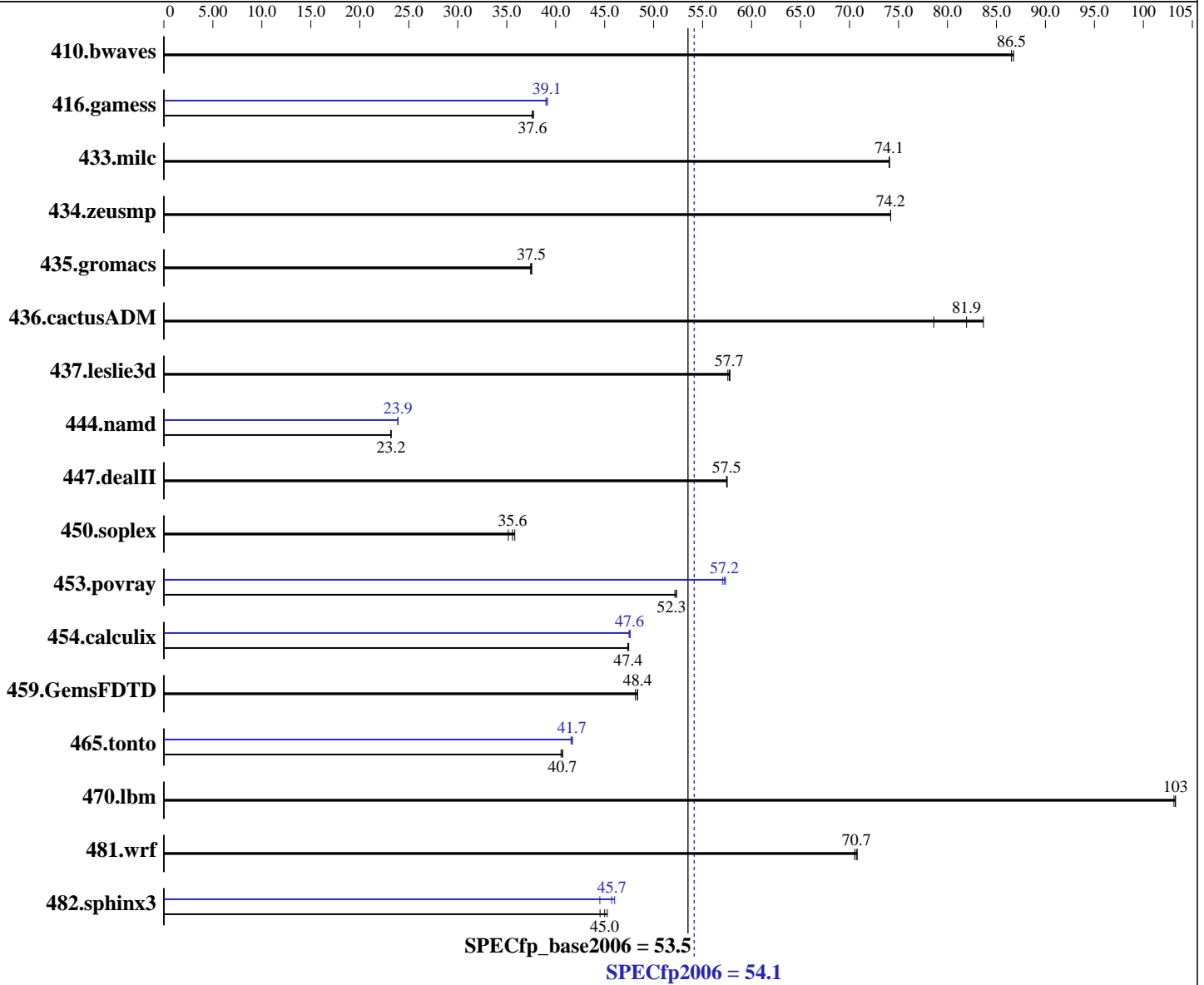
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Jul-2014

Hardware Availability: Jul-2014

Software Availability: Nov-2013



Hardware

CPU Name: Intel Pentium G3420
 CPU Characteristics:
 CPU MHz: 3200
 FPU: Integrated
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip
 CPU(s) orderable: 1 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 6.5 (Santiago)
 2.6.32-431.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: 3 MB I+D on chip per chip
Other Cache: None
Memory: 32 GB (4 x 8 GB 2Rx8 PC3L-12800E-11, ECC)
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>157</u>	<u>86.5</u>	157	86.8	157	86.5	<u>157</u>	<u>86.5</u>	157	86.8	157	86.5
416.gamess	519	37.7	<u>520</u>	<u>37.6</u>	521	37.6	502	39.0	500	39.2	<u>501</u>	<u>39.1</u>
433.milc	124	74.1	124	74.0	<u>124</u>	<u>74.1</u>	124	74.1	124	74.0	<u>124</u>	<u>74.1</u>
434.zeusmp	123	74.2	123	74.2	<u>123</u>	<u>74.2</u>	123	74.2	123	74.2	<u>123</u>	<u>74.2</u>
435.gromacs	190	37.6	<u>190</u>	<u>37.5</u>	191	37.4	190	37.6	<u>190</u>	<u>37.5</u>	191	37.4
436.cactusADM	143	83.7	<u>146</u>	<u>81.9</u>	152	78.6	143	83.7	<u>146</u>	<u>81.9</u>	152	78.6
437.leslie3d	<u>163</u>	<u>57.7</u>	163	57.6	163	57.8	<u>163</u>	<u>57.7</u>	163	57.6	163	57.8
444.namd	346	23.2	346	23.2	<u>346</u>	<u>23.2</u>	336	23.9	336	23.9	<u>336</u>	<u>23.9</u>
447.dealII	199	57.5	199	57.5	<u>199</u>	<u>57.5</u>	199	57.5	199	57.5	<u>199</u>	<u>57.5</u>
450.soplex	237	35.2	<u>234</u>	<u>35.6</u>	233	35.8	237	35.2	<u>234</u>	<u>35.6</u>	233	35.8
453.povray	102	52.2	102	52.3	<u>102</u>	<u>52.3</u>	92.8	57.3	93.2	57.1	<u>92.9</u>	<u>57.2</u>
454.calculix	174	47.5	174	47.4	<u>174</u>	<u>47.4</u>	173	47.6	174	47.5	<u>173</u>	<u>47.6</u>
459.GemsFDTD	219	48.4	220	48.1	<u>219</u>	<u>48.4</u>	219	48.4	220	48.1	<u>219</u>	<u>48.4</u>
465.tonto	243	40.5	<u>242</u>	<u>40.7</u>	242	40.7	236	41.7	<u>236</u>	<u>41.7</u>	237	41.6
470.lbm	133	103	133	103	<u>133</u>	<u>103</u>	133	103	133	103	<u>133</u>	<u>103</u>
481.wrf	<u>158</u>	<u>70.7</u>	158	70.5	158	70.8	<u>158</u>	<u>70.7</u>	158	70.5	158	70.8
482.sphinx3	438	44.5	<u>433</u>	<u>45.0</u>	430	45.3	<u>426</u>	<u>45.7</u>	438	44.5	423	46.0

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"

General Notes

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

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

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

OMP_NUM_THREADS = "2"

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

runspec command invoked through numactl i.e.:

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General Notes (Continued)

numactl --interleave=all runspec <etc>

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

Base Optimization Flags

C benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -parallel -opt-prefetch -ansi-alias

C++ benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias

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Base Optimization Flags (Continued)

Fortran benchmarks:

`-xSSE4.2 -ipo -O3 -no-prec-div -parallel -opt-prefetch`

Benchmarks using both Fortran and C:

`-xSSE4.2 -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: `basepeak = yes`

470.lbm: `basepeak = yes`

482.sphinx3: `-xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -ansi-alias -parallel`

C++ benchmarks:

444.namd: `-xSSE4.2(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.deallI: `basepeak = yes`

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Peak Optimization Flags (Continued)

450.soplex: basepeak = yes

453.povray: -xSSE4.2(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: -xSSE4.2(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: basepeak = yes

465.tonto: -xSSE4.2(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: -xSSE4.2 -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-revB.html>

<http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20130924.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-revB.xml>

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