



SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

SPECfp®2006 = 61.5

IBM System x3100 M4 (Intel Xeon E3-1230)

SPECfp_base2006 = 59.6

CPU2006 license: 11

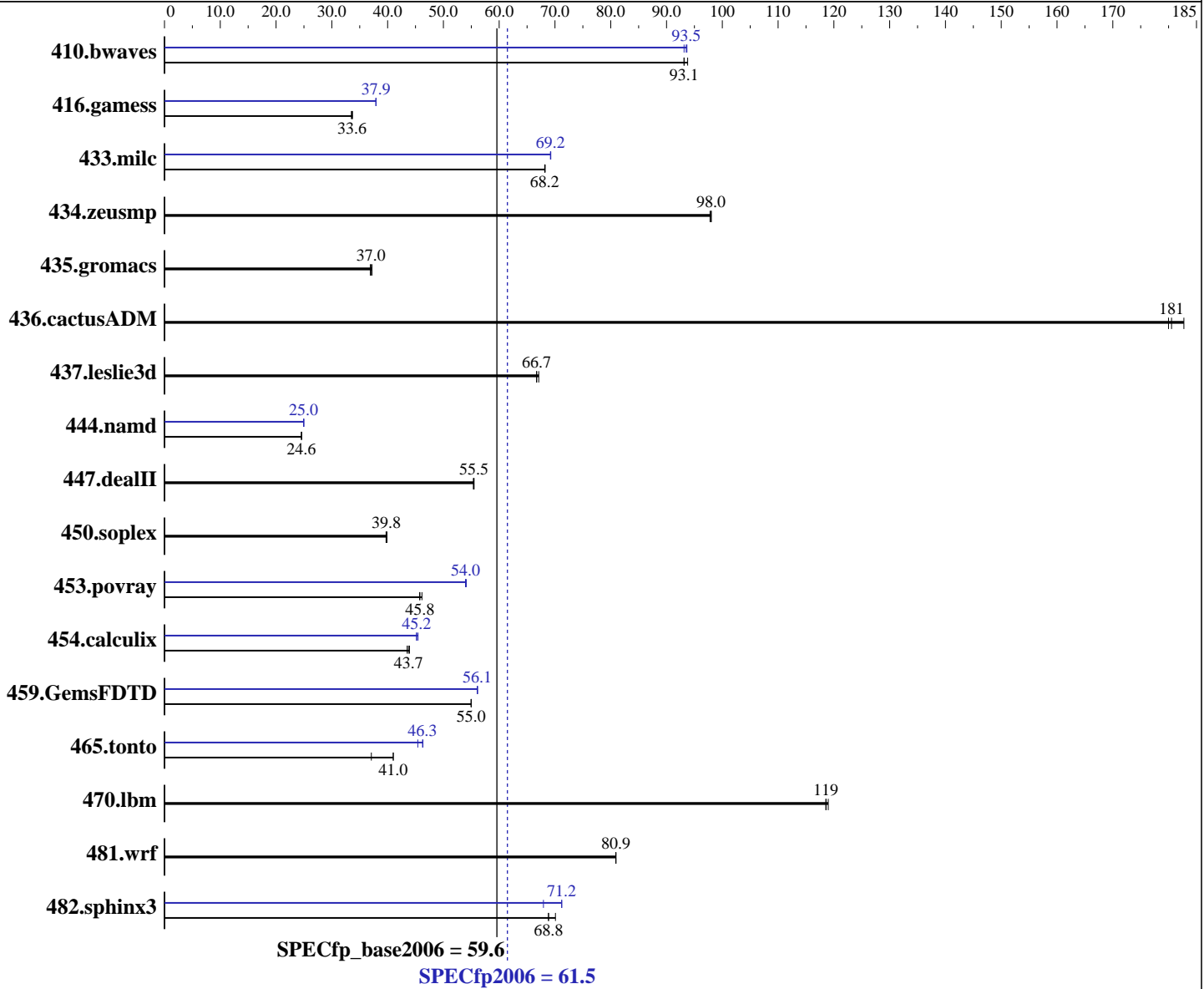
Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Oct-2011

Hardware Availability: Oct-2011

Software Availability: Aug-2011



Hardware

CPU Name: Intel Xeon E3-1230
 CPU Characteristics: Intel Turbo Boost Technology up to 3.60 GHz
 CPU MHz: 3200
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip, 2 threads/core
 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

Continued on next page

Software

Operating System: Red Hat Enterprise Linux Server Release 6.1, Kernel 2.6.32-131.0.15.el6.x86_64
 Compiler: C/C++/Fortran: Version 12.1.0.225 of Intel Compiler XE Build 20110803
 Auto Parallel: Yes
 File System: ext4
 System State: Run level 3 (multi-user)
 Base Pointers: 64-bit

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

SPECfp2006 = **61.5**

IBM System x3100 M4 (Intel Xeon E3-1230)

SPECfp_base2006 = **59.6**

CPU2006 license: 11

Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Oct-2011

Hardware Availability: Oct-2011

Software Availability: Aug-2011

L3 Cache: 8 MB I+D on chip per chip
Other Cache: None
Memory: 8 GB (2 x 4 GB 2Rx8 PC3-10600E-9, ECC)
Disk Subsystem: 1 x 250 GB SATA, 7200 RPM
Other Hardware: None

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	145	93.8	146	93.1	<u>146</u>	<u>93.1</u>	145	93.7	146	93.1	<u>145</u>	<u>93.5</u>
416.gamess	581	33.7	584	33.5	<u>583</u>	<u>33.6</u>	517	37.9	516	37.9	<u>516</u>	<u>37.9</u>
433.milc	135	68.2	<u>135</u>	<u>68.2</u>	135	68.2	133	69.3	<u>133</u>	<u>69.2</u>	133	69.2
434.zeusmp	92.9	98.0	<u>92.9</u>	<u>98.0</u>	93.1	97.8	92.9	98.0	<u>92.9</u>	<u>98.0</u>	93.1	97.8
435.gromacs	<u>193</u>	<u>37.0</u>	194	36.9	192	37.2	<u>193</u>	<u>37.0</u>	194	36.9	192	37.2
436.cactusADM	66.4	180	65.4	183	<u>66.2</u>	<u>181</u>	66.4	180	65.4	183	<u>66.2</u>	<u>181</u>
437.leslie3d	<u>141</u>	<u>66.7</u>	140	67.1	141	66.7	<u>141</u>	<u>66.7</u>	140	67.1	141	66.7
444.namd	326	24.6	327	24.6	<u>326</u>	<u>24.6</u>	321	25.0	<u>321</u>	<u>25.0</u>	321	24.9
447.dealII	207	55.4	206	55.5	<u>206</u>	<u>55.5</u>	207	55.4	206	55.5	<u>206</u>	<u>55.5</u>
450.soplex	<u>210</u>	<u>39.8</u>	210	39.7	209	39.9	<u>210</u>	<u>39.8</u>	210	39.7	209	39.9
453.povray	115	46.2	116	45.7	<u>116</u>	<u>45.8</u>	98.6	54.0	98.3	54.1	<u>98.6</u>	<u>54.0</u>
454.calculix	188	43.9	190	43.5	<u>189</u>	<u>43.7</u>	181	45.5	183	45.2	<u>182</u>	<u>45.2</u>
459.GemsFDTD	193	55.0	<u>193</u>	<u>55.0</u>	193	54.9	189	56.1	189	56.1	<u>189</u>	<u>56.1</u>
465.tonto	265	37.1	240	41.0	<u>240</u>	<u>41.0</u>	217	45.4	<u>213</u>	<u>46.3</u>	212	46.3
470.lbm	116	119	115	119	<u>116</u>	<u>119</u>	116	119	115	119	<u>116</u>	<u>119</u>
481.wrf	<u>138</u>	<u>80.9</u>	138	80.9	138	80.9	<u>138</u>	<u>80.9</u>	138	80.9	138	80.9
482.sphinx3	<u>283</u>	<u>68.8</u>	283	68.8	278	70.1	287	67.9	<u>274</u>	<u>71.2</u>	274	71.2

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

Platform Notes

BIOS Settings:
Turbo Mode enabled in BIOS
C-State enabled in BIOS

General Notes

Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,scatter"
LD_LIBRARY_PATH = "/root/SPECcpu12.1/smartheap:/root/SPECcpu12.1/ic12.1-libs/ia32:/root/SPECcpu12.1/ic12.1-libs/intel64"
OMP_NUM_THREADS = "4"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory
using RHEL5.5 with binutils-2.17.50.0.6-14.el5
Stack size set to unlimited using "ulimit -s unlimited"

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

SPECfp2006 = 61.5

IBM System x3100 M4 (Intel Xeon E3-1230)

SPECfp_base2006 = 59.6

CPU2006 license: 11

Test date: Oct-2011

Test sponsor: IBM Corporation

Hardware Availability: Oct-2011

Tested by: IBM Corporation

Software Availability: Aug-2011

General Notes (Continued)

Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
Filesystem page cache cleared with:
echo 1> /proc/sys/vm/drop_caches

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:

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

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

SPECfp2006 = 61.5

IBM System x3100 M4 (Intel Xeon E3-1230)

SPECfp_base2006 = 59.6

CPU2006 license: 11

Test date: Oct-2011

Test sponsor: IBM Corporation

Hardware Availability: Oct-2011

Tested by: IBM Corporation

Software Availability: Aug-2011

Base Optimization Flags (Continued)

C++ benchmarks:

-xAVX -ipo -O3 -no-prec-div -static -opt-prefetch -ansi-alias

Fortran benchmarks:

-xAVX -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

Benchmarks using both Fortran and C:

-xAVX -ipo -O3 -no-prec-div -static -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) -static -auto-ilp32
-ansi-alias

470.lbm: basepeak = yes

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

C++ benchmarks:

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

SPECfp2006 = 61.5

IBM System x3100 M4 (Intel Xeon E3-1230)

SPECfp_base2006 = 59.6

CPU2006 license: 11

Test date: Oct-2011

Test sponsor: IBM Corporation

Hardware Availability: Oct-2011

Tested by: IBM Corporation

Software Availability: Aug-2011

Peak Optimization Flags (Continued)

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.dealII: 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: -xAVX -ipo -O3 -no-prec-div -opt-prefetch -parallel
-static

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- -static

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-ic12.1-linux64.html>

<http://www.spec.org/cpu2006/flags/IBM-platform-linux64-revB.20111206.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic12.1-linux64.xml>

<http://www.spec.org/cpu2006/flags/IBM-platform-linux64-revB.20111206.xml>



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

SPECfp2006 = 61.5

IBM System x3100 M4 (Intel Xeon E3-1230)

SPECfp_base2006 = 59.6

CPU2006 license: 11

Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Oct-2011

Hardware Availability: Oct-2011

Software Availability: Aug-2011

SPEC and SPECfp are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.1.
Report generated on Thu Jul 24 01:20:40 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 6 December 2011.