



SPEC[®] CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

SPECfp[®]2006 = **62.6**

IBM System x3100 M4 (Intel Xeon E3-1240)

SPECfp_base2006 = **60.7**

CPU2006 license: 11

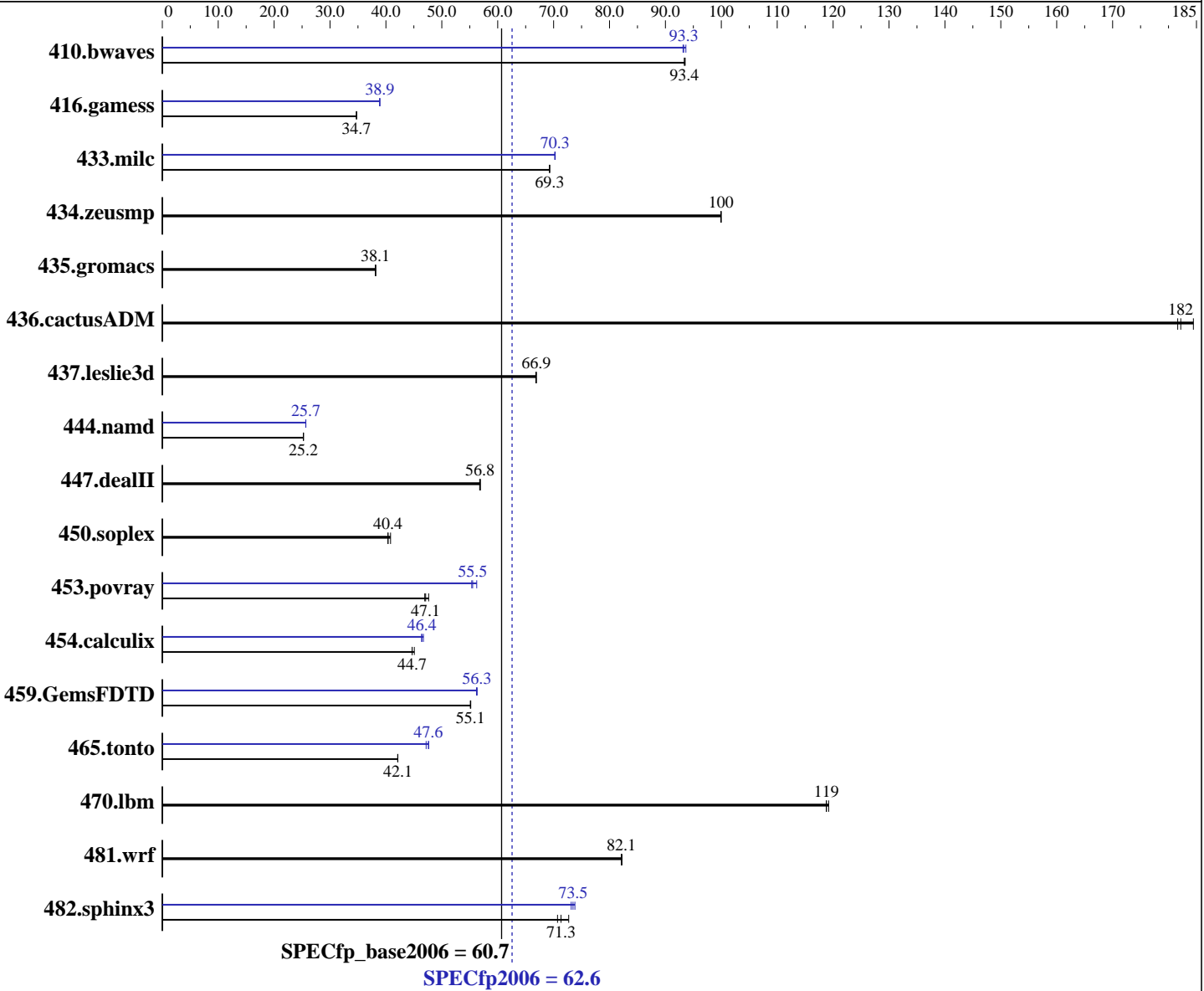
Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Oct-2011

Hardware Availability: Oct-2011

Software Availability: Aug-2011



Hardware

CPU Name: Intel Xeon E3-1240
 CPU Characteristics: Intel Turbo Boost Technology up to 3.70 GHz
 CPU MHz: 3300
 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 = **62.6**

IBM System x3100 M4 (Intel Xeon E3-1240)

SPECfp_base2006 = **60.7**

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	93.5	145	93.4	145	93.4	146	93.1	145	93.7	146	93.3
416.gamess	564	34.7	564	34.7	563	34.8	503	38.9	503	38.9	504	38.9
433.milc	133	69.3	132	69.3	133	69.3	131	70.3	131	70.2	131	70.3
434.zeusmp	91.0	100	91.0	100	91.0	100	91.0	100	91.0	100	91.0	100
435.gromacs	187	38.1	187	38.2	187	38.1	187	38.1	187	38.2	187	38.1
436.cactusADM	65.8	182	64.8	184	65.6	182	65.8	182	64.8	184	65.6	182
437.leslie3d	140	66.9	140	66.9	141	66.8	140	66.9	140	66.9	141	66.8
444.namd	318	25.2	318	25.2	318	25.2	312	25.7	313	25.7	312	25.7
447.dealII	202	56.8	201	56.8	201	56.9	202	56.8	201	56.8	201	56.9
450.soplex	207	40.4	207	40.4	204	40.8	207	40.4	207	40.4	204	40.8
453.povray	113	46.9	113	47.1	112	47.6	95.8	55.5	94.6	56.2	96.1	55.4
454.calculix	185	44.7	183	45.1	185	44.7	177	46.7	178	46.4	178	46.4
459.GemsFDTD	192	55.1	192	55.1	192	55.2	188	56.3	189	56.2	189	56.3
465.tonto	234	42.1	234	42.1	234	42.1	207	47.6	209	47.2	207	47.6
470.lbm	116	119	116	119	115	119	116	119	116	119	115	119
481.wrf	136	82.1	136	82.2	136	82.1	136	82.1	136	82.2	136	82.1
482.sphinx3	273	71.3	276	70.7	268	72.7	264	73.8	265	73.5	266	73.1

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 = 62.6

IBM System x3100 M4 (Intel Xeon E3-1240)

SPECfp_base2006 = 60.7

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 = 62.6

IBM System x3100 M4 (Intel Xeon E3-1240) SPECfp_base2006 = 60.7

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 = 62.6

IBM System x3100 M4 (Intel Xeon E3-1240)

SPECfp_base2006 = 60.7

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.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: -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 = 62.6

IBM System x3100 M4 (Intel Xeon E3-1240)

SPECfp_base2006 = 60.7

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 01:15:26 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 6 December 2011.