



SPEC[®] CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Oracle Corporation

SPECfp[®]_rate2006 = 196

Sun Fire X4270 M2 (Intel Xeon L5640 2.27 GHz)

SPECfp_rate_base2006 = 189

CPU2006 license: 6

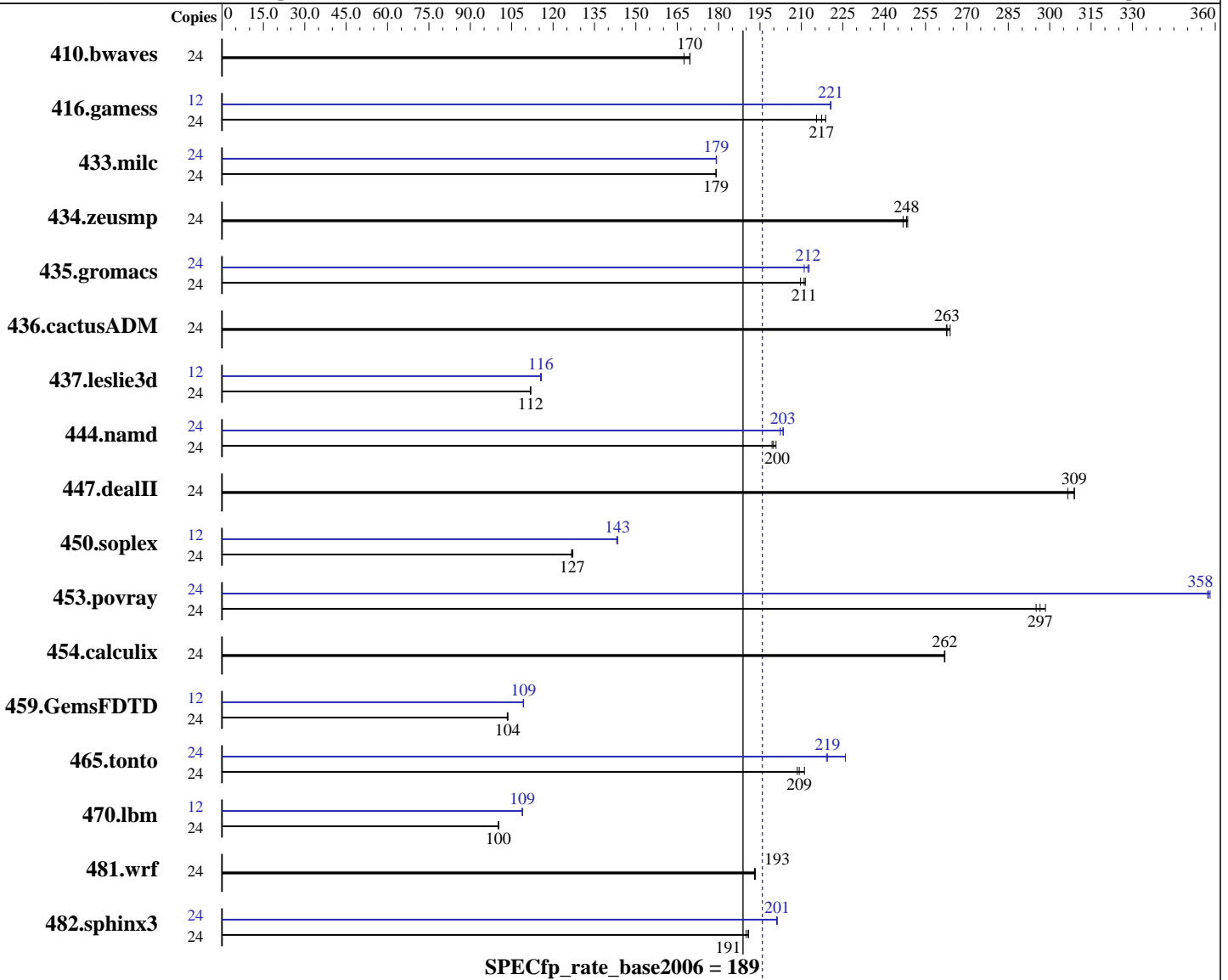
Test date: Sep-2010

Test sponsor: Oracle Corporation

Hardware Availability: Jun-2010

Tested by: Oracle Corporation

Software Availability: Apr-2010



Hardware

CPU Name: Intel Xeon L5640
 CPU Characteristics: Intel Turbo Boost Technology up to 2.80 GHz
 CPU MHz: 2267
 FPU: Integrated
 CPU(s) enabled: 12 cores, 2 chips, 6 cores/chip, 2 threads/core
 CPU(s) orderable: 1 or 2 chips
 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: Oracle Enterprise Linux Server release 5.5 kernel 2.6.18-194.el5
 Compiler: Intel C++ and Fortran Professional Compiler for IA32 and Intel 64, Version 11.1 Build 20091130 Package ID: l_cproc_p_11.1.064, l_cprof_p_11.1.064
 Auto Parallel: No
 File System: ext3
 System State: Run level 3 (multi-user)

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Oracle Corporation

SPECfp_rate2006 = 196

Sun Fire X4270 M2 (Intel Xeon L5640 2.27 GHz)

SPECfp_rate_base2006 = 189

CPU2006 license: 6

Test date: Sep-2010

Test sponsor: Oracle Corporation

Hardware Availability: Jun-2010

Tested by: Oracle Corporation

Software Availability: Apr-2010

L3 Cache: 12 MB I+D on chip per chip
Other Cache: None
Memory: 48 GB (12 x 4 GB 2Rx4 PC3-10600R-9, ECC)
Disk Subsystem: 1 x 146 GB SAS, 10000 RPM
Other Hardware: None

Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other Software: Binutils 2.18.50.0.7.20080502

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	24	1948	167	1923	170	1924	170	24	1948	167	1923	170	1924	170
416.gamess	24	2181	215	2162	217	2148	219	12	1065	221	1065	221	1065	221
433.milc	24	1230	179	1231	179	1230	179	24	1229	179	1229	179	1230	179
434.zeusmp	24	879	249	885	247	880	248	24	879	249	885	247	880	248
435.gromacs	24	810	211	817	210	812	211	24	805	213	812	211	807	212
436.cactusADM	24	1092	263	1092	263	1087	264	24	1092	263	1092	263	1087	264
437.leslie3d	24	2016	112	2016	112	2019	112	12	974	116	976	116	976	116
444.namd	24	965	199	963	200	959	201	24	951	202	947	203	946	203
447.dealII	24	896	307	889	309	889	309	24	896	307	889	309	889	309
450.soplex	24	1577	127	1580	127	1574	127	12	700	143	698	143	698	143
453.povray	24	428	298	433	295	431	297	24	357	358	357	357	357	358
454.calculix	24	756	262	756	262	756	262	24	756	262	756	262	756	262
459.GemsFDTD	24	2457	104	2460	104	2462	103	12	1165	109	1165	109	1166	109
465.tonto	24	1119	211	1129	209	1133	209	24	1076	219	1045	226	1078	219
470.lbm	24	3288	100	3293	100	3291	100	12	1513	109	1514	109	1515	109
481.wrf	24	1387	193	1388	193	1389	193	24	1387	193	1388	193	1389	193
482.sphinx3	24	2451	191	2453	191	2462	190	24	2324	201	2325	201	2327	201

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

Submit Notes

The config file option 'submit' was used to invoke the command numactl to bind copies to the cores. (For details, please see the config file.)

Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run

Platform Notes

Load Default BIOS Settings and then change the following
C-State Disabled
Data Reuse Optimization Disabled
Hardware Prefetch Enabled

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Oracle Corporation

SPECfp_rate2006 = 196

Sun Fire X4270 M2 (Intel Xeon L5640 2.27 GHz)

SPECfp_rate_base2006 = 189

CPU2006 license: 6

Test sponsor: Oracle Corporation

Tested by: Oracle Corporation

Test date: Sep-2010

Hardware Availability: Jun-2010

Software Availability: Apr-2010

Platform Notes (Continued)

Adjacent Cache Line Prefetch Enabled
L1 Data Prefetch Enabled

General Notes

This result is measured on a Sun Fire X4170 M2 server. The Sun Fire X4170 M2 and the Sun Fire X4270 M2 are electronically equivalent.

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



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Oracle Corporation

SPECfp_rate2006 = 196

Sun Fire X4270 M2 (Intel Xeon L5640 2.27 GHz)

SPECfp_rate_base2006 = 189

CPU2006 license: 6

Test date: Sep-2010

Test sponsor: Oracle Corporation

Hardware Availability: Jun-2010

Tested by: Oracle Corporation

Software Availability: Apr-2010

Base Optimization Flags

C benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -static

C++ benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -static

Fortran benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -static

Benchmarks using both Fortran and C:

-xSSE4.2 -ipo -O3 -no-prec-div -static

Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m64

482.sphinx3: icc -m32

C++ benchmarks (except as noted below):

icpc -m64

450.soplex: icpc -m32

Fortran benchmarks:

ifort -m64

Benchmarks using both Fortran and C:

icc -m64 ifort -m64

Peak 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
 453.povray: -DSPEC_CPU_LP64
 454.calculix: -DSPEC_CPU_LP64 -nofor_main
 459.GemsFDTD: -DSPEC_CPU_LP64
 465.tonto: -DSPEC_CPU_LP64

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Oracle Corporation

SPECfp_rate2006 = 196

Sun Fire X4270 M2 (Intel Xeon L5640 2.27 GHz)

SPECfp_rate_base2006 = 189

CPU2006 license: 6

Test date: Sep-2010

Test sponsor: Oracle Corporation

Hardware Availability: Jun-2010

Tested by: Oracle Corporation

Software Availability: Apr-2010

Peak Portability Flags (Continued)

470.lbm: -DSPEC_CPU_LP64

481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

433.milc: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-fno-alias -opt-prefetch

470.lbm: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-opt-malloc-options=3 -ansi-alias -auto-ilp32

482.sphinx3: -xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2

C++ benchmarks:

444.namd: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-fno-alias -auto-ilp32

447.dealIII: basepeak = yes

450.soplex: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-opt-malloc-options=3

453.povray: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(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) -static(pass 2) -prof-use(pass 2)
-unroll2 -Ob0 -ansi-alias -scalar-rep-

434.zeusmp: basepeak = yes

437.leslie3d: -xSSE4.2 -ipo -O3 -no-prec-div -static

459.GemsFDTD: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-unroll2 -Ob0

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Oracle Corporation

SPECfp_rate2006 = 196

Sun Fire X4270 M2 (Intel Xeon L5640 2.27 GHz)

SPECfp_rate_base2006 = 189

CPU2006 license: 6

Test date: Sep-2010

Test sponsor: Oracle Corporation

Hardware Availability: Jun-2010

Tested by: Oracle Corporation

Software Availability: Apr-2010

Peak Optimization Flags (Continued)

465.tonto: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-unroll4 -auto -inline-calloc -opt-malloc-options=3

Benchmarks using both Fortran and C:

435.gromacs: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-opt-prefetch -auto-ilp32

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

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-ic11.1-linux64-revE-pathfix-smartheap.20101027.html>
http://www.spec.org/cpu2006/flags/Oracle-platform-x86_64.20101027.html

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE-pathfix-smartheap.20101027.xml>
http://www.spec.org/cpu2006/flags/Oracle-platform-x86_64.20101027.xml

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 Wed Jul 23 14:14:05 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 26 October 2010.