



SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

SPECfp®_rate2006 = 235

IBM System x3630 M3 (Intel Xeon X5650)

SPECfp_rate_base2006 = 225

CPU2006 license: 11

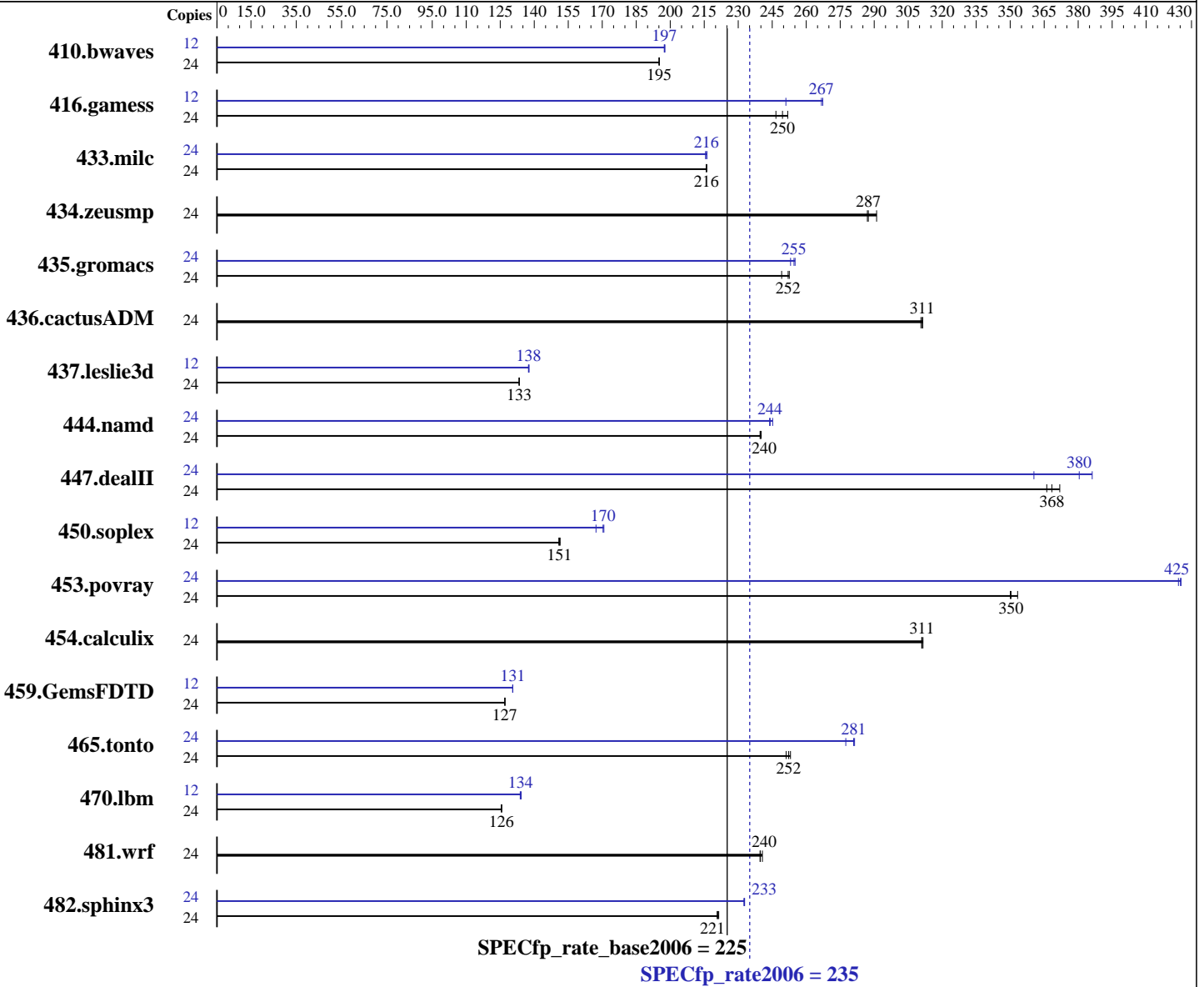
Test date: Sep-2010

Test sponsor: IBM Corporation

Hardware Availability: Oct-2010

Tested by: IBM Corporation

Software Availability: Jan-2010



Hardware

CPU Name: Intel Xeon X5650
 CPU Characteristics: Intel Turbo Boost Technology up to 3.06 GHz
 CPU MHz: 2667
 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

Continued on next page

Software

Operating System: SuSe Linux Enterprise Server 11 (x86_64), Kernel 2.6.27.19-5-default
 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

IBM Corporation

SPECfp_rate2006 = **235**

IBM System x3630 M3 (Intel Xeon X5650)

SPECfp_rate_base2006 = **225**

CPU2006 license: 11
Test sponsor: IBM Corporation
Tested by: IBM Corporation

Test date: Sep-2010
Hardware Availability: Oct-2010
Software Availability: Jan-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, 15000 RPM
Other Hardware: None

Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other Software: None

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	24	1672	195	1671	195	<u>1672</u>	<u>195</u>	12	826	197	825	198	<u>826</u>	<u>197</u>
416.gamess	24	1866	252	1905	247	<u>1883</u>	<u>250</u>	12	879	267	936	251	<u>881</u>	<u>267</u>
433.milc	24	1019	216	1021	216	<u>1020</u>	<u>216</u>	24	1019	216	1022	216	<u>1020</u>	<u>216</u>
434.zeusmp	24	<u>760</u>	<u>287</u>	761	287	750	291	24	<u>760</u>	<u>287</u>	761	287	750	291
435.gromacs	24	679	253	<u>680</u>	<u>252</u>	688	249	24	672	255	677	253	<u>673</u>	<u>255</u>
436.cactusADM	24	921	311	<u>922</u>	<u>311</u>	923	311	24	921	311	<u>922</u>	<u>311</u>	923	311
437.leslie3d	24	1691	133	1692	133	<u>1692</u>	<u>133</u>	12	821	137	819	138	<u>820</u>	<u>138</u>
444.namd	24	803	240	801	240	<u>803</u>	<u>240</u>	24	785	245	789	244	<u>789</u>	<u>244</u>
447.dealII	24	738	372	<u>745</u>	<u>368</u>	750	366	24	762	360	<u>722</u>	<u>380</u>	711	386
450.soplex	24	<u>1324</u>	<u>151</u>	1327	151	1322	151	12	598	167	<u>588</u>	<u>170</u>	586	171
453.povray	24	361	353	<u>364</u>	<u>350</u>	365	350	24	301	424	300	425	<u>300</u>	<u>425</u>
454.calculix	24	636	312	637	311	<u>637</u>	<u>311</u>	24	636	312	637	311	<u>637</u>	<u>311</u>
459.GemsFDTD	24	2003	127	2005	127	<u>2004</u>	<u>127</u>	12	975	131	<u>975</u>	<u>131</u>	976	130
465.tonto	24	933	253	940	251	<u>936</u>	<u>252</u>	24	839	281	851	277	<u>841</u>	<u>281</u>
470.lbm	24	2625	126	2627	126	<u>2627</u>	<u>126</u>	12	1228	134	<u>1231</u>	<u>134</u>	1232	134
481.wrf	24	1114	241	<u>1118</u>	<u>240</u>	1119	240	24	1114	241	<u>1118</u>	<u>240</u>	1119	240
482.sphinx3	24	2113	221	2120	221	<u>2116</u>	<u>221</u>	24	<u>2010</u>	<u>233</u>	2012	233	2009	233

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.
numactl was used to bind copies to the cores

Platform Notes

BIOS Settings:
Turbo Mode Enable
Turbo Boost set to Traditional
CPU C State Enable
Data Reuse Disable



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

SPECfp_rate2006 = 235

IBM System x3630 M3 (Intel Xeon X5650)

SPECfp_rate_base2006 = 225

CPU2006 license: 11

Test date: Sep-2010

Test sponsor: IBM Corporation

Hardware Availability: Oct-2010

Tested by: IBM Corporation

Software Availability: Jan-2010

General Notes

Binaries were compiled on SLES 10 with Binutils 2.18.50.0.7.20080502
'ulimit -s unlimited' was used to set the stack size to unlimited prior to run

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 -static

C++ benchmarks:

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

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

SPECfp_rate2006 = 235

IBM System x3630 M3 (Intel Xeon X5650)

SPECfp_rate_base2006 = 225

CPU2006 license: 11

Test date: Sep-2010

Test sponsor: IBM Corporation

Hardware Availability: Oct-2010

Tested by: IBM Corporation

Software Availability: Jan-2010

Base Optimization Flags (Continued)

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
 470.lbm: -DSPEC_CPU_LP64
 481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

SPECfp_rate2006 = 235

IBM System x3630 M3 (Intel Xeon X5650)

SPECfp_rate_base2006 = 225

CPU2006 license: 11

Test date: Sep-2010

Test sponsor: IBM Corporation

Hardware Availability: Oct-2010

Tested by: IBM Corporation

Software Availability: Jan-2010

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: -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 -ansi-alias -scalar-rep-

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: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

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

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

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

SPECfp_rate2006 = 235

IBM System x3630 M3 (Intel Xeon X5650)

SPECfp_rate_base2006 = 225

CPU2006 license: 11

Test date: Sep-2010

Test sponsor: IBM Corporation

Hardware Availability: Oct-2010

Tested by: IBM Corporation

Software Availability: Jan-2010

Peak Optimization Flags (Continued)

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 file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100929.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100929.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 13:56:24 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 9 November 2010.