



SPEC[®] CFP2006 Result

Copyright 2006-2009 Standard Performance Evaluation Corporation

ACTION S.A.

SPECfp[®]_rate2006 = 158

ACTINA SOLAR 820 S4 (Intel Xeon E5520)

SPECfp_rate_base2006 = 152

CPU2006 license: 9008

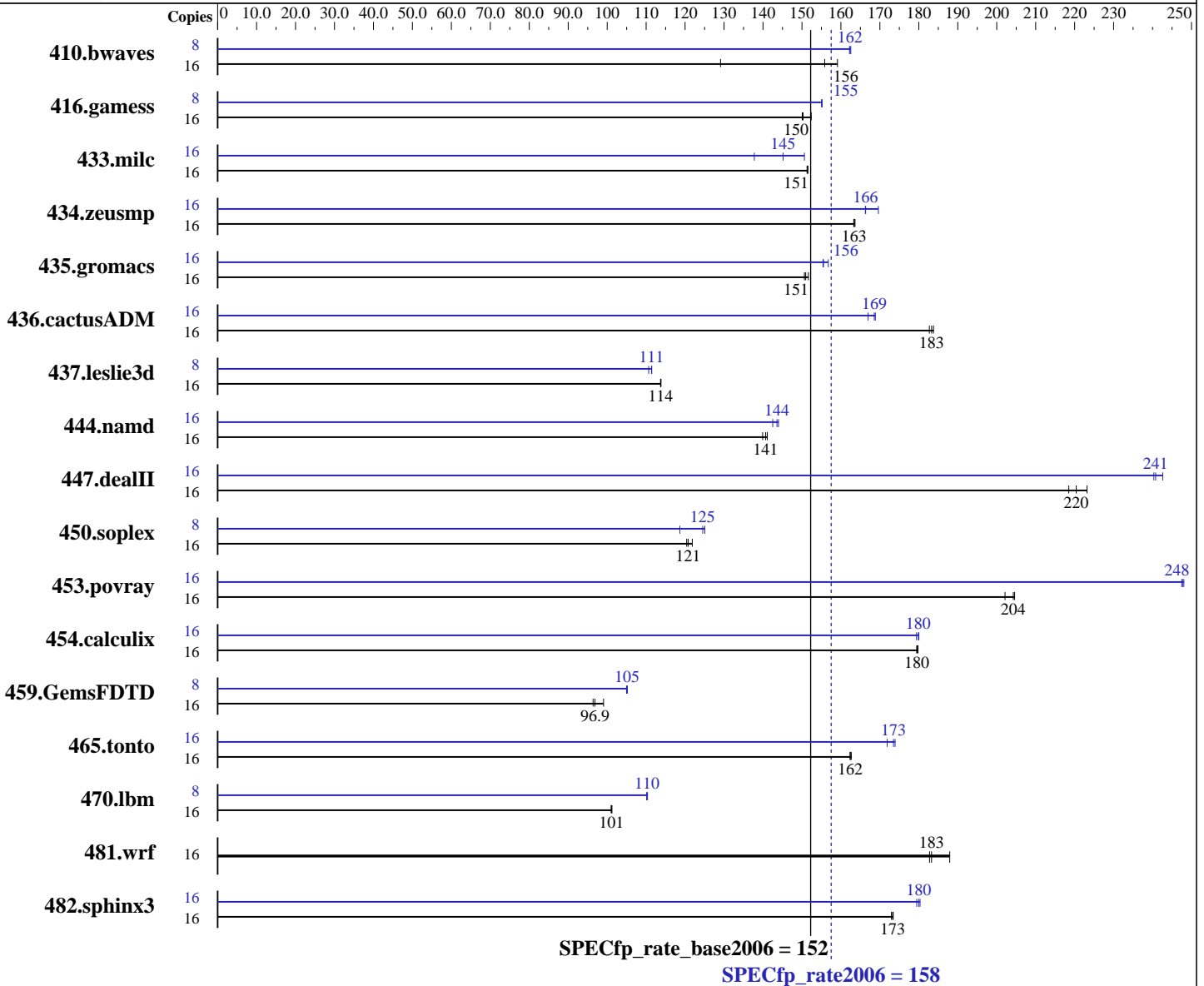
Test sponsor: ACTION S.A.

Tested by: ACTION S.A.

Test date: May-2009

Hardware Availability: Apr-2009

Software Availability: Feb-2009



Hardware

CPU Name: Intel Xeon E5520
 CPU Characteristics: Intel Turbo Boost Technology up to 2.53 GHz
 CPU MHz: 2267
 FPU: Integrated
 CPU(s) enabled: 8 cores, 2 chips, 4 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 10 (x86_64) with SP2, kernel 2.6.16.60-0.21-smp
 Compiler: Intel C++ and Fortran Compiler 11.0 for Linux Build 20080930 Package ID: l_cproc_p_11.0.066, l_fproc_p_11.0.066
 Auto Parallel: No
 File System: ReiserFS
 System State: Run level 3 (multi-user)
 Base Pointers: 64-bit

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2009 Standard Performance Evaluation Corporation

ACTION S.A.

SPECfp_rate2006 = 158

ACTINA SOLAR 820 S4 (Intel Xeon E5520)

SPECfp_rate_base2006 = 152

CPU2006 license: 9008

Test date: May-2009

Test sponsor: ACTION S.A.

Hardware Availability: Apr-2009

Tested by: ACTION S.A.

Software Availability: Feb-2009

Hardware (Continued)

L3 Cache: 8 MB I+D on chip per chip
 Other Cache: None
 Memory: 24 GB (6x 4 GB PC3-8500, 1066 MHz, DDR3, ECC)
 Disk Subsystem: 1x 147 GB SAS, 15000 RPM
 Other Hardware: None

Software (Continued)

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	16	1684	129	1367	159	<u>1395</u>	<u>156</u>	8	670	162	669	163	<u>670</u>	<u>162</u>		
416.gamess	16	<u>2084</u>	<u>150</u>	2056	152	2088	150	8	1010	155	1010	155	<u>1010</u>	<u>155</u>		
433.milc	16	969	152	971	151	<u>970</u>	<u>151</u>	16	975	151	<u>1012</u>	<u>145</u>	1066	138		
434.zeusmp	16	892	163	<u>891</u>	<u>163</u>	890	164	16	858	170	<u>875</u>	<u>166</u>	876	166		
435.gromacs	16	<u>757</u>	<u>151</u>	758	151	753	152	16	729	157	<u>735</u>	<u>156</u>	735	155		
436.cactusADM	16	1047	183	<u>1043</u>	<u>183</u>	1040	184	16	1145	167	<u>1134</u>	<u>169</u>	1132	169		
437.leslie3d	16	1323	114	<u>1322</u>	<u>114</u>	1321	114	8	675	111	680	111	<u>675</u>	<u>111</u>		
444.namd	16	917	140	<u>912</u>	<u>141</u>	909	141	16	<u>894</u>	<u>144</u>	891	144	901	142		
447.dealII	16	838	218	820	223	<u>830</u>	<u>220</u>	16	754	243	762	240	<u>760</u>	<u>241</u>		
450.soplex	16	1108	120	<u>1105</u>	<u>121</u>	1095	122	8	562	119	<u>536</u>	<u>125</u>	533	125		
453.povray	16	421	202	416	205	<u>417</u>	<u>204</u>	16	343	248	344	247	<u>344</u>	<u>248</u>		
454.calculix	16	735	179	734	180	<u>735</u>	<u>180</u>	16	733	180	736	179	<u>734</u>	<u>180</u>		
459.GemsFDTD	16	<u>1753</u>	<u>96.9</u>	1761	96.4	1714	99.1	8	<u>808</u>	<u>105</u>	809	105	807	105		
465.tonto	16	968	163	970	162	<u>969</u>	<u>162</u>	16	<u>907</u>	<u>173</u>	905	174	916	172		
470.lbm	16	2176	101	2172	101	<u>2173</u>	<u>101</u>	8	996	110	<u>997</u>	<u>110</u>	998	110		
481.wrf	16	951	188	978	183	<u>975</u>	<u>183</u>	16	951	188	978	183	<u>975</u>	<u>183</u>		
482.sphinx3	16	1803	173	1798	173	<u>1800</u>	<u>173</u>	16	1729	180	1738	179	<u>1733</u>	<u>180</u>		

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.

General Notes

'numactl' was used to bind copies to the cores
 'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run



SPEC CFP2006 Result

Copyright 2006-2009 Standard Performance Evaluation Corporation

ACTION S.A.

SPECfp_rate2006 = 158

ACTINA SOLAR 820 S4 (Intel Xeon E5520)

SPECfp_rate_base2006 = 152

CPU2006 license: 9008

Test date: May-2009

Test sponsor: ACTION S.A.

Hardware Availability: Apr-2009

Tested by: ACTION S.A.

Software Availability: Feb-2009

Base Compiler Invocation

C benchmarks:

icc

C++ benchmarks:

icpc

Fortran benchmarks:

ifort

Benchmarks using both Fortran and C:

icc ifort

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.lelie3d: -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

Fortran benchmarks:

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

Benchmarks using both Fortran and C:

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



SPEC CFP2006 Result

Copyright 2006-2009 Standard Performance Evaluation Corporation

ACTION S.A.

SPECfp_rate2006 = 158

ACTINA SOLAR 820 S4 (Intel Xeon E5520)

SPECfp_rate_base2006 = 152

CPU2006 license: 9008

Test date: May-2009

Test sponsor: ACTION S.A.

Hardware Availability: Apr-2009

Tested by: ACTION S.A.

Software Availability: Feb-2009

Peak Compiler Invocation

C benchmarks (except as noted below):

icc

482.sphinx3: icc -m32

C++ benchmarks (except as noted below):

icpc

450.soplex: icpc -m32

Fortran benchmarks (except as noted below):

ifort

437.leslie3d: ifort -m32

Benchmarks using both Fortran and C:

icc ifort

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
 444.namd: -DSPEC_CPU_LP64
 447.deallI: -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

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

470.lbm: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch
 -auto-ilp32

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2009 Standard Performance Evaluation Corporation

ACTION S.A.

SPECfp_rate2006 = 158

ACTINA SOLAR 820 S4 (Intel Xeon E5520)

SPECfp_rate_base2006 = 152

CPU2006 license: 9008

Test date: May-2009

Test sponsor: ACTION S.A.

Hardware Availability: Apr-2009

Tested by: ACTION S.A.

Software Availability: Feb-2009

Peak Optimization Flags (Continued)

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.dealII: -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: -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)

437.leslie3d: -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 -opt-prefetch

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 -opt-prefetch

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

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

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2009 Standard Performance Evaluation Corporation

ACTION S.A.

SPECfp_rate2006 = 158

ACTINA SOLAR 820 S4 (Intel Xeon E5520)

SPECfp_rate_base2006 = 152

CPU2006 license: 9008

Test date: May-2009

Test sponsor: ACTION S.A.

Hardware Availability: Apr-2009

Tested by: ACTION S.A.

Software Availability: Feb-2009

Peak Optimization Flags (Continued)

436.cactusADM: -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 -opt-prefetch -auto-ilp32

454.calculix: -xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32

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-ic11.0-fp-linux64-revA.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-fp-linux64-revA.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 Tue Jul 21 11:13:33 2009 by SPEC CPU2006 PS/PDF formatter v6323.