



SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

SPECfp®2006 = 35.9

NovaScale R410 F2 (Intel Xeon X3460, 2.80 GHz)

SPECfp_base2006 = 34.5

CPU2006 license: 20

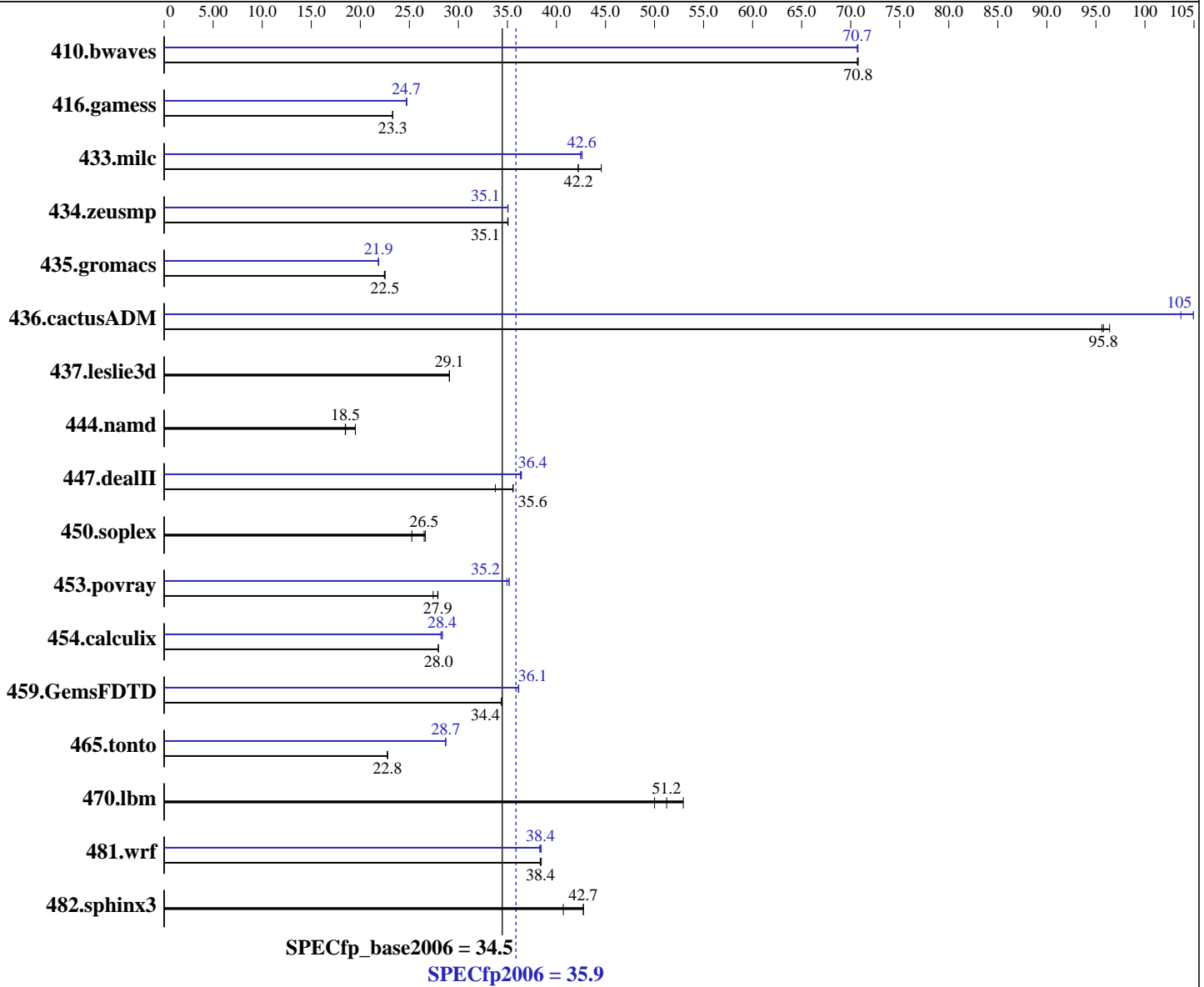
Test sponsor: Bull SAS

Tested by: Dell Inc.

Test date: Sep-2009

Hardware Availability: Dec-2009

Software Availability: Jul-2009



Hardware

CPU Name: Intel Xeon X3460
 CPU Characteristics: Intel Turbo Boost Technology up to 3.46 GHz
 CPU MHz: 2800
 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 5.3, Kernel 2.6.18-128.el5
 Compiler: Intel Fortran Compiler and Intel C++ Compiler Professional Edition 11.1 For Linux Build 20090511 Package ID: l_cproc_p_11.1.040, l_cprof_p_11.1.040
 Auto Parallel: Yes
 File System: ReiserFS
 System State: Run level 3 (multi-user)

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

SPECfp2006 = **35.9**

NovaScale R410 F2 (Intel Xeon X3460, 2.80 GHz)

SPECfp_base2006 = **34.5**

CPU2006 license: 20

Test date: Sep-2009

Test sponsor: Bull SAS

Hardware Availability: Dec-2009

Tested by: Dell Inc.

Software Availability: Jul-2009

L3 Cache: 8 MB I+D on chip per chip
Other Cache: None
Memory: 8 GB (4 x 2 GB DDR3-1333 DR UDIMM)
Disk Subsystem: 1 x 160 GB 7200 RPM SATA
Other Hardware: None

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

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	<u>192</u>	<u>70.8</u>	192	70.7	192	70.8	192	70.8	<u>192</u>	<u>70.7</u>	192	70.7
416.gamess	841	23.3	<u>840</u>	<u>23.3</u>	840	23.3	791	24.8	<u>793</u>	<u>24.7</u>	793	24.7
433.milc	206	44.6	<u>217</u>	<u>42.2</u>	218	42.2	215	42.6	<u>216</u>	<u>42.6</u>	216	42.5
434.zeusmp	260	35.1	260	35.0	<u>260</u>	<u>35.1</u>	<u>260</u>	<u>35.1</u>	260	35.0	260	35.1
435.gromacs	<u>317</u>	<u>22.5</u>	317	22.5	318	22.4	<u>326</u>	<u>21.9</u>	326	21.9	327	21.8
436.cactusADM	<u>125</u>	<u>95.8</u>	125	95.6	124	96.4	<u>114</u>	<u>105</u>	114	105	115	104
437.leslie3d	<u>323</u>	<u>29.1</u>	323	29.1	323	29.1	<u>323</u>	<u>29.1</u>	323	29.1	323	29.1
444.namd	411	19.5	434	18.5	<u>434</u>	<u>18.5</u>	411	19.5	434	18.5	<u>434</u>	<u>18.5</u>
447.dealII	322	35.6	339	33.8	<u>322</u>	<u>35.6</u>	315	36.3	314	36.4	<u>315</u>	<u>36.4</u>
450.soplex	<u>315</u>	<u>26.5</u>	330	25.3	313	26.6	<u>315</u>	<u>26.5</u>	330	25.3	313	26.6
453.povray	<u>191</u>	<u>27.9</u>	194	27.4	191	27.9	152	34.9	<u>151</u>	<u>35.2</u>	151	35.2
454.calculix	295	28.0	<u>295</u>	<u>28.0</u>	295	28.0	291	28.4	292	28.2	<u>291</u>	<u>28.4</u>
459.GemsFDTD	308	34.5	309	34.4	<u>308</u>	<u>34.4</u>	293	36.2	294	36.1	<u>294</u>	<u>36.1</u>
465.tonto	432	22.8	<u>432</u>	<u>22.8</u>	432	22.8	<u>343</u>	<u>28.7</u>	343	28.7	343	28.7
470.lbm	260	52.9	275	50.0	<u>268</u>	<u>51.2</u>	260	52.9	275	50.0	<u>268</u>	<u>51.2</u>
481.wrf	290	38.5	291	38.3	<u>291</u>	<u>38.4</u>	292	38.3	290	38.5	<u>291</u>	<u>38.4</u>
482.sphinx3	<u>456</u>	<u>42.7</u>	479	40.7	456	42.7	<u>456</u>	<u>42.7</u>	479	40.7	456	42.7

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.

Operating System Notes

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

Platform Notes

BIOS Settings:

Power Management = Maximum Performance (Default = Active Power Controller)



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

SPECfp2006 = 35.9

NovaScale R410 F2 (Intel Xeon X3460, 2.80 GHz)

SPECfp_base2006 = 34.5

CPU2006 license: 20
Test sponsor: Bull SAS
Tested by: Dell Inc.

Test date: Sep-2009
Hardware Availability: Dec-2009
Software Availability: Jul-2009

General Notes

OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to granularity=fine,scatter
KMP_STACKSIZE set to 200M
The Dell PowerEdge R210 (Intel Xeon X3460, 2.80 GHz) and the Bull NovaScale R410 F2 (Intel Xeon X3460, 2.80 GHz) models are electronically equivalent. The results have been measured on a Dell PowerEdge R210 (Intel Xeon X3460, 2.80 GHz) model.

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.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 -opt-prefetch

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

SPECfp2006 = 35.9

NovaScale R410 F2 (Intel Xeon X3460, 2.80 GHz)

SPECfp_base2006 = 34.5

CPU2006 license: 20

Test sponsor: Bull SAS

Tested by: Dell Inc.

Test date: Sep-2009

Hardware Availability: Dec-2009

Software Availability: Jul-2009

Base Optimization Flags (Continued)

C++ benchmarks:

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

Fortran benchmarks:

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

Benchmarks using both Fortran and C:

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

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: -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: basepeak = yes`

`482.sphinx3: basepeak = yes`

C++ benchmarks:

`444.namd: basepeak = yes`

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

SPECfp2006 = 35.9

NovaScale R410 F2 (Intel Xeon X3460, 2.80 GHz)

SPECfp_base2006 = 34.5

CPU2006 license: 20

Test date: Sep-2009

Test sponsor: Bull SAS

Hardware Availability: Dec-2009

Tested by: Dell Inc.

Software Availability: Jul-2009

Peak Optimization Flags (Continued)

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- -opt-prefetch

450.soplex: basepeak = yes

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
-parallel

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: Same as 410.bwaves

437.leslie3d: basepeak = yes

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 -parallel

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

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 -parallel -auto-ilp32

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

481.wrf: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch
-parallel -auto-ilp32

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

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



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

SPECfp2006 = 35.9

NovaScale R410 F2 (Intel Xeon X3460, 2.80 GHz)

SPECfp_base2006 = 34.5

CPU2006 license: 20

Test sponsor: Bull SAS

Tested by: Dell Inc.

Test date: Sep-2009

Hardware Availability: Dec-2009

Software Availability: Jul-2009

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-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 Wed Jul 23 03:51:28 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 22 December 2009.