



SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

SPECfp®2006 = 38.2

NovaScale R440 F2 (Intel Xeon E5630, 2.53 GHz)

SPECfp_base2006 = 35.6

CPU2006 license: 20

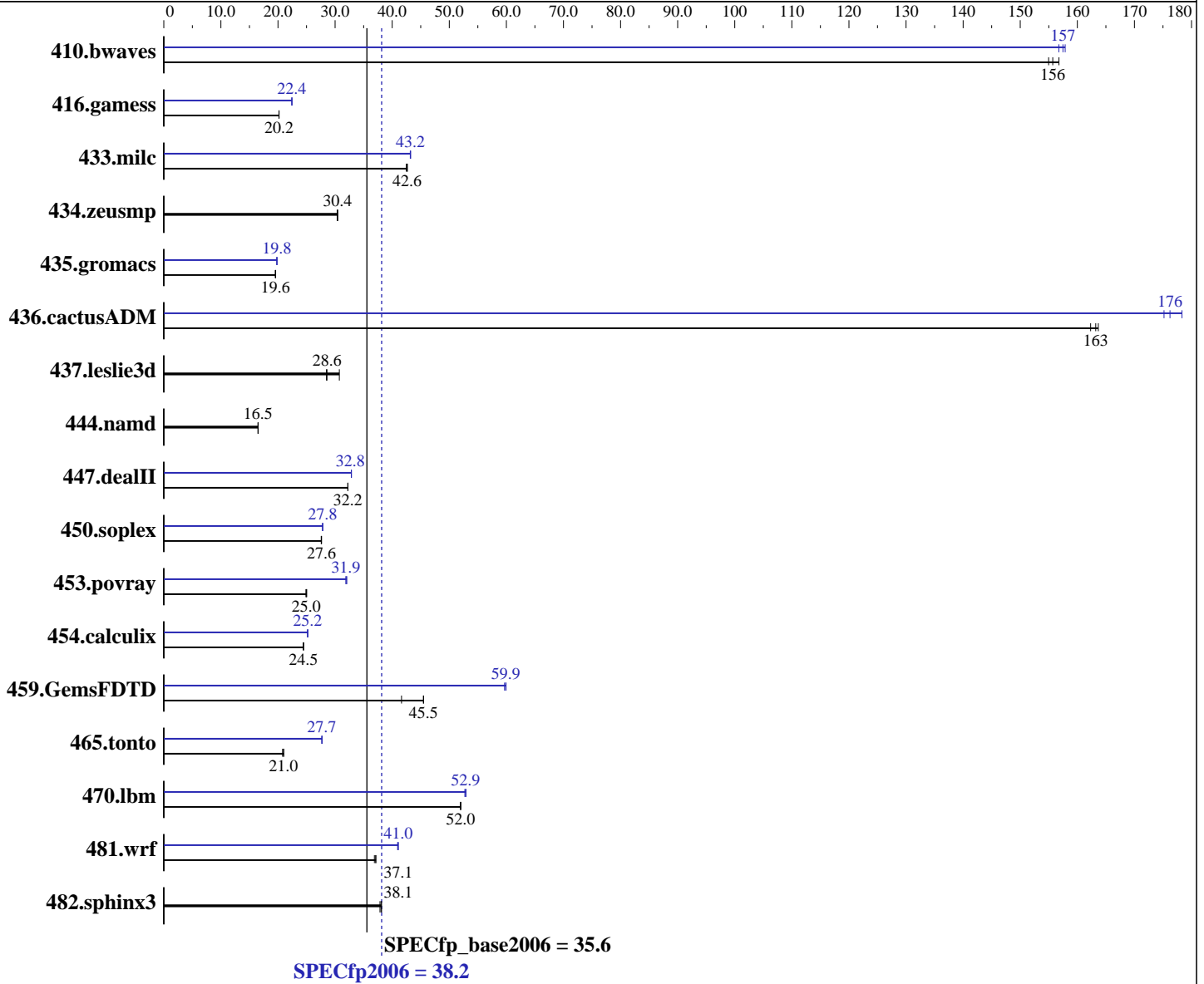
Test sponsor: Bull SAS

Tested by: Dell Inc.

Test date: Jun-2010

Hardware Availability: Mar-2010

Software Availability: Dec-2009



Hardware

CPU Name: Intel Xeon E5630
 CPU Characteristics: Intel Turbo Boost Technology up to 2.80 GHz
 CPU MHz: 2533
 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 11 (x86_64), Kernel 2.6.27.19-5-smp
 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: Yes
 File System: ext3
 System State: Run level 3 (multi-user)

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

SPECfp2006 = **38.2**

NovaScale R440 F2 (Intel Xeon E5630, 2.53 GHz)

SPECfp_base2006 = **35.6**

CPU2006 license: 20

Test sponsor: Bull SAS

Tested by: Dell Inc.

Test date: Jun-2010

Hardware Availability: Mar-2010

Software Availability: Dec-2009

L3 Cache: 12 MB I+D on chip per chip
Other Cache: None
Memory: 48 GB (12 x 4 GB DDR3-1333 DR RDIMM, CL9, ECC, downclocked to 1066 MHz)
Disk Subsystem: 1 x 146 GB 15000 RPM SAS
Other Hardware: None

Base Pointers: 64-bit
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	87.7	155	87.3	156	86.7	157	86.3	157	86.7	157	86.1	158
416.gamess	971	20.2	970	20.2	970	20.2	873	22.4	873	22.4	873	22.4
433.milc	216	42.5	215	42.6	215	42.7	212	43.2	212	43.2	213	43.2
434.zeusmp	299	30.5	300	30.4	299	30.4	299	30.5	300	30.4	299	30.4
435.gromacs	365	19.6	364	19.6	366	19.5	360	19.8	361	19.8	361	19.8
436.cactusADM	73.2	163	73.0	164	73.6	162	67.8	176	68.2	175	67.0	178
437.leslie3d	306	30.7	329	28.6	330	28.5	306	30.7	329	28.6	330	28.5
444.namd	486	16.5	486	16.5	486	16.5	486	16.5	486	16.5	486	16.5
447.dealII	355	32.2	355	32.2	355	32.2	348	32.9	348	32.8	348	32.8
450.soplex	302	27.6	302	27.6	303	27.6	300	27.8	300	27.8	300	27.8
453.povray	213	25.0	213	25.0	214	24.9	167	31.9	167	31.9	166	32.1
454.calculix	337	24.5	337	24.5	337	24.5	327	25.2	328	25.2	327	25.2
459.GemsFDTD	233	45.5	255	41.6	233	45.5	177	59.9	178	59.7	177	59.9
465.tonto	469	21.0	469	21.0	473	20.8	355	27.7	356	27.7	355	27.7
470.lbm	264	52.0	264	52.0	264	52.0	260	52.9	260	52.9	261	52.7
481.wrf	301	37.1	303	36.9	301	37.2	272	41.1	272	41.0	273	41.0
482.sphinx3	511	38.1	512	38.1	515	37.9	511	38.1	512	38.1	515	37.9

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

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)

Data Reuse = Disabled (Default = Enabled)

General Notes

Binaries were compiled on SLES 10 with Binutils 2.18.50.0.7.20080502

OMP_NUM_THREADS set to number of cores

KMP_AFFINITY set to granularity=fine,scatter

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org/

Page 2



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

SPECfp2006 = 38.2

NovaScale R440 F2 (Intel Xeon E5630, 2.53 GHz)

SPECfp_base2006 = 35.6

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

Test date: Jun-2010
Hardware Availability: Mar-2010
Software Availability: Dec-2009

General Notes (Continued)

KMP_STACKSIZE set to 200M
The Dell PowerEdge R610 and
the Bull NovaScale R440 F2 models are electronically equivalent.
The results have been measured on a Dell PowerEdge R610 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.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 -parallel -opt-prefetch

C++ benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

SPECfp2006 = 38.2

NovaScale R440 F2 (Intel Xeon E5630, 2.53 GHz)

SPECfp_base2006 = 35.6

CPU2006 license: 20

Test date: Jun-2010

Test sponsor: Bull SAS

Hardware Availability: Mar-2010

Tested by: Dell Inc.

Software Availability: Dec-2009

Base Optimization Flags (Continued)

Fortran benchmarks:

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

Benchmarks using both Fortran and C:

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

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)
-ansi-alias`

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)
-parallel -ansi-alias -auto-ilp32`

482.sphinx3: `basepeak = yes`

C++ benchmarks:

444.namd: `basepeak = yes`

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- -auto-ilp32`

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

SPECfp2006 = 38.2

NovaScale R440 F2 (Intel Xeon E5630, 2.53 GHz)

SPECfp_base2006 = 35.6

CPU2006 license: 20

Test date: Jun-2010

Test sponsor: Bull SAS

Hardware Availability: Mar-2010

Tested by: Dell Inc.

Software Availability: Dec-2009

Peak Optimization Flags (Continued)

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 -auto-ilp32

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: basepeak = yes

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)
-inline-calloc -opt-malloc-options=3 -auto -unroll4

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: Same as 454.calculix

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.20100330.html>



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

SPECfp2006 = 38.2

NovaScale R440 F2 (Intel Xeon E5630, 2.53 GHz)

SPECfp_base2006 = 35.6

CPU2006 license: 20

Test sponsor: Bull SAS

Tested by: Dell Inc.

Test date: Jun-2010

Hardware Availability: Mar-2010

Software Availability: Dec-2009

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100330.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 08:24:17 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 22 June 2010.