



SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

NovaScale R440 F2
(Intel Xeon X5570, 2.93 GHz)

SPECfp®_rate2006 = 202

SPECfp_rate_base2006 = 196

CPU2006 license: 20

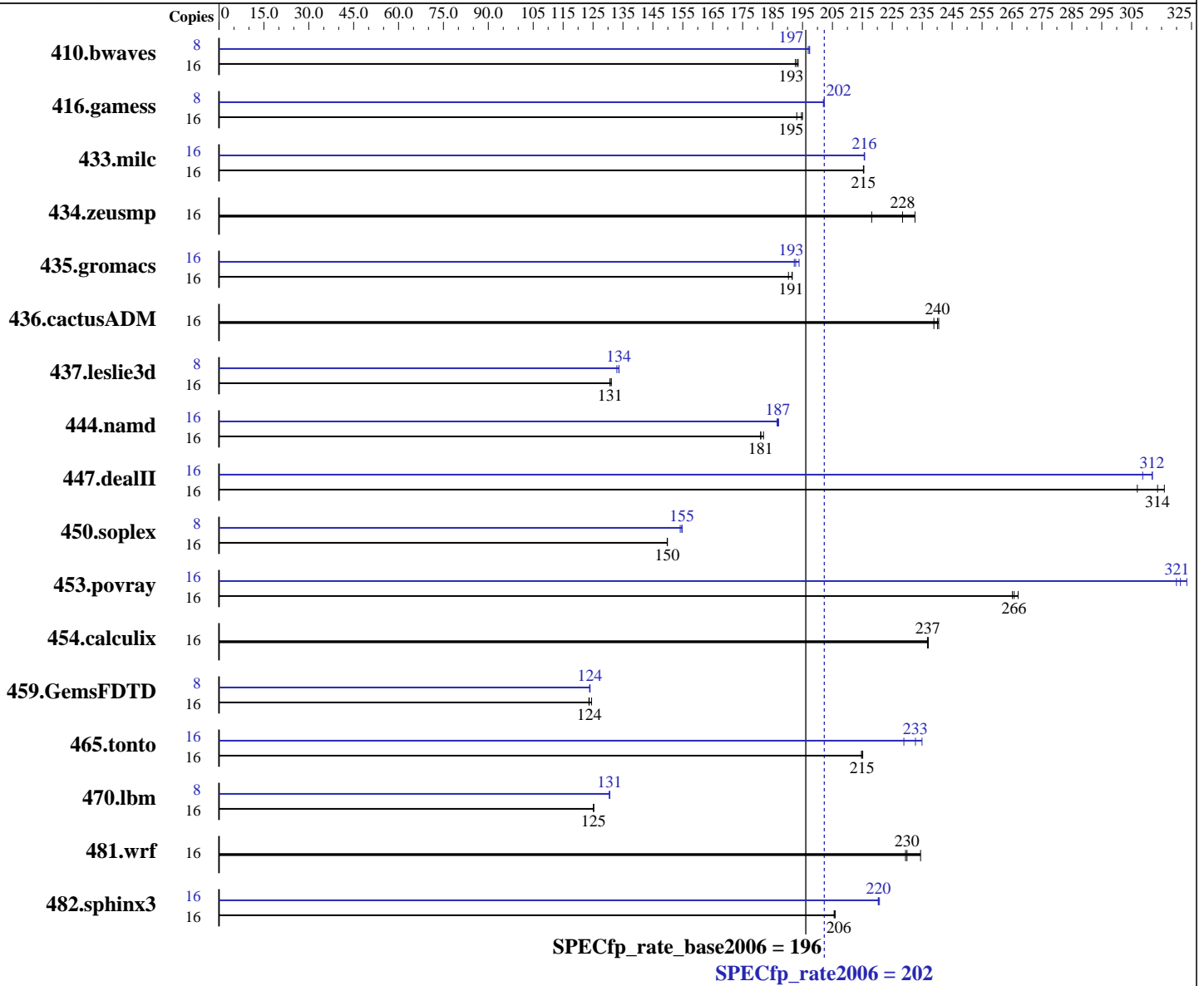
Test sponsor: Bull SAS

Tested by: Bull SAS

Test date: Apr-2010

Hardware Availability: Jan-2010

Software Availability: Dec-2009



Hardware

CPU Name: Intel Xeon X5570
 CPU Characteristics: Intel Turbo Boost Technology up to 3.33 GHz
 CPU MHz: 2933
 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-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

Bull SAS

NovaScale R440 F2
(Intel Xeon X5570, 2.93 GHz)

SPECfp_rate2006 = 202

SPECfp_rate_base2006 = 196

CPU2006 license: 20

Test sponsor: Bull SAS

Tested by: Bull SAS

Test date: Apr-2010

Hardware Availability: Jan-2010

Software Availability: Dec-2009

L3 Cache: 8 MB I+D on chip per chip
Other Cache: None
Memory: 48 GB (12 x 4 GB PC3-10600R, 2 Rank, CL9-9-9, ECC)
Disk Subsystem: 1 x 73 GB SAS, 10000 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 | 16 | 1123 | 194 | 1126 | 193 | 1129 | 193 | 8 | 552 | 197 | 551 | 197 | 551 | 197 |
| 416.gamess | 16 | 1609 | 195 | 1607 | 195 | 1623 | 193 | 8 | 775 | 202 | 776 | 202 | 774 | 202 |
| 433.milc | 16 | 682 | 216 | 682 | 215 | 682 | 215 | 16 | 681 | 216 | 681 | 216 | 681 | 216 |
| 434.zeusmp | 16 | 668 | 218 | 637 | 228 | 626 | 233 | 16 | 668 | 218 | 637 | 228 | 626 | 233 |
| 435.gromacs | 16 | 596 | 192 | 600 | 190 | 597 | 191 | 16 | 593 | 193 | 594 | 192 | 589 | 194 |
| 436.cactusADM | 16 | 795 | 241 | 796 | 240 | 800 | 239 | 16 | 795 | 241 | 796 | 240 | 800 | 239 |
| 437.leslie3d | 16 | 1147 | 131 | 1151 | 131 | 1150 | 131 | 8 | 563 | 134 | 563 | 134 | 566 | 133 |
| 444.namd | 16 | 709 | 181 | 709 | 181 | 705 | 182 | 16 | 687 | 187 | 686 | 187 | 688 | 186 |
| 447.dealII | 16 | 579 | 316 | 584 | 314 | 596 | 307 | 16 | 587 | 312 | 593 | 309 | 587 | 312 |
| 450.soplex | 16 | 891 | 150 | 890 | 150 | 891 | 150 | 8 | 431 | 155 | 433 | 154 | 431 | 155 |
| 453.povray | 16 | 321 | 265 | 320 | 266 | 319 | 267 | 16 | 265 | 321 | 266 | 320 | 263 | 323 |
| 454.calculix | 16 | 557 | 237 | 557 | 237 | 558 | 237 | 16 | 557 | 237 | 557 | 237 | 558 | 237 |
| 459.GemsFDTD | 16 | 1363 | 125 | 1373 | 124 | 1372 | 124 | 8 | 685 | 124 | 685 | 124 | 684 | 124 |
| 465.tonto | 16 | 733 | 215 | 732 | 215 | 732 | 215 | 16 | 670 | 235 | 688 | 229 | 676 | 233 |
| 470.lbm | 16 | 1755 | 125 | 1757 | 125 | 1757 | 125 | 8 | 842 | 131 | 842 | 130 | 842 | 131 |
| 481.wrf | 16 | 762 | 234 | 779 | 229 | 777 | 230 | 16 | 762 | 234 | 779 | 229 | 777 | 230 |
| 482.sphinx3 | 16 | 1516 | 206 | 1514 | 206 | 1517 | 206 | 16 | 1413 | 221 | 1415 | 220 | 1416 | 220 |

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

Operating System Notes

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

General Notes

Binaries were compiled on SLES 10 with Binutils 2.18.50.0.7.20080502
The Dell PowerEdge R610 and
the Bull NovaScale R440 F2 models are electronically equivalent.

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

NovaScale R440 F2
(Intel Xeon X5570, 2.93 GHz)

SPECfp_rate2006 = 202

SPECfp_rate_base2006 = 196

CPU2006 license: 20
Test sponsor: Bull SAS
Tested by: Bull SAS

Test date: Apr-2010
Hardware Availability: Jan-2010
Software Availability: Dec-2009

General Notes (Continued)

The results have been measured on a Bull NovaScale R440 F2 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

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

Fortran benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -static

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

NovaScale R440 F2
(Intel Xeon X5570, 2.93 GHz)

SPECfp_rate2006 = 202

SPECfp_rate_base2006 = 196

CPU2006 license: 20
Test sponsor: Bull SAS
Tested by: Bull SAS

Test date: Apr-2010
Hardware Availability: Jan-2010
Software Availability: Dec-2009

Base Optimization Flags (Continued)

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.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:

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

NovaScale R440 F2
(Intel Xeon X5570, 2.93 GHz)

SPECfp_rate2006 = 202

SPECfp_rate_base2006 = 196

CPU2006 license: 20

Test sponsor: Bull SAS

Tested by: Bull SAS

Test date: Apr-2010

Hardware Availability: Jan-2010

Software Availability: Dec-2009

Peak Optimization Flags (Continued)

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.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: 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

Benchmarks using both Fortran and C:

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

NovaScale R440 F2
(Intel Xeon X5570, 2.93 GHz)

SPECfp_rate2006 = 202

SPECfp_rate_base2006 = 196

CPU2006 license: 20
Test sponsor: Bull SAS
Tested by: Bull SAS

Test date: Apr-2010
Hardware Availability: Jan-2010
Software Availability: Dec-2009

Peak Optimization Flags (Continued)

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.20100511.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.20100511.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 07:12:25 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 11 May 2010.