



# SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Bull SAS

NovaScale R480E1  
(Intel Xeon X7350, 2.93GHz)

SPECfp®\_rate2006 = 113

SPECfp\_rate\_base2006 = 108

CPU2006 license: 20

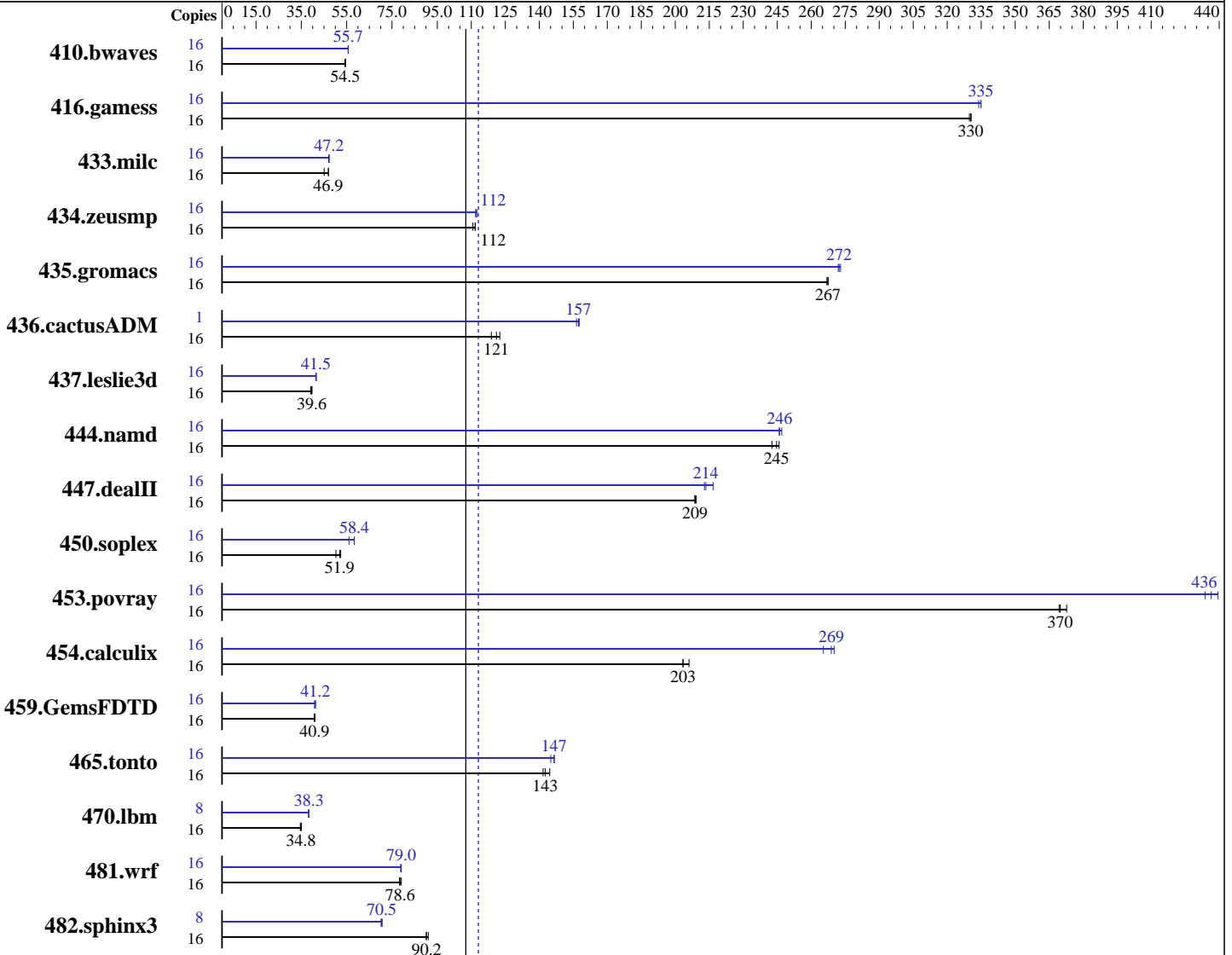
Test sponsor: Bull SAS

Tested by: Bull SAS

Test date: Dec-2007

Hardware Availability: Dec-2007

Software Availability: Nov-2007



SPECfp\_rate\_base2006 = 108

SPECfp\_rate2006 = 113

### Hardware

CPU Name: Intel Xeon X7350  
 CPU Characteristics: 2.93 GHz, 8 MB L2, 1066 MHz system bus  
 CPU MHz: 2930  
 FPU: Integrated  
 CPU(s) enabled: 16 cores, 4 chips, 4 cores/chip  
 CPU(s) orderable: 1 to 4 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 8 MB I+D on chip per chip, 4 MB shared / 2 cores

Continued on next page

### Software

Operating System: SUSE LINUX Enterprise Server 10 SP1  
 Kernel 2.6.16.46-0.12-smp for x86\_64  
 Compiler: Intel C++ Compiler for Linux32 and Linux64  
 version 10.1  
 Build 20070725  
 Auto Parallel: Yes  
 File System: ReiserFS  
 System State: Multi-user run level 3  
 Base Pointers: 64-bit

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Bull SAS

NovaScale R480E1  
(Intel Xeon X7350,2.93GHz)

SPECfp\_rate2006 = 113

SPECfp\_rate\_base2006 = 108

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

Test date: Dec-2007  
Hardware Availability: Dec-2007  
Software Availability: Nov-2007

L3 Cache: None  
Other Cache: None  
Memory: 32 GB (16x2 GB) FB-DIMM PC2-5300F ECC CL5  
Disk Subsystem: 1x73 GB SAS, 15000 RPM  
Other Hardware: None

Peak Pointers: 32/64-bit  
Other Software: Binutils 2.17.50.0.15

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	16	4009	54.2	<u>3993</u>	<u>54.5</u>	3992	54.5	16	3906	55.7	3901	55.7	<u>3905</u>	<u>55.7</u>
416.gamess	16	950	330	<u>948</u>	<u>330</u>	948	331	16	938	334	935	335	<u>936</u>	<u>335</u>
433.milc	16	3128	47.0	3259	45.1	<u>3130</u>	<u>46.9</u>	16	3121	47.1	<u>3112</u>	<u>47.2</u>	3105	47.3
434.zeusmp	16	1302	112	1315	111	<u>1304</u>	<u>112</u>	16	<u>1296</u>	<u>112</u>	1295	112	1302	112
435.gromacs	16	428	267	427	267	<u>427</u>	<u>267</u>	16	<u>420</u>	<u>272</u>	419	273	420	272
436.cactusADM	16	<u>1579</u>	<u>121</u>	1609	119	1560	123	1	<u>76.0</u>	<u>157</u>	76.4	156	75.8	158
437.leslie3d	16	3786	39.7	3838	39.2	<u>3801</u>	<u>39.6</u>	16	3615	41.6	3628	41.5	<u>3625</u>	<u>41.5</u>
444.namd	16	<u>524</u>	<u>245</u>	522	246	529	243	16	522	246	<u>522</u>	<u>246</u>	520	247
447.dealII	16	<u>877</u>	<u>209</u>	877	209	875	209	16	<u>857</u>	<u>214</u>	860	213	845	217
450.soplex	16	<u>2569</u>	<u>51.9</u>	2654	50.3	2547	52.4	16	2382	56.0	2285	58.4	<u>2286</u>	<u>58.4</u>
453.povray	16	228	373	230	369	<u>230</u>	<u>370</u>	16	196	434	194	439	<u>195</u>	<u>436</u>
454.calculix	16	649	203	641	206	<u>649</u>	<u>203</u>	16	<u>491</u>	<u>269</u>	489	270	497	265
459.GemsFDTD	16	4141	41.0	4171	40.7	<u>4156</u>	<u>40.9</u>	16	4161	40.8	4116	41.2	<u>4118</u>	<u>41.2</u>
465.tonto	16	1111	142	1089	145	<u>1104</u>	<u>143</u>	16	<u>1075</u>	<u>147</u>	1085	145	1074	147
470.lbm	16	6361	34.6	<u>6311</u>	<u>34.8</u>	6272	35.0	8	2878	38.2	2870	38.3	<u>2870</u>	<u>38.3</u>
481.wrf	16	<u>2274</u>	<u>78.6</u>	2284	78.3	2258	79.1	16	2267	78.8	<u>2261</u>	<u>79.0</u>	2259	79.1
482.sphinx3	16	3460	90.1	<u>3457</u>	<u>90.2</u>	3427	91.0	8	2222	70.2	2207	70.7	<u>2213</u>	<u>70.5</u>

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

All benchmarks compiled in 64-bit mode except 437.leslie3d, 450.soplex, 470.lbm and 482.sphinx3 for peak, are compiled in 32-bit mode

/usr/bin/taskset utility used to bind CPU(s) to processes

## General Notes

BIOS settings :  
Hardware Prefetcher : Disabled  
Adjacent Cache-Line Prefetch : Disabled



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Bull SAS

NovaScale R480E1  
(Intel Xeon X7350,2.93GHz)

SPECfp\_rate2006 = 113

SPECfp\_rate\_base2006 = 108

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

Test date: Dec-2007  
Hardware Availability: Dec-2007  
Software Availability: Nov-2007

## 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.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:  
-fast  
C++ benchmarks:  
-fast  
Fortran benchmarks:  
-fast  
Benchmarks using both Fortran and C:  
-fast



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Bull SAS

NovaScale R480E1  
(Intel Xeon X7350,2.93GHz)

SPECfp\_rate2006 = 113

SPECfp\_rate\_base2006 = 108

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

Test date: Dec-2007  
Hardware Availability: Dec-2007  
Software Availability: Nov-2007

## Peak Compiler Invocation

C benchmarks (except as noted below):

```
/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/icc
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/include
```

433.milc: icc

C++ benchmarks (except as noted below):

icpc

```
450.soplex: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/icpc
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/include
```

Fortran benchmarks (except as noted below):

ifort

```
437.leslie3d: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/ifort
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/include
```

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
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
```

## Peak Optimization Flags

C benchmarks:

```
433.milc: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias
-auto-ilp32
```

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Bull SAS

NovaScale R480E1  
(Intel Xeon X7350,2.93GHz)

SPECfp\_rate2006 = 113

SPECfp\_rate\_base2006 = 108

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

Test date: Dec-2007  
Hardware Availability: Dec-2007  
Software Availability: Nov-2007

## Peak Optimization Flags (Continued)

470.lbm: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2  
-scalar-rep- -prefetch -opt-malloc-options=3

482.sphinx3: -fast -unroll2

### C++ benchmarks:

444.namd: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias  
-auto-ilp32

447.dealII: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2  
-ansi-alias -scalar-rep-

450.soplex: -prof-gen(pass 1) -prof-use(pass 2) -fast  
-opt-malloc-options=3

453.povray: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4  
-ansi-alias

### Fortran benchmarks:

410.bwaves: -fast -prefetch

416.gamess: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0  
-ansi-alias -scalar-rep-

434.zeusmp: -prof-gen(pass 1) -prof-use(pass 2) -fast

437.leslie3d: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch  
-opt-malloc-options=3

459.GemsFDTD: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0  
-prefetch

465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4 -auto

### Benchmarks using both Fortran and C:

435.gromacs: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch  
-auto-ilp32

436.cactusADM: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2  
-prefetch -parallel -auto-ilp32

454.calculix: -fast -unroll-aggressive -auto-ilp32

481.wrf: -fast -auto-ilp32



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Bull SAS

NovaScale R480E1  
(Intel Xeon X7350,2.93GHz)

SPECfp\_rate2006 = 113

SPECfp\_rate\_base2006 = 108

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

**Test date:** Dec-2007  
**Hardware Availability:** Dec-2007  
**Software Availability:** Nov-2007

The flags file that was used to format this result can be browsed at  
[http://www.spec.org/cpu2006/flags/EM64T\\_Intel101\\_flags.html](http://www.spec.org/cpu2006/flags/EM64T_Intel101_flags.html)

You can also download the XML flags source by saving the following link:  
[http://www.spec.org/cpu2006/flags/EM64T\\_Intel101\\_flags.xml](http://www.spec.org/cpu2006/flags/EM64T_Intel101_flags.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](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.0.  
Report generated on Tue Jul 22 16:30:02 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 6 February 2008.