



# SPEC<sup>®</sup> CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Bull SAS

NovaScale R460 E1  
(Intel Xeon E5430 ,2.66 GHz)

SPECfp<sup>®</sup>\_rate2006 = 70.7

SPECfp\_rate\_base2006 = 62.8

CPU2006 license: 20

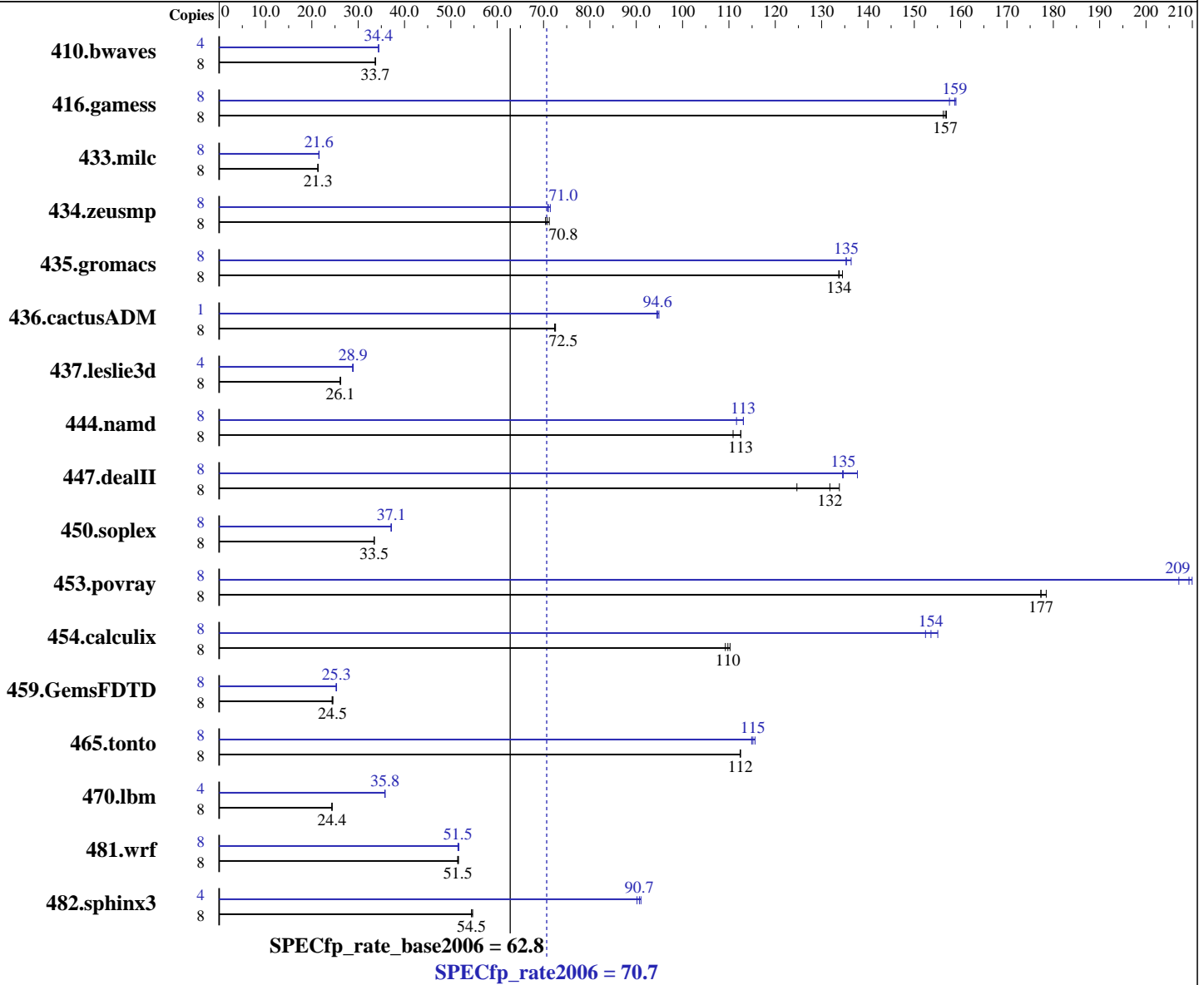
Test sponsor: Bull SAS

Tested by: Bull SAS

Test date: May-2008

Hardware Availability: Jan-2008

Software Availability: Nov-2007



### Hardware

CPU Name: Intel Xeon E5430  
 CPU Characteristics: 1333 MHz system bus  
 CPU MHz: 2666  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip  
 CPU(s) orderable: 1,2 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 12 MB I+D on chip per chip, 6 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++ and Fortran Compiler 10.1 for Linux  
 Build 20070913 Package ID: l\_cc\_p\_10.1.008,  
 l\_fc\_p\_10.1.008  
 Auto Parallel: Yes  
 File System: ext2  
 System State: Run level 3 (multi-user)  
 Base Pointers: 64-bit

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Bull SAS

NovaScale R460 E1  
(Intel Xeon E5430 ,2.66 GHz)

SPECfp\_rate2006 = 70.7

SPECfp\_rate\_base2006 = 62.8

CPU2006 license: 20

Test sponsor: Bull SAS

Tested by: Bull SAS

Test date: May-2008

Hardware Availability: Jan-2008

Software Availability: Nov-2007

L3 Cache: None  
Other Cache: None  
Memory: 16 GB (8x2 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	8	<u>3226</u>	<u>33.7</u>	3223	33.7	3226	33.7	4	1580	34.4	1580	34.4	<u>1580</u>	<u>34.4</u>
416.gamess	8	<u>1000</u>	<u>157</u>	998	157	1002	156	8	985	159	<u>987</u>	<u>159</u>	994	158
433.milc	8	3441	21.3	3450	21.3	<u>3442</u>	<u>21.3</u>	8	3404	21.6	<u>3407</u>	<u>21.6</u>	3414	21.5
434.zeusmp	8	<u>1029</u>	<u>70.8</u>	1022	71.2	1034	70.4	8	1026	71.0	<u>1025</u>	<u>71.0</u>	1019	71.5
435.gromacs	8	<u>427</u>	<u>134</u>	427	134	425	135	8	419	136	<u>422</u>	<u>135</u>	422	135
436.cactusADM	8	<u>1319</u>	<u>72.5</u>	1321	72.4	1317	72.6	1	126	94.9	127	94.5	<u>126</u>	<u>94.6</u>
437.leslie3d	8	<u>2876</u>	<u>26.1</u>	2880	26.1	2867	26.2	4	<u>1300</u>	<u>28.9</u>	1306	28.8	1300	28.9
444.namd	8	570	113	<u>570</u>	<u>113</u>	579	111	8	567	113	<u>567</u>	<u>113</u>	575	112
447.dealII	8	684	134	<u>695</u>	<u>132</u>	734	125	8	664	138	680	135	<u>680</u>	<u>135</u>
450.soplex	8	1996	33.4	1992	33.5	<u>1994</u>	<u>33.5</u>	8	<u>1797</u>	<u>37.1</u>	1798	37.1	1794	37.2
453.povray	8	<u>240</u>	<u>177</u>	240	177	238	178	8	<u>203</u>	<u>209</u>	203	210	206	207
454.calculix	8	<u>601</u>	<u>110</u>	604	109	599	110	8	433	152	<u>430</u>	<u>154</u>	426	155
459.GemsFDTD	8	3483	24.4	<u>3468</u>	<u>24.5</u>	3458	24.5	8	3349	25.3	3363	25.2	<u>3356</u>	<u>25.3</u>
465.tonto	8	700	112	700	112	<u>700</u>	<u>112</u>	8	<u>683</u>	<u>115</u>	685	115	681	116
470.lbm	8	<u>4512</u>	<u>24.4</u>	4510	24.4	4520	24.3	4	1535	35.8	<u>1536</u>	<u>35.8</u>	1537	35.8
481.wrf	8	1736	51.5	<u>1734</u>	<u>51.5</u>	1730	51.7	8	1727	51.7	1734	51.5	<u>1734</u>	<u>51.5</u>
482.sphinx3	8	2850	54.7	2862	54.5	<u>2862</u>	<u>54.5</u>	4	<u>860</u>	<u>90.7</u>	857	91.0	865	90.2

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  
'/usr/bin/taskset' used to bind processes to CPUs  
OMP\_NUM\_THREADS set to number of cores  
KMP\_AFFINITY set to physical,0  
KMP\_STACKSIZE set to 64M

## General Notes

All benchmarks compiled in 64-bit mode except 450.soplex, 470.lbm and 482.sphinx3, at peak, are compiled in 32-bit mode  
The Bull NovaScale R440 E1 (Intel Xeon E5430, 2.66 GHz) and the Bull NovaScale R460 E1 (Intel Xeon E5430, 2.66 GHz) models are electronically equivalent.  
The results have been measured on a Bull NovaScale R460 E1 (Intel Xeon E5430, 2.66 GHz) model.



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Bull SAS

NovaScale R460 E1  
(Intel Xeon E5430 ,2.66 GHz)

SPECfp\_rate2006 = 70.7

SPECfp\_rate\_base2006 = 62.8

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

**Test date:** May-2008  
**Hardware Availability:** Jan-2008  
**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 R460 E1  
(Intel Xeon E5430 ,2.66 GHz)

SPECfp\_rate2006 = 70.7

SPECfp\_rate\_base2006 = 62.8

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

**Test date:** May-2008  
**Hardware Availability:** Jan-2008  
**Software Availability:** Nov-2007

## Peak Compiler Invocation

C benchmarks (except as noted below):

```
/opt/intel/cc/10.1.008/bin/icc -L/opt/intel/cc/10.1.008/lib  
-I/opt/intel/cc/10.1.008/include
```

433.milc: icc

C++ benchmarks (except as noted below):

icpc

```
450.soplex: /opt/intel/cc/10.1.008/bin/icpc -L/opt/intel/cc/10.1.008/lib  
-I/opt/intel/cc/10.1.008/include
```

Fortran benchmarks (except as noted below):

ifort

```
437.leslie3d: /opt/intel/fc/10.1.008/bin/ifort -L/opt/intel/fc/10.1.008/lib  
-I/opt/intel/fc/10.1.008/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
```

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

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Bull SAS

NovaScale R460 E1  
(Intel Xeon E5430 ,2.66 GHz)

SPECfp\_rate2006 = 70.7

SPECfp\_rate\_base2006 = 62.8

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

Test date: May-2008  
Hardware Availability: Jan-2008  
Software Availability: Nov-2007

## Peak Optimization Flags (Continued)

482.sphinx3: -fast -unroll2

### C++ benchmarks:

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

447.dealIII: -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

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

[http://www.spec.org/cpu2006/flags/EM64T\\_Intel101\\_fp\\_flags.20090713.00.html](http://www.spec.org/cpu2006/flags/EM64T_Intel101_fp_flags.20090713.00.html)



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Bull SAS

NovaScale R460 E1  
(Intel Xeon E5430 ,2.66 GHz)

SPECfp\_rate2006 = 70.7

SPECfp\_rate\_base2006 = 62.8

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

**Test date:** May-2008  
**Hardware Availability:** Jan-2008  
**Software Availability:** Nov-2007

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

[http://www.spec.org/cpu2006/flags/EM64T\\_Intel101\\_fp\\_flags.20090713.00.xml](http://www.spec.org/cpu2006/flags/EM64T_Intel101_fp_flags.20090713.00.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 19:48:11 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 8 July 2008.