



# SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Bull SAS

NovaScale R460 E1  
(Intel Xeon X5260, 3.33 GHz)

SPECfp®\_rate2006 = 29.2

SPECfp\_rate\_base2006 = 27.0

CPU2006 license: 20

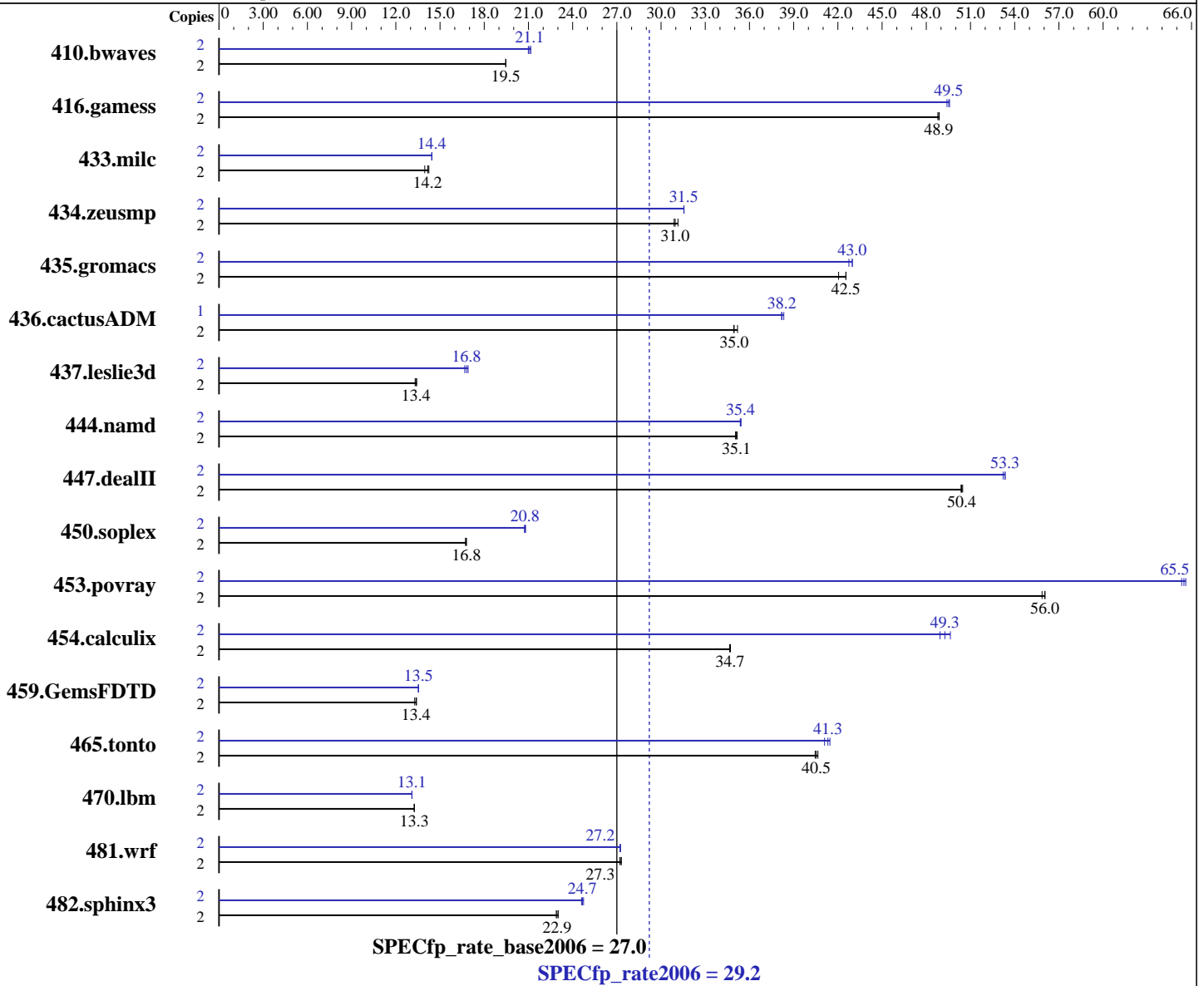
Test sponsor: Bull SAS

Tested by: NEC Corporation

Test date: Jun-2008

Hardware Availability: Apr-2008

Software Availability: Nov-2007



### Hardware

CPU Name: Intel Xeon X5260  
 CPU Characteristics: 3.33 GHz, 6 MB L2, 1333 MHz bus  
 CPU MHz: 3333  
 FPU: Integrated  
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip  
 CPU(s) orderable: 1,2 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 6 MB I+D on chip per chip

Continued on next page

### Software

Operating System: SUSE Linux Enterprise Server 10 (x86\_64) SP1, Kernel 2.6.16.46-0.12-smp  
 Compiler: Intel C++ and Fortran Compiler for Linux version 10.1 Build 20070913 Package ID: l\_cc\_p\_10.1.008, l\_fc\_p\_10.1.008  
 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

NovaScale R460 E1  
(Intel Xeon X5260, 3.33 GHz)

SPECfp\_rate2006 = 29.2

SPECfp\_rate\_base2006 = 27.0

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

Test date: Jun-2008  
Hardware Availability: Apr-2008  
Software Availability: Nov-2007

L3 Cache: None  
Other Cache: None  
Memory: 16 GB (8x2 GB PC2-5300F, 2 rank, CL5-5-5, ECC)  
Disk Subsystem: 1x73.2 GB SAS, 15000RPM  
Other Hardware: None

Base Pointers: 64-bit  
Peak Pointers: 32/64-bit  
Other Software: binutils 2.17

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	2	1396	19.5	1397	19.5	<b>1396</b>	<b>19.5</b>	2	<b>1289</b>	<b>21.1</b>	1295	21.0	1284	21.2
416.gamess	2	<b>802</b>	<b>48.9</b>	801	48.9	803	48.8	2	<b>791</b>	<b>49.5</b>	793	49.4	790	49.6
433.milc	2	1289	14.2	1315	14.0	<b>1296</b>	<b>14.2</b>	2	1272	14.4	<b>1271</b>	<b>14.4</b>	1270	14.5
434.zeusmp	2	584	31.1	<b>588</b>	<b>31.0</b>	589	30.9	2	577	31.5	577	31.6	<b>577</b>	<b>31.5</b>
435.gromacs	2	340	42.1	<b>336</b>	<b>42.5</b>	336	42.5	2	332	43.0	334	42.7	<b>332</b>	<b>43.0</b>
436.cactusADM	2	<b>684</b>	<b>35.0</b>	679	35.2	684	34.9	1	312	38.3	313	38.2	<b>313</b>	<b>38.2</b>
437.leslie3d	2	1401	13.4	<b>1406</b>	<b>13.4</b>	1412	13.3	2	<b>1119</b>	<b>16.8</b>	1127	16.7	1112	16.9
444.namd	2	<b>457</b>	<b>35.1</b>	458	35.1	456	35.2	2	453	35.4	453	35.4	<b>453</b>	<b>35.4</b>
447.dealII	2	<b>454</b>	<b>50.4</b>	454	50.4	453	50.5	2	429	53.4	<b>429</b>	<b>53.3</b>	430	53.2
450.soplex	2	994	16.8	997	16.7	<b>994</b>	<b>16.8</b>	2	805	20.7	802	20.8	<b>803</b>	<b>20.8</b>
453.povray	2	190	56.1	190	55.9	<b>190</b>	<b>56.0</b>	2	<b>162</b>	<b>65.5</b>	162	65.6	163	65.3
454.calculix	2	475	34.7	<b>476</b>	<b>34.7</b>	476	34.7	2	337	48.9	332	49.6	<b>335</b>	<b>49.3</b>
459.GemsFDTD	2	1598	13.3	1583	13.4	<b>1587</b>	<b>13.4</b>	2	1568	13.5	<b>1568</b>	<b>13.5</b>	1567	13.5
465.tonto	2	484	40.6	<b>485</b>	<b>40.5</b>	486	40.5	2	475	41.5	479	41.1	<b>476</b>	<b>41.3</b>
470.lbm	2	2072	13.3	<b>2074</b>	<b>13.3</b>	2074	13.2	2	2098	13.1	2099	13.1	<b>2098</b>	<b>13.1</b>
481.wrf	2	<b>819</b>	<b>27.3</b>	818	27.3	821	27.2	2	821	27.2	<b>820</b>	<b>27.2</b>	820	27.2
482.sphinx3	2	<b>1699</b>	<b>22.9</b>	1693	23.0	1703	22.9	2	<b>1581</b>	<b>24.7</b>	1576	24.7	1584	24.6

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  
except for 436.cactusADM at peak.  
OMP\_NUM\_THREADS set to number of cores

## Platform Notes

Bios settings:  
Hardware Prefetcher: Enabled  
Adjacent Cache Line Prefetch: Enabled  
Intel SpeedStep Technology: Disabled



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Bull SAS

NovaScale R460 E1  
(Intel Xeon X5260, 3.33 GHz)

SPECfp\_rate2006 = 29.2

SPECfp\_rate\_base2006 = 27.0

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

**Test date:** Jun-2008  
**Hardware Availability:** Apr-2008  
**Software Availability:** Nov-2007

### General Notes

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

The NEC Express5800/120Rh-1(Intel Xeon X5260), the NEC Express5800/120Rj-2(Intel Xeon X5260), the Bull NovaScale R440 E1 (Intel Xeon X5260,3.33GHz) and the Bull NovaScale R460 E1 (Intel Xeon X5260,3.33GHz) models are electronically equivalent. The results have been measured on a NEC Express5800/120Rj-2(Intel Xeon X5260) model.

### 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



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Bull SAS

NovaScale R460 E1  
(Intel Xeon X5260, 3.33 GHz)

SPECfp\_rate2006 = 29.2

SPECfp\_rate\_base2006 = 27.0

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

**Test date:** Jun-2008  
**Hardware Availability:** Apr-2008  
**Software Availability:** Nov-2007

## Base Optimization Flags

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

## 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.dealII: -DSPEC\_CPU\_LP64

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Bull SAS

NovaScale R460 E1  
(Intel Xeon X5260, 3.33 GHz)

SPECfp\_rate2006 = 29.2

SPECfp\_rate\_base2006 = 27.0

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

**Test date:** Jun-2008  
**Hardware Availability:** Apr-2008  
**Software Availability:** Nov-2007

## Peak Portability Flags (Continued)

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

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

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Bull SAS

NovaScale R460 E1  
(Intel Xeon X5260, 3.33 GHz)

SPECfp\_rate2006 = 29.2

SPECfp\_rate\_base2006 = 27.0

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

**Test date:** Jun-2008  
**Hardware Availability:** Apr-2008  
**Software Availability:** Nov-2007

## Peak Optimization Flags (Continued)

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/NEC-Intel-ic10.1-FP-intel64-linux-flags.html>

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

<http://www.spec.org/cpu2006/flags/NEC-Intel-ic10.1-FP-intel64-linux-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 20:00:11 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 8 July 2008.