



# SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Bull SAS

### SPECfp®\_rate2006 = 515

### NovaScale R480 F2 (Intel Xeon X7550, 2.00 GHz)

### SPECfp\_rate\_base2006 = 503

CPU2006 license: 20

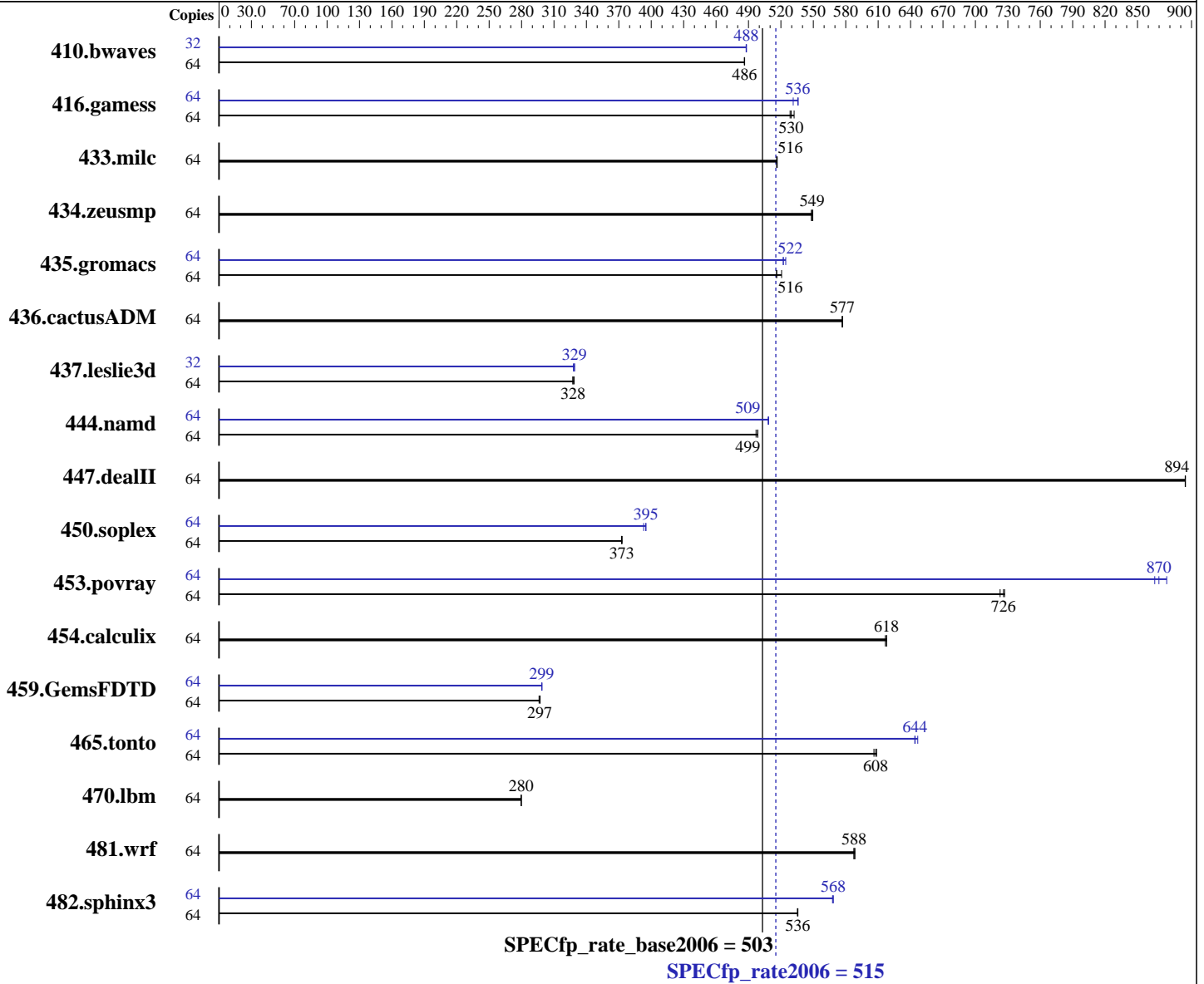
Test sponsor: Bull SAS

Tested by: Dell Inc.

Test date: Mar-2010

Hardware Availability: Mar-2010

Software Availability: Dec-2009



### Hardware

CPU Name: Intel Xeon X7550  
 CPU Characteristics: Intel Turbo Boost Technology up to 2.40 GHz  
 CPU MHz: 2000  
 FPU: Integrated  
 CPU(s) enabled: 32 cores, 4 chips, 8 cores/chip, 2 threads/core  
 CPU(s) orderable: 2,4 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: Red Hat Linux Enterprise Linux 5 (x86\_64) Update 4 errata kernel (RHEL 5.4.z) kernel-2.6.18-164.9.1.el5.x86\_64  
 Compiler: Intel C++ and Fortran Professional Compiler for IA32 and Intel 64, Version 11.1 Build 20091130 Package ID: I\_cproc\_p\_11.1.064, I\_cprof\_p\_11.1.064  
 Auto Parallel: No  
 File System: ext3

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Bull SAS

SPECfp\_rate2006 = **515**

NovaScale R480 F2 (Intel Xeon X7550, 2.00 GHz)

SPECfp\_rate\_base2006 = **503**

CPU2006 license: 20

Test date: Mar-2010

Test sponsor: Bull SAS

Hardware Availability: Mar-2010

Tested by: Dell Inc.

Software Availability: Dec-2009

L3 Cache: 18 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 256 GB (64 x 4 GB DDR3-1067 QR RDIMM)  
 Disk Subsystem: 1 x 300 GB 10000 RPM SAS 6Gb  
 Other Hardware: None

System State: Run level 5 (multi-user mode, with display manager as well as console logins)  
 Base Pointers: 64-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Binutils 2.17.50.0.6-12.el5

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	64	<b>1788</b>	<b>486</b>	1789	486	1788	486	32	891	488	<b>891</b>	<b>488</b>	891	488
416.gamess	64	2371	528	<b>2366</b>	<b>530</b>	2354	532	64	<b>2340</b>	<b>536</b>	2358	531	2338	536
433.milc	64	1138	516	<b>1138</b>	<b>516</b>	1137	517	64	1138	516	<b>1138</b>	<b>516</b>	1137	517
434.zeusmp	64	1060	550	1063	548	<b>1061</b>	<b>549</b>	64	1060	550	1063	548	<b>1061</b>	<b>549</b>
435.gromacs	64	878	521	<b>885</b>	<b>516</b>	886	516	64	875	522	<b>875</b>	<b>522</b>	871	524
436.cactusADM	64	<b>1326</b>	<b>577</b>	1325	577	1326	577	64	<b>1326</b>	<b>577</b>	1325	577	1326	577
437.leslie3d	64	1830	329	1838	327	<b>1836</b>	<b>328</b>	32	917	328	914	329	<b>915</b>	<b>329</b>
444.namd	64	1033	497	1029	499	<b>1030</b>	<b>499</b>	64	1010	508	1009	509	<b>1009</b>	<b>509</b>
447.dealII	64	819	894	819	894	<b>819</b>	<b>894</b>	64	819	894	819	894	<b>819</b>	<b>894</b>
450.soplex	64	1433	372	<b>1432</b>	<b>373</b>	1431	373	64	<b>1351</b>	<b>395</b>	1358	393	1351	395
453.povray	64	468	727	<b>469</b>	<b>726</b>	471	723	64	388	877	<b>391</b>	<b>870</b>	393	866
454.calculix	64	<b>855</b>	<b>618</b>	856	617	854	618	64	<b>855</b>	<b>618</b>	856	617	854	618
459.GemsFDTD	64	<b>2287</b>	<b>297</b>	2285	297	2293	296	64	2274	299	2272	299	<b>2273</b>	<b>299</b>
465.tonto	64	1039	606	<b>1036</b>	<b>608</b>	1035	609	64	974	647	978	644	<b>977</b>	<b>644</b>
470.lbm	64	3143	280	<b>3144</b>	<b>280</b>	3145	280	64	3143	280	<b>3144</b>	<b>280</b>	3145	280
481.wrf	64	1217	588	1215	589	<b>1216</b>	<b>588</b>	64	1217	588	1215	589	<b>1216</b>	<b>588</b>
482.sphinx3	64	2330	535	<b>2329</b>	<b>536</b>	2328	536	64	2194	568	<b>2195</b>	<b>568</b>	2197	568

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

## Platform Notes

vm.zone\_reclaim\_mode = 1 in /etc/sysctl.conf file  
BIOS Settings:  
Power Management = Maximum Performance (Default = Active Power Controller)



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Bull SAS

SPECfp\_rate2006 = 515

NovaScale R480 F2 (Intel Xeon X7550, 2.00 GHz)

SPECfp\_rate\_base2006 = 503

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

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

## General Notes

The Dell PowerEdge R910 and the Bull NovaScale R480 F2 models are electronically equivalent. The results have been measured on a Dell PowerEdge R910 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

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**Bull SAS**

**SPECfp\_rate2006 = 515**

NovaScale R480 F2 (Intel Xeon X7550, 2.00 GHz)

**SPECfp\_rate\_base2006 = 503**

**CPU2006 license:** 20

**Test sponsor:** Bull SAS

**Tested by:** Dell Inc.

**Test date:** Mar-2010

**Hardware Availability:** Mar-2010

**Software Availability:** Dec-2009

## Base Optimization Flags (Continued)

Fortran benchmarks:

`-xSSE4.2 -ipo -O3 -no-prec-div -static`

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.dealII: `-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`



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Bull SAS

SPECfp\_rate2006 = 515

NovaScale R480 F2 (Intel Xeon X7550, 2.00 GHz)

SPECfp\_rate\_base2006 = 503

CPU2006 license: 20

Test sponsor: Bull SAS

Tested by: Dell Inc.

Test date: Mar-2010

Hardware Availability: Mar-2010

Software Availability: Dec-2009

## Peak Optimization Flags

### C benchmarks:

433.milc: basepeak = yes

470.lbm: basepeak = yes

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.deallI: basepeak = yes

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:

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

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**Bull SAS**

**SPECfp\_rate2006 = 515**

NovaScale R480 F2 (Intel Xeon X7550, 2.00 GHz)

**SPECfp\_rate\_base2006 = 503**

**CPU2006 license:** 20

**Test sponsor:** Bull SAS

**Tested by:** Dell Inc.

**Test date:** Mar-2010

**Hardware Availability:** Mar-2010

**Software Availability:** Dec-2009

## Peak Optimization Flags (Continued)

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.20100330.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.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](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.1.  
Report generated on Wed Jul 23 06:13:08 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 31 March 2010.