



# SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Bull SAS

SPECfp®\_rate2006 = 524

NovaScale R480 F2 (Intel Xeon L7555, 1.86 GHz)

SPECfp\_rate\_base2006 = 504

CPU2006 license: 20

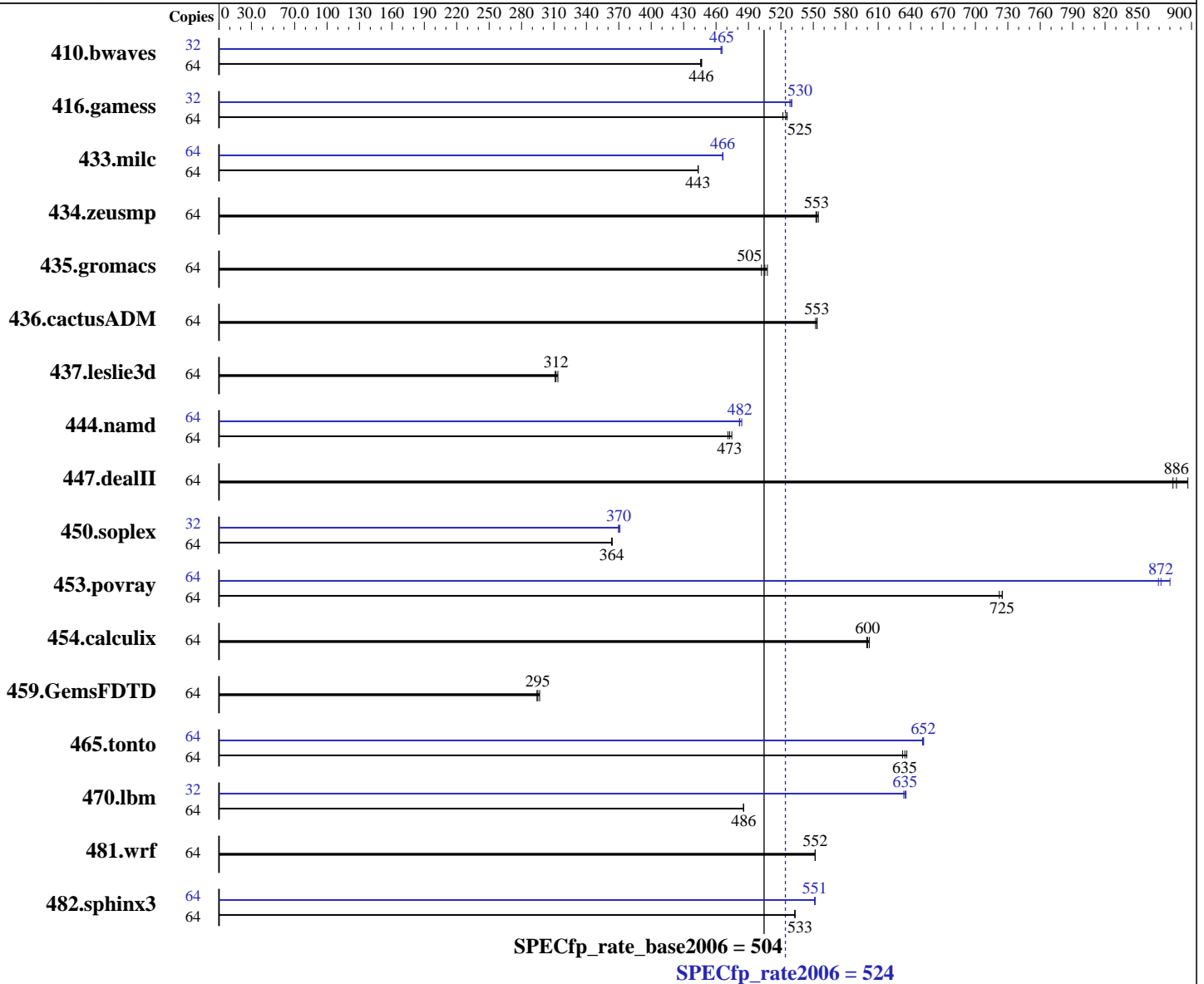
Test sponsor: Bull SAS

Tested by: Dell Inc.

Test date: Apr-2011

Hardware Availability: Jul-2011

Software Availability: Jan-2011



### Hardware

CPU Name: Intel Xeon L7555  
 CPU Characteristics: Intel Turbo Boost Technology up to 2.53 GHz  
 CPU MHz: 1866  
 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: SUSE Linux Enterprise Server 11 SP1 (x86\_64), Kernel 2.6.32.12-0.7-default  
 Compiler: Intel C++ and Fortran Intel 64 Compiler XE for applications running on Intel 64 Version 12.0.1.116 Build 20101116  
 Auto Parallel: No  
 File System: ext3  
 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

SPECfp\_rate2006 = **524**

NovaScale R480 F2 (Intel Xeon L7555, 1.86 GHz)

SPECfp\_rate\_base2006 = **504**

CPU2006 license: 20

Test date: Apr-2011

Test sponsor: Bull SAS

Hardware Availability: Jul-2011

Tested by: Dell Inc.

Software Availability: Jan-2011

L3 Cache: 24 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 512 GB (64 x 8 GB 4Rx8 PC3-8500R-7, ECC, running at 978 MHz)  
 Disk Subsystem: 1 x 500 GB 7200 RPM SAS 6Gb  
 Other Hardware: None

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	64	<b>1948</b>	<b>446</b>	1947	447	1951	446	32	934	465	936	464	<b>935</b>	<b>465</b>
416.gamess	64	2383	526	<b>2389</b>	<b>525</b>	2401	522	32	<b>1183</b>	<b>530</b>	1186	528	1182	530
433.milc	64	<b>1325</b>	<b>443</b>	1325	443	1325	444	64	1261	466	<b>1260</b>	<b>466</b>	1260	466
434.zeusmp	64	1050	555	<b>1053</b>	<b>553</b>	1054	552	64	1050	555	<b>1053</b>	<b>553</b>	1054	552
435.gromacs	64	900	507	<b>905</b>	<b>505</b>	910	502	64	900	507	<b>905</b>	<b>505</b>	910	502
436.cactusADM	64	<b>1382</b>	<b>553</b>	1382	554	1385	552	64	<b>1382</b>	<b>553</b>	1382	554	1385	552
437.leslie3d	64	1934	311	<b>1929</b>	<b>312</b>	1918	314	64	1934	311	<b>1929</b>	<b>312</b>	1918	314
444.namd	64	1082	475	1090	471	<b>1086</b>	<b>473</b>	64	<b>1065</b>	<b>482</b>	1066	482	1061	484
447.dealII	64	817	897	829	883	<b>826</b>	<b>886</b>	64	817	897	829	883	<b>826</b>	<b>886</b>
450.soplex	64	1467	364	1469	363	<b>1468</b>	<b>364</b>	32	719	371	722	370	<b>721</b>	<b>370</b>
453.povray	64	470	725	<b>470</b>	<b>725</b>	471	722	64	<b>391</b>	<b>872</b>	392	869	387	880
454.calculix	64	877	602	<b>880</b>	<b>600</b>	881	599	64	877	602	<b>880</b>	<b>600</b>	881	599
459.GemsFDTD	64	<b>2301</b>	<b>295</b>	2288	297	2308	294	64	<b>2301</b>	<b>295</b>	2288	297	2308	294
465.tonto	64	989	637	<b>992</b>	<b>635</b>	995	633	64	967	651	<b>966</b>	<b>652</b>	966	652
470.lbm	64	1812	485	<b>1811</b>	<b>486</b>	1811	486	32	<b>692</b>	<b>635</b>	691	636	694	634
481.wrf	64	<b>1296</b>	<b>552</b>	1296	552	1296	552	64	<b>1296</b>	<b>552</b>	1296	552	1296	552
482.sphinx3	64	2341	533	2340	533	<b>2340</b>	<b>533</b>	64	2261	552	<b>2263</b>	<b>551</b>	2263	551

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
'mount -t hugetlbfs nodev /mnt/hugepages' was used to enable large pages
echo 57600 > /proc/sys/vm/nr_hugepages
export HUGETLB_MORECORE=yes
export LD_PRELOAD=/usr/lib64/libhugetlbfs.so
```



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Bull SAS

SPECfp\_rate2006 = 524

NovaScale R480 F2 (Intel Xeon L7555, 1.86 GHz)

SPECfp\_rate\_base2006 = 504

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

Test date: Apr-2011  
Hardware Availability: Jul-2011  
Software Availability: Jan-2011

### Platform Notes

BIOS Settings:  
Power Management = Maximum Performance (Default = Active Power Controller)

### 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. Binaries were compiled on RHEL5.5

### 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



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Bull SAS

SPECfp\_rate2006 = 524

NovaScale R480 F2 (Intel Xeon L7555, 1.86 GHz)

SPECfp\_rate\_base2006 = 504

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

Test date: Apr-2011  
Hardware Availability: Jul-2011  
Software Availability: Jan-2011

## Base Optimization Flags

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

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

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

Benchmarks using both Fortran and C:  
-xSSE4.2 -ipo -O3 -no-prec-div -static -ansi-alias

## 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

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Bull SAS

SPECfp\_rate2006 = 524

NovaScale R480 F2 (Intel Xeon L7555, 1.86 GHz)

SPECfp\_rate\_base2006 = 504

CPU2006 license: 20

Test date: Apr-2011

Test sponsor: Bull SAS

Hardware Availability: Jul-2011

Tested by: Dell Inc.

Software Availability: Jan-2011

## Peak Portability Flags (Continued)

470.lbm: -DSPEC\_CPU\_LP64

481.wrf: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_CASE\_FLAG -DSPEC\_CPU\_LINUX

## Peak Optimization Flags

C benchmarks:

433.milc: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -static -auto-ilp32

470.lbm: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -opt-malloc-options=3  
-ansi-alias -opt-prefetch -static -auto-ilp32

482.sphinx3: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2

C++ benchmarks:

444.namd: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -fno-alias  
-auto-ilp32

447.dealII: basepeak = yes

450.soplex: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -opt-malloc-options=3  
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

453.povray: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -ansi-alias  
-B /usr/share/libhugetlbfs/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfs-link=BDT

Fortran benchmarks:

410.bwaves: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -static

416.gamess: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -unroll2  
-inline-level=0 -scalar-rep- -static

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: basepeak = yes

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**Bull SAS**

**SPECfp\_rate2006 = 524**

NovaScale R480 F2 (Intel Xeon L7555, 1.86 GHz)

**SPECfp\_rate\_base2006 = 504**

**CPU2006 license:** 20

**Test sponsor:** Bull SAS

**Tested by:** Dell Inc.

**Test date:** Apr-2011

**Hardware Availability:** Jul-2011

**Software Availability:** Jan-2011

## Peak Optimization Flags (Continued)

```
465.tonto: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -auto
-inline-calloc -opt-malloc-options=3
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT
```

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

481.wrf: basepeak = yes

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.html>

<http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20110524.00.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.xml>

<http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20110524.00.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 v1.1.

Report generated on Wed Jul 23 20:13:48 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 24 May 2011.

Standard Performance Evaluation Corporation

[info@spec.org](mailto:info@spec.org)

<http://www.spec.org/>