



# SPEC<sup>®</sup> CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Bull SAS

SPECfp<sup>®</sup>\_rate2006 = 117

NovaScale R410B F2 (Intel Xeon E3-1240, 3.30 GHz)

SPECfp\_rate\_base2006 = 114

CPU2006 license: 20

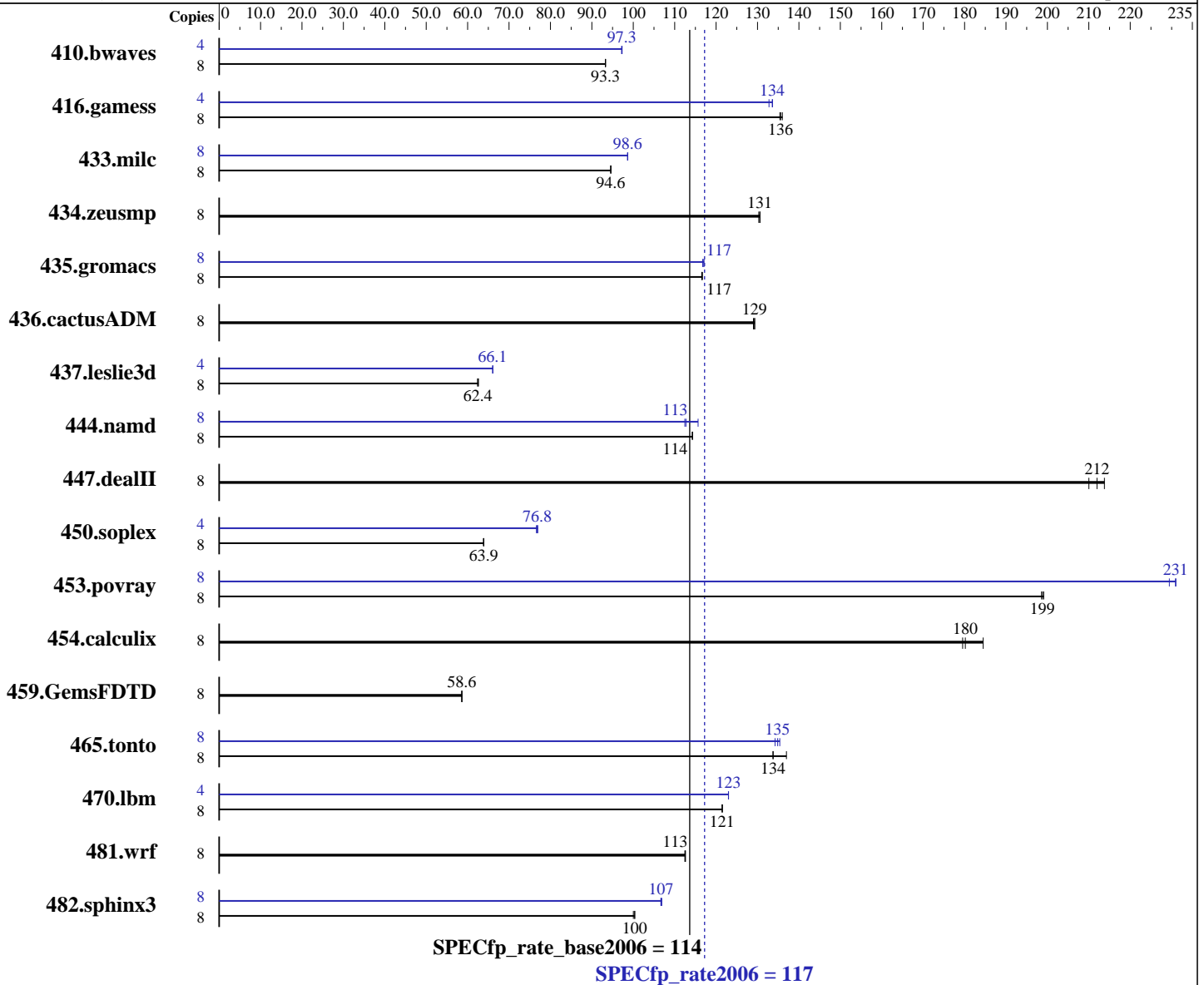
Test sponsor: Bull SAS

Tested by: Dell Inc.

Test date: Mar-2011

Hardware Availability: May-2011

Software Availability: Apr-2011



### Hardware

CPU Name: Intel Xeon E3-1240  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.70 GHz  
 CPU MHz: 3300  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip, 2 threads/core  
 CPU(s) orderable: 1 chip  
 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 = 117

NovaScale R410B F2 (Intel Xeon E3-1240, 3.30 GHz)

SPECfp\_rate\_base2006 = 114

CPU2006 license: 20

Test sponsor: Bull SAS

Tested by: Dell Inc.

Test date: Mar-2011

Hardware Availability: May-2011

Software Availability: Apr-2011

L3 Cache: 8 MB I+D on chip per chip  
Other Cache: None  
Memory: 8 GB (4 x 2 GB 2Rx4 PC3-10600R-9, ECC)  
Disk Subsystem: 1 x 146 GB 15000 RPM SAS  
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	8	1165	93.3	<u>1165</u>	<u>93.3</u>	1166	93.3	4	559	97.2	559	97.3	<u>559</u>	<u>97.3</u>		
416.gamess	8	1157	135	<u>1155</u>	<u>136</u>	1152	136	4	586	134	<u>586</u>	<u>134</u>	590	133		
433.milc	8	<u>777</u>	<u>94.6</u>	777	94.6	776	94.6	8	744	98.7	<u>745</u>	<u>98.6</u>	745	98.6		
434.zeusmp	8	559	130	<u>558</u>	<u>131</u>	557	131	8	559	130	<u>558</u>	<u>131</u>	557	131		
435.gromacs	8	489	117	<u>490</u>	<u>117</u>	490	117	8	488	117	<u>489</u>	<u>117</u>	489	117		
436.cactusADM	8	739	129	741	129	<u>740</u>	<u>129</u>	8	739	129	741	129	<u>740</u>	<u>129</u>		
437.leslie3d	8	1205	62.4	1201	62.6	<u>1204</u>	<u>62.4</u>	4	569	66.1	<u>569</u>	<u>66.1</u>	569	66.1		
444.namd	8	561	114	561	114	<u>561</u>	<u>114</u>	8	571	112	<u>569</u>	<u>113</u>	555	116		
447.dealII	8	<u>432</u>	<u>212</u>	428	214	436	210	8	<u>432</u>	<u>212</u>	428	214	436	210		
450.soplex	8	<u>1044</u>	<u>63.9</u>	1044	63.9	1046	63.8	4	<u>434</u>	<u>76.8</u>	435	76.6	434	76.9		
453.povray	8	<u>214</u>	<u>199</u>	214	199	214	199	8	185	229	<u>184</u>	<u>231</u>	184	231		
454.calculix	8	<u>366</u>	<u>180</u>	368	180	358	184	8	<u>366</u>	<u>180</u>	368	180	358	184		
459.GemsFDTD	8	<u>1448</u>	<u>58.6</u>	1448	58.6	1448	58.6	8	<u>1448</u>	<u>58.6</u>	1448	58.6	1448	58.6		
465.tonto	8	589	134	<u>588</u>	<u>134</u>	575	137	8	581	135	<u>584</u>	<u>135</u>	586	134		
470.lbm	8	905	122	<u>905</u>	<u>121</u>	905	121	4	447	123	<u>447</u>	<u>123</u>	447	123		
481.wrf	8	794	113	795	112	<u>794</u>	<u>113</u>	8	794	113	795	112	<u>794</u>	<u>113</u>		
482.sphinx3	8	1559	100	1554	100	<u>1554</u>	<u>100</u>	8	<u>1461</u>	<u>107</u>	1462	107	1459	107		

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 3600> /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 = 117

NovaScale R410B F2 (Intel Xeon E3-1240, 3.30 GHz)

SPECfp\_rate\_base2006 = 114

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

Test date: Mar-2011  
Hardware Availability: May-2011  
Software Availability: Apr-2011

### Platform Notes

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

### General Notes

The Dell PowerEdge R210 II and the Bull NovaScale R410B F2 models are electronically equivalent. The results have been measured on a Dell PowerEdge R210 II 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 = 117

NovaScale R410B F2 (Intel Xeon E3-1240, 3.30 GHz)

SPECfp\_rate\_base2006 = 114

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

Test date: Mar-2011  
Hardware Availability: May-2011  
Software Availability: Apr-2011

## Base Optimization Flags

C benchmarks:  
-xAVX -ipo -O3 -no-prec-div -static -ansi-alias

C++ benchmarks:  
-xAVX -ipo -O3 -no-prec-div -static -ansi-alias

Fortran benchmarks:  
-xAVX -ipo -O3 -no-prec-div -static

Benchmarks using both Fortran and C:  
-xAVX -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 = 117

NovaScale R410B F2 (Intel Xeon E3-1240, 3.30 GHz)

SPECfp\_rate\_base2006 = 114

CPU2006 license: 20

Test sponsor: Bull SAS

Tested by: Dell Inc.

Test date: Mar-2011

Hardware Availability: May-2011

Software Availability: Apr-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: -xAVX(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: -xAVX(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 -auto-ilp32

482.sphinx3: -xAVX -ipo -O3 -no-prec-div -unroll2

C++ benchmarks:

444.namd: -xAVX(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.dealIII: basepeak = yes

450.soplex: -xAVX(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: -xAVX(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: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -static

416.gamess: -xAVX(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: -xAVX -ipo -O3 -no-prec-div  
-B /usr/share/libhugetlbfs/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfs-link=BDT

459.GemsFDTD: basepeak = yes

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Bull SAS

**SPECfp\_rate2006 = 117**

NovaScale R410B F2 (Intel Xeon E3-1240, 3.30 GHz)

**SPECfp\_rate\_base2006 = 114**

**CPU2006 license:** 20

**Test date:** Mar-2011

**Test sponsor:** Bull SAS

**Hardware Availability:** May-2011

**Tested by:** Dell Inc.

**Software Availability:** Apr-2011

## Peak Optimization Flags (Continued)

```

465.tonto: -xAVX(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: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
            -no-prec-div(pass 2) -prof-use(pass 2) -opt-prefetch
            -static -auto-ilp32

```

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 18:27:33 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 7 June 2011.