SPEC® CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

NovaScale R460 F2
(Intel Xeon E5540, 2.53 GHz)

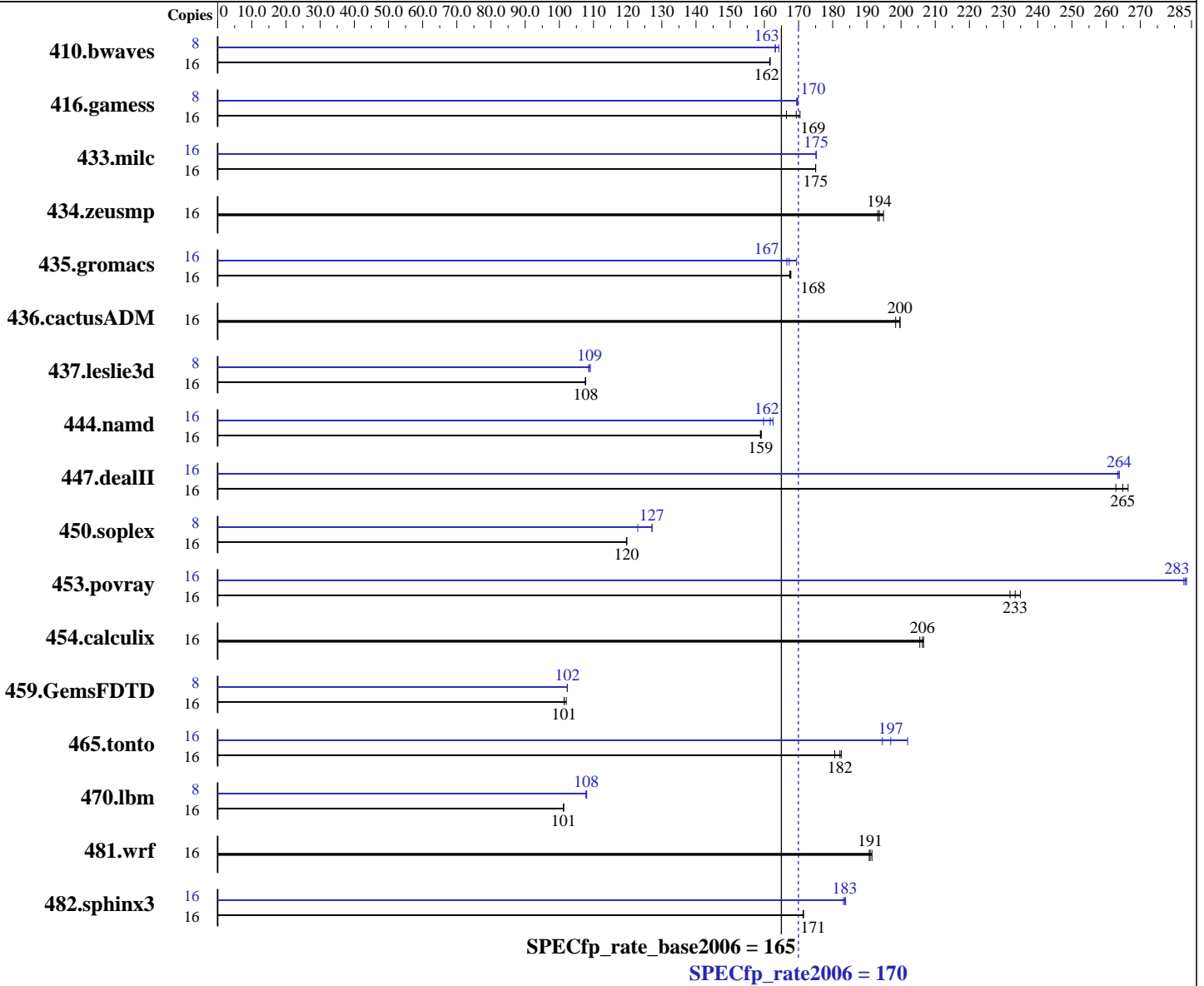$SPECfp^®\_rate2006 = 170$

$SPECfp\_rate\_base2006 = 165$

CPU2006 license: 20	**Test date:** Mar-2010
Test sponsor: Bull SAS	**Hardware Availability:** Jan-2010
Tested by: Bull SAS	**Software Availability:** Dec-2009

Copies

Benchmark	Copies	Result
410.bwaves	8	163
	16	162
416.gamess	8	170
	16	169
433.milc	16	175
	16	175
434.zeusmp	16	194
435.gromacs	16	167
	16	168
436.cactusADM	16	200
437.leslie3d	8	109
	16	108
444.namd	16	162
	16	159
447.dealII	16	264
	16	265
450.soplex	8	127
	16	120
453.povray	16	283
	16	233
454.calculix	16	206
459.GemsFDTD	8	102
	16	101
465.tonto	16	197
	16	182
470.lbm	8	108
	16	101
481.wrf	16	191
482.sphinx3	16	183
	16	171

SPECfp_rate_base2006 = 165

SPECfp_rate2006 = 170

Hardware

CPU Name:	Intel Xeon E5540
CPU Characteristics:	Intel Turbo Boost Technology up to 2.80 GHz
CPU MHz:	2533
FPU:	Integrated
CPU(s) enabled:	8 cores, 2 chips, 4 cores/chip, 2 threads/core
CPU(s) orderable:	1,2 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 10 (x86_64) SP2, SP2 with patch Linux kernel 20090119, Kernel 2.6.16.60-0.34-smp
Compiler:	Intel C++ and Fortran Professional Compiler for IA32 and Intel 64, Version 11.1 Build 20091130 Package ID: l_cproc_p_11.1.064, l_cprof_p_11.1.064
Auto Parallel:	No
File System:	ReiserFS

Continued on next page

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

NovaScale R460 F2
(Intel Xeon E5540, 2.53 GHz)

$SPECfp\_rate2006 = 170$

$SPECfp\_rate\_base2006 = 165$

CPU2006 license: 20	**Test date:** Mar-2010
Test sponsor: Bull SAS	**Hardware Availability:** Jan-2010
Tested by: Bull SAS	**Software Availability:** Dec-2009

L3 Cache:	8 MB I+D on chip per chip	System State:	Run level 3 (multi-user)
Other Cache:	None	Base Pointers:	64-bit
Memory:	24 GB (6 x 4 GB PC3-10600R, 2 Rank, CL9-9-9, ECC, running at 1066 MHz)	Peak Pointers:	32/64-bit
		Other Software:	Binutils 2.18.50.0.7.20080502
Disk Subsystem:	1 x 73 GB SAS, 10000 RPM		
Other Hardware:	None		

Results Table

Benchmark	Base Copies	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Peak Copies	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio
410.bwaves	16	1346	162	**1345**	**162**	1345	162	8	**666**	**163**	662	164	666	163
416.gamess	16	**1850**	**169**	1838	170	1882	166	8	924	169	**924**	**170**	923	170
433.milc	16	839	175	839	175	**839**	**175**	16	**839**	**175**	839	175	838	175
434.zeusmp	16	**752**	**194**	754	193	747	195	16	**752**	**194**	754	193	747	195
435.gromacs	16	681	168	682	167	**681**	**168**	16	674	169	**683**	**167**	686	167
436.cactusADM	16	957	200	**958**	**200**	964	198	16	957	200	**958**	**200**	964	198
437.leslie3d	16	1397	108	1398	108	**1397**	**108**	8	693	109	689	109	**691**	**109**
444.namd	16	**807**	**159**	808	159	806	159	16	**794**	**162**	789	163	803	160
447.dealII	16	687	266	696	263	**691**	**265**	16	**694**	**264**	695	263	694	264
450.soplex	16	**1115**	**120**	1115	120	1114	120	8	543	123	**525**	**127**	525	127
453.povray	16	362	235	367	232	**365**	**233**	16	**301**	**283**	300	284	301	283
454.calculix	16	639	207	**640**	**206**	642	205	16	639	207	**640**	**206**	642	205
459.GemsFDTD	16	1664	102	1674	101	**1674**	**101**	8	**829**	**102**	830	102	829	102
465.tonto	16	863	183	872	181	**864**	**182**	16	**799**	**197**	780	202	809	195
470.lbm	16	2171	101	2172	101	**2172**	**101**	8	1018	108	**1019**	**108**	1020	108
481.wrf	16	937	191	933	191	**936**	**191**	16	937	191	933	191	**936**	**191**
482.sphinx3	16	1819	171	**1820**	**171**	1820	171	16	1703	183	1697	184	**1700**	**183**

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
```

General Notes

```
    The Dell PowerEdge R710 and
    the Bull NovaScale R460 F2 models are electronically equivalent.
    The results have been measured on a Bull NovaScale R460 F2 model.
```

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

NovaScale R460 F2
(Intel Xeon E5540, 2.53 GHz)

$SPECfp\_rate2006 = 170$

$SPECfp\_rate\_base2006 = 165$

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

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

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
```

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

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

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

NovaScale R460 F2
(Intel Xeon E5540, 2.53 GHz)

$SPECfp_rate2006 = $ 170

$SPECfp_rate_base2006 = $ 165

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

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

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`

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) -static(pass 2) -prof-use(pass 2)`
                `-fno-alias -opt-prefetch`

         470.lbm: `-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 -ansi-alias -auto-ilp32`

Bull SAS

NovaScale R460 F2
(Intel Xeon E5540, 2.53 GHz)

SPECfp_rate2006 =   170

SPECfp_rate_base2006 =   165

CPU2006 license: 20

Test sponsor: Bull SAS

Tested by: Bull SAS

Test date: Mar-2010

Hardware Availability: Jan-2010

Software Availability: Dec-2009

Peak Optimization Flags (Continued)

    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.dealII: -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 -ansi-alias -scalar-rep-

      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

    436.cactusADM: basepeak = yes

      454.calculix: basepeak = yes

Bull SAS

NovaScale R460 F2
(Intel Xeon E5540, 2.53 GHz)

$SPECfp\_rate2006 =$ 170

$SPECfp\_rate\_base2006 =$ 165

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

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

Peak Optimization Flags (Continued)

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.20100316.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.20100316.xml

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.1.
Report generated on Wed Jul 23 09:49:18 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 14 April 2010.