



SPEC[®] CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

SPECfp[®]_rate2006 = 290

NovaScale R480 F2 (Intel Xeon E7-4830, 2.13 GHz)

SPECfp_rate_base2006 = 277

CPU2006 license: 20

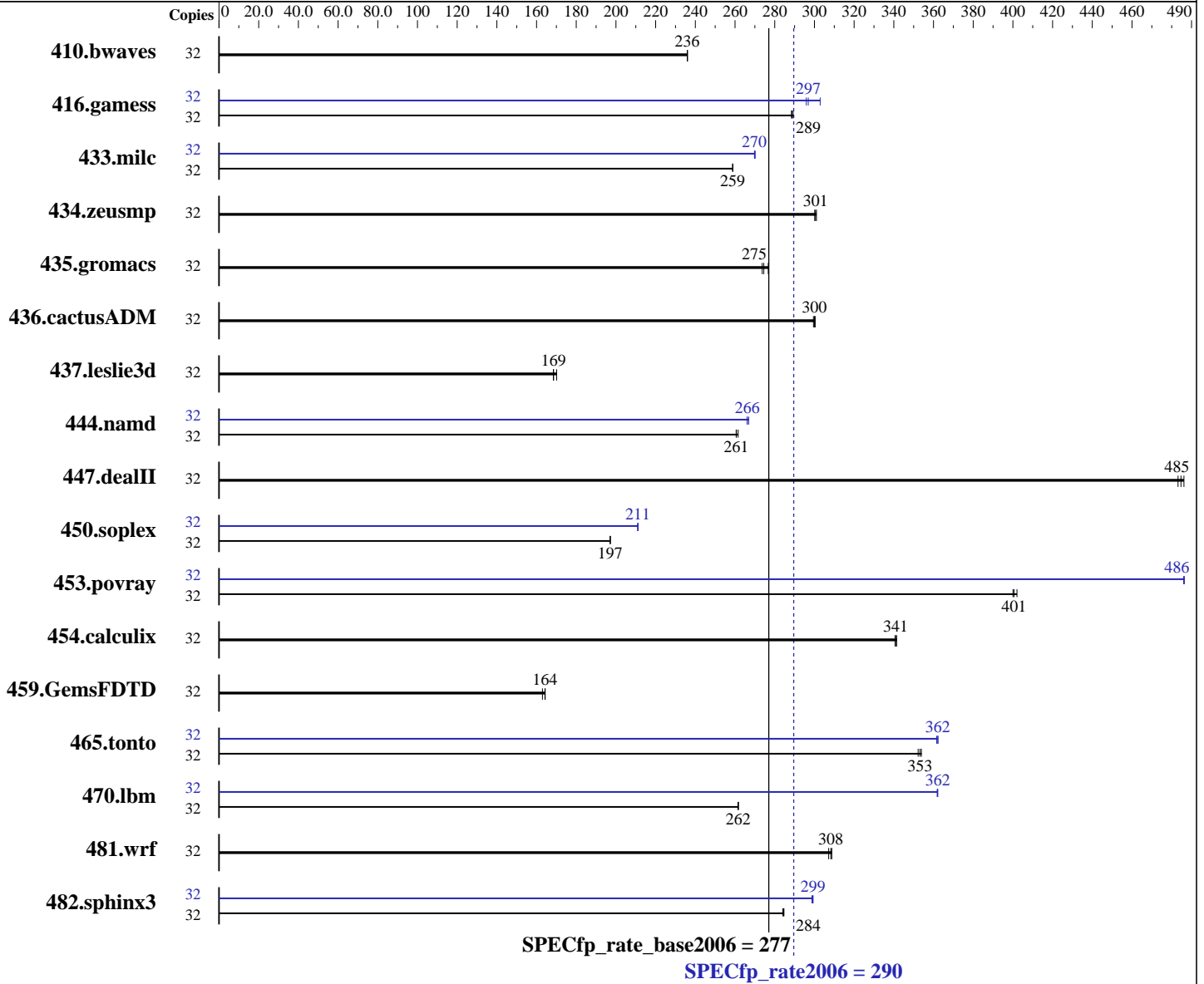
Test sponsor: Bull SAS

Tested by: Dell Inc.

Test date: Mar-2011

Hardware Availability: Apr-2011

Software Availability: Apr-2011



Hardware

CPU Name: Intel Xeon E7-4830
 CPU Characteristics: Intel Turbo Boost Technology up to 2.40 GHz
 CPU MHz: 2133
 FPU: Integrated
 CPU(s) enabled: 16 cores, 2 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 = 290

NovaScale R480 F2 (Intel Xeon E7-4830, 2.13 GHz)

SPECfp_rate_base2006 = 277

CPU2006 license: 20

Test date: Mar-2011

Test sponsor: Bull SAS

Hardware Availability: Apr-2011

Tested by: Dell Inc.

Software Availability: Apr-2011

L3 Cache: 24 MB I+D on chip per chip
 Other Cache: None
 Memory: 256 GB (32 x 8 GB 4Rx8 PC3-8500R-7, ECC)
 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	32	1843	236	1842	236	1843	236	32	1843	236	1842	236	1843	236		
416.gamess	32	2166	289	2172	288	2171	289	32	2110	297	2069	303	2117	296		
433.milc	32	1135	259	1135	259	1135	259	32	1088	270	1089	270	1088	270		
434.zeusmp	32	967	301	969	301	970	300	32	967	301	969	301	970	300		
435.gromacs	32	826	277	832	275	835	274	32	826	277	832	275	835	274		
436.cactusADM	32	1277	300	1273	300	1275	300	32	1277	300	1273	300	1275	300		
437.leslie3d	32	1768	170	1784	169	1786	168	32	1768	170	1784	169	1786	168		
444.namd	32	984	261	985	261	981	262	32	962	267	965	266	964	266		
447.dealII	32	758	483	753	486	755	485	32	758	483	753	486	755	485		
450.soplex	32	1354	197	1354	197	1354	197	32	1264	211	1265	211	1265	211		
453.povray	32	425	401	423	402	426	400	32	350	486	350	486	350	486		
454.calculix	32	774	341	773	341	775	341	32	774	341	773	341	775	341		
459.GemsFDTD	32	2067	164	2083	163	2066	164	32	2067	164	2083	163	2066	164		
465.tonto	32	892	353	894	352	890	354	32	871	362	869	362	869	362		
470.lbm	32	1681	262	1682	261	1680	262	32	1215	362	1214	362	1214	362		
481.wrf	32	1158	309	1164	307	1160	308	32	1158	309	1164	307	1160	308		
482.sphinx3	32	2192	284	2191	285	2196	284	32	2084	299	2084	299	2088	299		

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 28800 > /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 = 290

NovaScale R480 F2 (Intel Xeon E7-4830, 2.13 GHz)

SPECfp_rate_base2006 = 277

CPU2006 license: 20

Test sponsor: Bull SAS

Tested by: Dell Inc.

Test date: Mar-2011

Hardware Availability: Apr-2011

Software Availability: Apr-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 = 290

NovaScale R480 F2 (Intel Xeon E7-4830, 2.13 GHz)

SPECfp_rate_base2006 = 277

CPU2006 license: 20

Test sponsor: Bull SAS

Tested by: Dell Inc.

Test date: Mar-2011

Hardware Availability: Apr-2011

Software Availability: Apr-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 = 290

NovaScale R480 F2 (Intel Xeon E7-4830, 2.13 GHz)

SPECfp_rate_base2006 = 277

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

Test date: Mar-2011
Hardware Availability: Apr-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: -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: basepeak = yes
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
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

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

SPECfp_rate2006 = 290

NovaScale R480 F2 (Intel Xeon E7-4830, 2.13 GHz)

SPECfp_rate_base2006 = 277

CPU2006 license: 20

Test date: Mar-2011

Test sponsor: Bull SAS

Hardware Availability: Apr-2011

Tested by: Dell Inc.

Software Availability: Apr-2011

Peak Optimization Flags (Continued)

465.tonto (continued):

`-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.20110517.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.20110517.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.

Tested with SPEC CPU2006 v1.1.

Report generated on Wed Jul 23 19:42:20 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 17 May 2011.

Standard Performance Evaluation Corporation

info@spec.org

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