



SPEC[®] CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

SPECfp[®]_rate2006 = 657

NovaScale R480 F2 (Intel Xeon E7-8867L, 2.13 GHz)

SPECfp_rate_base2006 = 633

CPU2006 license: 20

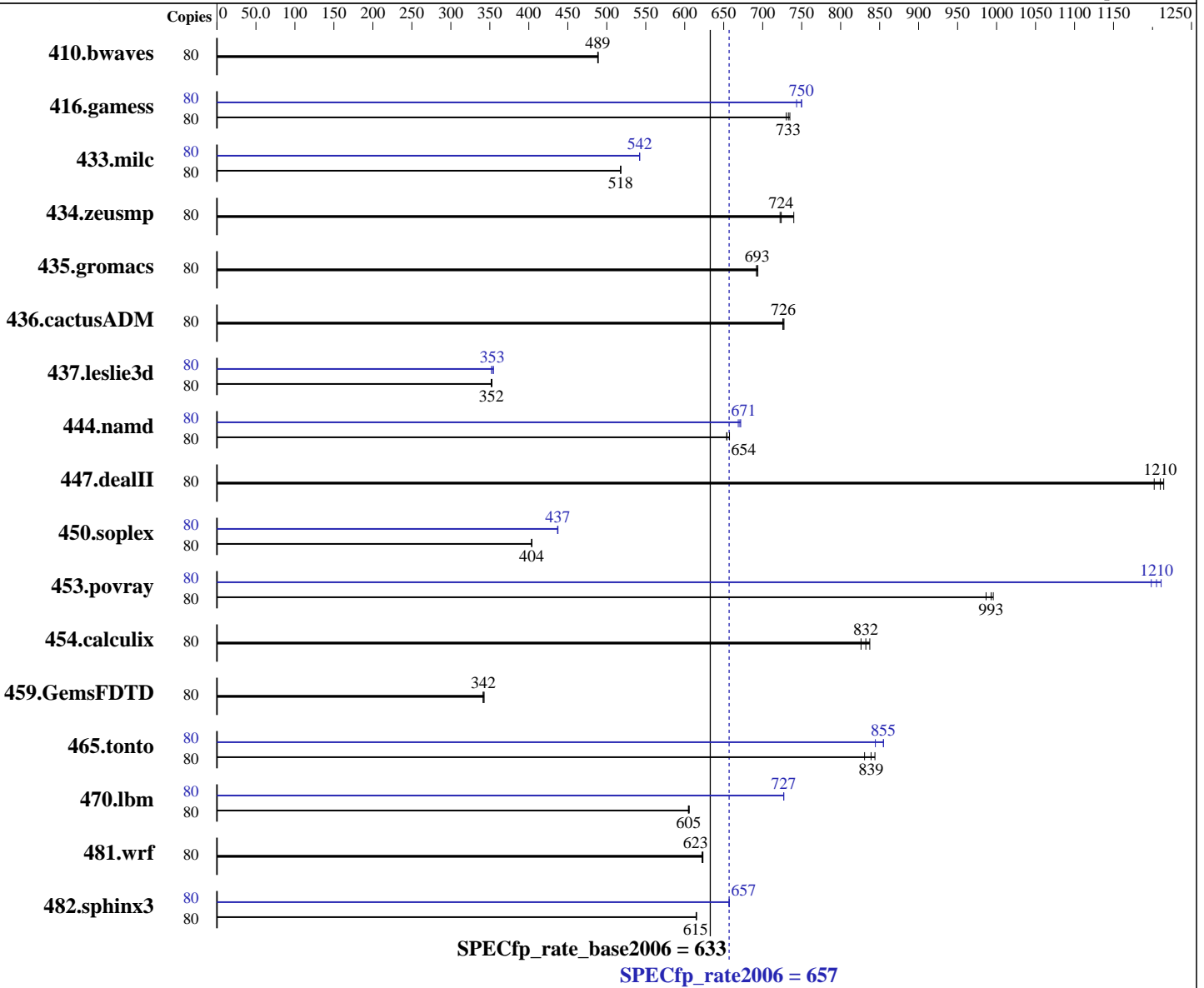
Test sponsor: Bull SAS

Tested by: Dell Inc.

Test date: Mar-2011

Hardware Availability: Apr-2011

Software Availability: Apr-2011



Hardware

CPU Name: Intel Xeon E7-8867L
 CPU Characteristics: Intel Turbo Boost Technology up to 2.53 GHz
 CPU MHz: 2133
 FPU: Integrated
 CPU(s) enabled: 40 cores, 4 chips, 10 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 = **657**

NovaScale R480 F2 (Intel Xeon E7-8867L, 2.13 GHz)

SPECfp_rate_base2006 = **633**

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: 30 MB I+D on chip per chip
Other Cache: None
Memory: 512 GB (64 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	80	2223	489	2226	488	<u>2225</u>	<u>489</u>	80	2223	489	2226	488	<u>2225</u>	<u>489</u>		
416.gamess	80	2145	730	2132	735	<u>2137</u>	<u>733</u>	80	2089	750	<u>2089</u>	<u>750</u>	2107	743		
433.milc	80	1418	518	1418	518	<u>1418</u>	<u>518</u>	80	<u>1355</u>	<u>542</u>	1355	542	1354	542		
434.zeusmp	80	<u>1006</u>	<u>724</u>	1008	722	984	740	80	<u>1006</u>	<u>724</u>	1008	722	984	740		
435.gromacs	80	823	694	826	692	<u>824</u>	<u>693</u>	80	823	694	826	692	<u>824</u>	<u>693</u>		
436.cactusADM	80	1314	727	1317	726	<u>1316</u>	<u>726</u>	80	1314	727	1317	726	<u>1316</u>	<u>726</u>		
437.leslie3d	80	2138	352	2132	353	<u>2136</u>	<u>352</u>	80	<u>2129</u>	<u>353</u>	2135	352	2120	355		
444.namd	80	976	657	<u>981</u>	<u>654</u>	981	654	80	955	672	960	669	<u>957</u>	<u>671</u>		
447.dealII	80	<u>756</u>	<u>1210</u>	754	1210	761	1200	80	<u>756</u>	<u>1210</u>	754	1210	761	1200		
450.soplex	80	1652	404	1653	404	<u>1652</u>	<u>404</u>	80	1525	437	<u>1526</u>	<u>437</u>	1527	437		
453.povray	80	431	987	427	996	<u>429</u>	<u>993</u>	80	355	1200	<u>353</u>	<u>1210</u>	351	1210		
454.calculix	80	788	837	<u>793</u>	<u>832</u>	799	826	80	788	837	<u>793</u>	<u>832</u>	799	826		
459.GemsFDTD	80	2486	341	<u>2484</u>	<u>342</u>	2477	343	80	2486	341	<u>2484</u>	<u>342</u>	2477	343		
465.tonto	80	933	844	948	831	<u>938</u>	<u>839</u>	80	932	845	<u>921</u>	<u>855</u>	921	855		
470.lbm	80	1814	606	1818	605	<u>1817</u>	<u>605</u>	80	1512	727	<u>1512</u>	<u>727</u>	1512	727		
481.wrf	80	<u>1434</u>	<u>623</u>	1436	622	1433	623	80	<u>1434</u>	<u>623</u>	1436	622	1433	623		
482.sphinx3	80	<u>2535</u>	<u>615</u>	2537	615	2535	615	80	2372	657	2374	657	<u>2373</u>	<u>657</u>		

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.

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 72000 > /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 = 657

NovaScale R480 F2 (Intel Xeon E7-8867L, 2.13 GHz)

SPECfp_rate_base2006 = 633

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 = 657

NovaScale R480 F2 (Intel Xeon E7-8867L, 2.13 GHz)

SPECfp_rate_base2006 = 633

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 = 657

NovaScale R480 F2 (Intel Xeon E7-8867L, 2.13 GHz)

SPECfp_rate_base2006 = 633

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.dealIII: 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: -xSSE4.2 -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 = 657

NovaScale R480 F2 (Intel Xeon E7-8867L, 2.13 GHz)

SPECfp_rate_base2006 = 633

CPU2006 license: 20

Test sponsor: Bull SAS

Tested by: Dell Inc.

Test date: Mar-2011

Hardware Availability: Apr-2011

Software Availability: Apr-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.20110308.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.20110308.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 19:26:57 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 12 April 2011.

Standard Performance Evaluation Corporation

info@spec.org

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