



SPEC[®] CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

SPECfp[®]2006 = **62.8**

NovaScale T840 F2 (Intel Xeon X5672, 3.20 GHz)

SPECfp_base2006 = **58.5**

CPU2006 license: 20

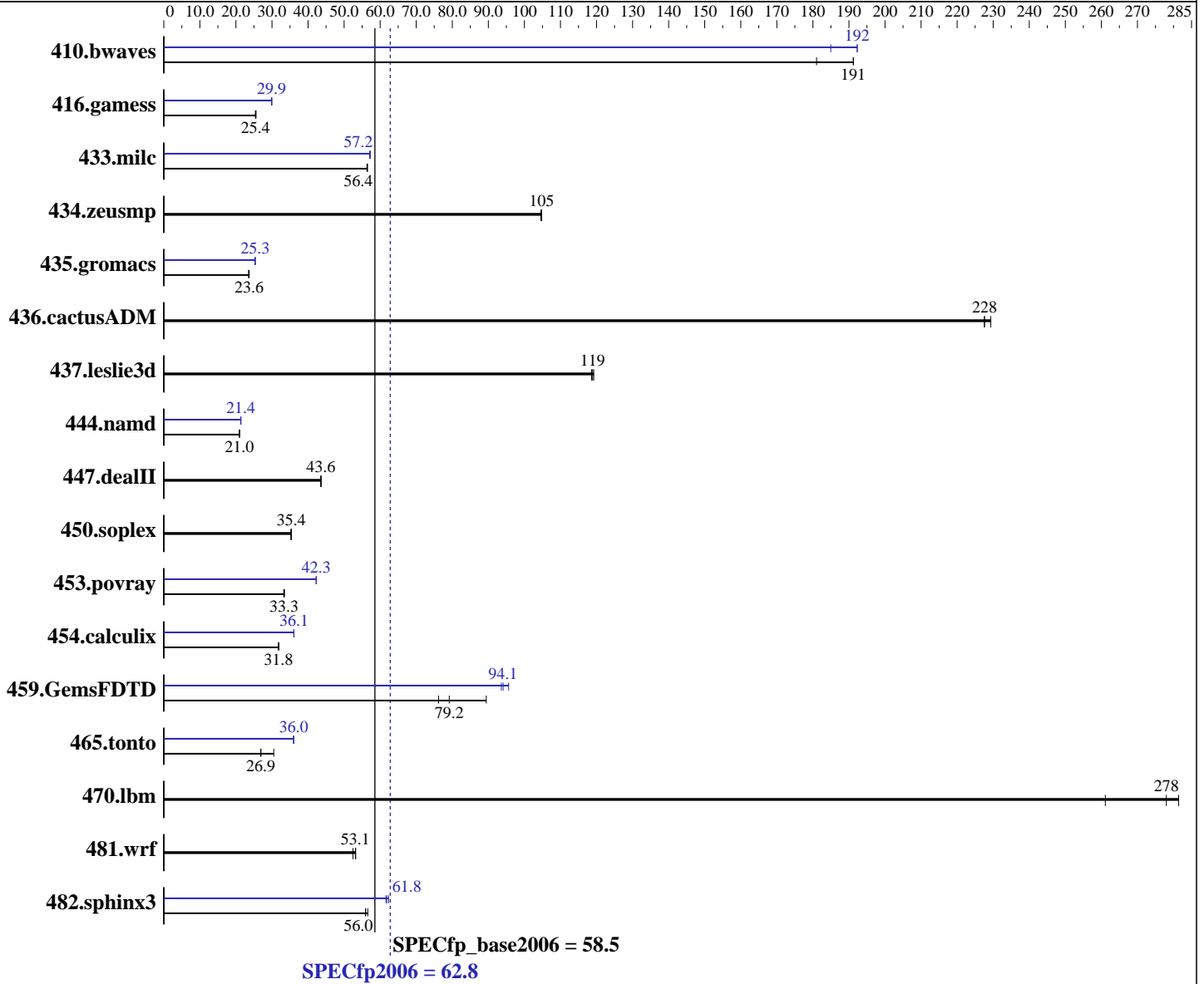
Test sponsor: Bull SAS

Tested by: Dell Inc.

Test date: Jun-2011

Hardware Availability: Feb-2011

Software Availability: Apr-2011



Hardware

CPU Name: Intel Xeon X5672
 CPU Characteristics: Intel Turbo Boost Technology up to 3.60 GHz
 CPU MHz: 3200
 FPU: Integrated
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip
 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 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 Update 3
 Auto Parallel: Yes
 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

SPECfp2006 = **62.8**

NovaScale T840 F2 (Intel Xeon X5672, 3.20 GHz)

SPECfp_base2006 = **58.5**

CPU2006 license: 20

Test sponsor: Bull SAS

Tested by: Dell Inc.

Test date: Jun-2011

Hardware Availability: Feb-2011

Software Availability: Apr-2011

L3 Cache: 12 MB I+D on chip per chip
Other Cache: None
Memory: 48 GB (12 x 4 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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	75.1	181	71.1	191	<u>71.1</u>	<u>191</u>	<u>70.7</u>	<u>192</u>	70.7	192	73.5	185
416.gamess	770	25.4	765	25.6	<u>770</u>	<u>25.4</u>	<u>654</u>	<u>29.9</u>	655	29.9	654	30.0
433.milc	<u>163</u>	<u>56.4</u>	163	56.3	163	56.5	160	57.2	<u>160</u>	<u>57.2</u>	161	57.1
434.zeusmp	86.9	105	87.1	105	<u>86.9</u>	<u>105</u>	86.9	105	87.1	105	<u>86.9</u>	<u>105</u>
435.gromacs	302	23.7	304	23.5	<u>302</u>	<u>23.6</u>	282	25.3	282	25.3	<u>282</u>	<u>25.3</u>
436.cactusADM	52.1	229	<u>52.5</u>	<u>228</u>	52.5	228	52.1	229	<u>52.5</u>	<u>228</u>	52.5	228
437.leslie3d	79.2	119	78.8	119	<u>79.0</u>	<u>119</u>	79.2	119	78.8	119	<u>79.0</u>	<u>119</u>
444.namd	<u>382</u>	<u>21.0</u>	382	21.0	382	21.0	<u>375</u>	<u>21.4</u>	375	21.4	376	21.3
447.dealII	262	43.6	<u>263</u>	<u>43.6</u>	263	43.6	262	43.6	<u>263</u>	<u>43.6</u>	263	43.6
450.soplex	<u>236</u>	<u>35.4</u>	236	35.4	237	35.2	<u>236</u>	<u>35.4</u>	236	35.4	237	35.2
453.povray	159	33.5	160	33.3	<u>160</u>	<u>33.3</u>	<u>126</u>	<u>42.3</u>	126	42.3	126	42.3
454.calculix	258	31.9	<u>259</u>	<u>31.8</u>	259	31.8	229	36.0	229	36.1	<u>229</u>	<u>36.1</u>
459.GemsFDTD	<u>134</u>	<u>79.2</u>	139	76.2	119	89.4	113	93.6	111	95.6	<u>113</u>	<u>94.1</u>
465.tonto	<u>365</u>	<u>26.9</u>	366	26.9	323	30.5	273	36.1	<u>273</u>	<u>36.0</u>	274	36.0
470.lbm	52.6	261	48.8	281	<u>49.4</u>	<u>278</u>	52.6	261	48.8	281	<u>49.4</u>	<u>278</u>
481.wrf	210	53.2	213	52.5	<u>210</u>	<u>53.1</u>	210	53.2	213	52.5	<u>210</u>	<u>53.1</u>
482.sphinx3	348	55.9	344	56.6	<u>348</u>	<u>56.0</u>	313	62.3	316	61.6	<u>315</u>	<u>61.8</u>

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

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 900 > /proc/sys/vm/nr_hugepages
export HUGETLB_MORECORE=yes
export LD_PRELOAD=/usr/lib64/libhugetlbfs.so
```

Platform Notes

BIOS Settings:

Power Management = Maximum Performance (Default = Active Power Controller)

Data Reuse = Disabled (Default = Enabled)

Logical Processor = Disabled (Default = Enabled)



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

SPECfp2006 = 62.8

NovaScale T840 F2 (Intel Xeon X5672, 3.20 GHz)

SPECfp_base2006 = 58.5

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

Test date: Jun-2011
Hardware Availability: Feb-2011
Software Availability: Apr-2011

General Notes

OMP_NUM_THREADS set to number of cores
The Dell PowerEdge T610 and
the Bull NovaScale T840 F2 models are electronically equivalent.
The results have been measured on a Dell PowerEdge T610 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.deallI: -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 -parallel -opt-prefetch
-ansi-alias

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

SPECfp2006 = 62.8

NovaScale T840 F2 (Intel Xeon X5672, 3.20 GHz)

SPECfp_base2006 = 58.5

CPU2006 license: 20

Test sponsor: Bull SAS

Tested by: Dell Inc.

Test date: Jun-2011

Hardware Availability: Feb-2011

Software Availability: Apr-2011

Base Optimization Flags (Continued)

C++ benchmarks:

`-xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch -ansi-alias`

Fortran benchmarks:

`-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch`

Benchmarks using both Fortran and C:

`-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch
-ansi-alias`

Peak Compiler Invocation

C benchmarks:

`icc -m64`

C++ benchmarks:

`icpc -m64`

Fortran benchmarks:

`ifort -m64`

Benchmarks using both Fortran and C:

`icc -m64 ifort -m64`

Peak Portability Flags

Same as Base Portability Flags

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
-ansi-alias`

`470.lbm: basepeak = yes`

`482.sphinx3: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -ansi-alias
-parallel`

C++ benchmarks:

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

SPECfp2006 = 62.8

NovaScale T840 F2 (Intel Xeon X5672, 3.20 GHz)

SPECfp_base2006 = 58.5

CPU2006 license: 20

Test sponsor: Bull SAS

Tested by: Dell Inc.

Test date: Jun-2011

Hardware Availability: Feb-2011

Software Availability: Apr-2011

Peak Optimization Flags (Continued)

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: basepeak = yes

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 -ipo -O3 -no-prec-div -opt-prefetch -parallel
-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: -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 -opt-prefetch -parallel
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

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) -inline-calloc
-opt-malloc-options=3 -auto -unroll4
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

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) -prof-use(pass 2) -static -auto-ilp32
-ansi-alias

436.cactusADM: basepeak = yes

454.calculix: -xSSE4.2 -ipo -O3 -no-prec-div -auto-ilp32 -ansi-alias

481.wrf: basepeak = yes



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

SPECfp2006 = 62.8

NovaScale T840 F2 (Intel Xeon X5672, 3.20 GHz)

SPECfp_base2006 = 58.5

CPU2006 license: 20

Test sponsor: Bull SAS

Tested by: Dell Inc.

Test date: Jun-2011

Hardware Availability: Feb-2011

Software Availability: Apr-2011

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.

Tested with SPEC CPU2006 v1.1.
Report generated on Wed Jul 23 23:31:12 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 16 August 2011.