SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

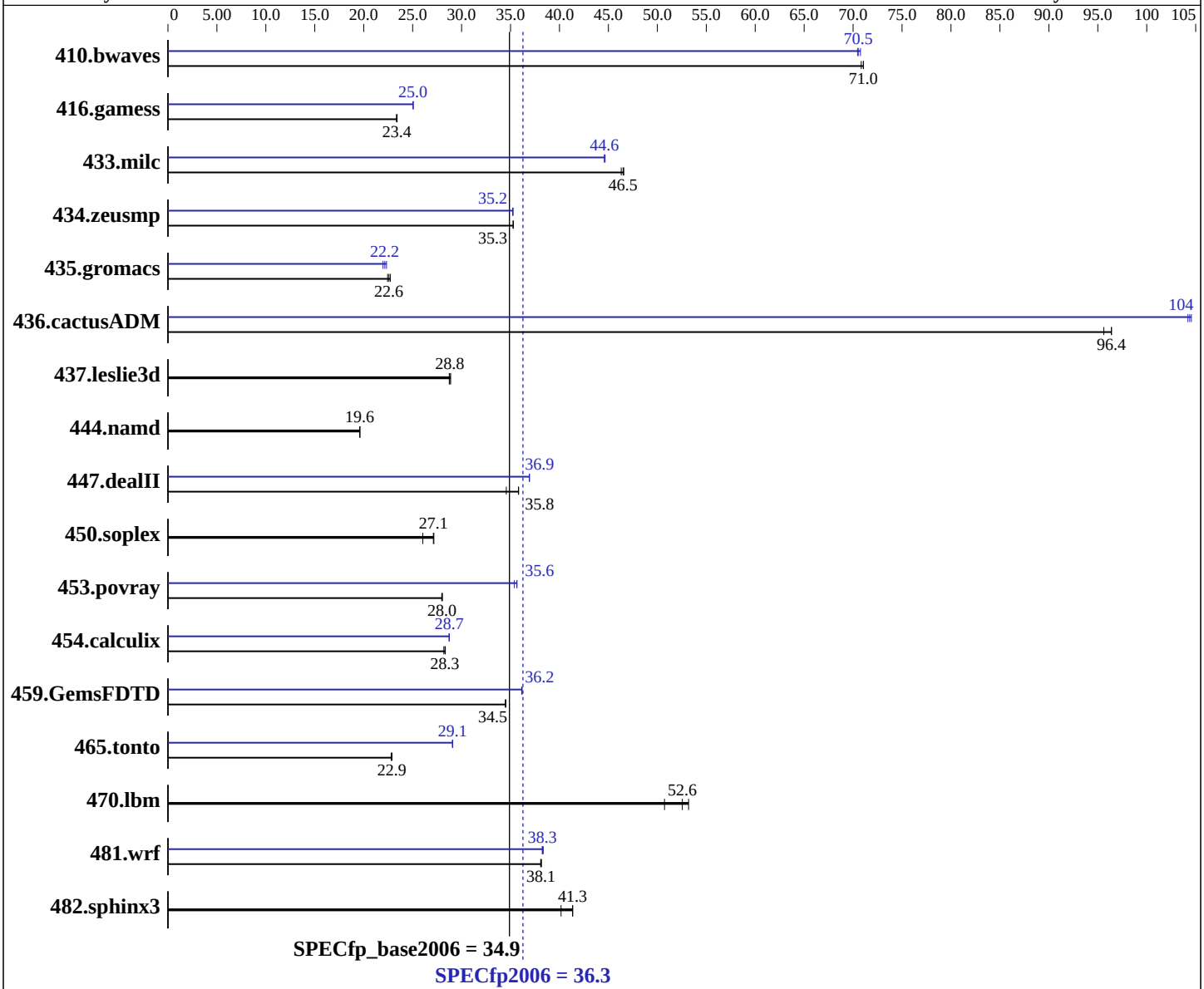
NovaScale T810 F2 (Intel Xeon X3460, 2.80 GHz)

SPECfp®2006 = 36.3

SPECfp_base2006 = 34.9

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

Test date: Sep-2009
Hardware Availability: Dec-2009
Software Availability: Jul-2009



Hardware

CPU Name:	Intel Xeon X3460
CPU Characteristics:	Intel Turbo Boost Technology up to 3.46 GHz
CPU MHz:	2800
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:	Red Hat Enterprise Linux Server release 5.3, Kernel 2.6.18-128.el5
Compiler:	Intel Fortran Compiler and Intel C++ Compiler Professional Edition 11.1 For Linux Build 20090511 Package ID: l_cproc_p_11.1.040, l_cprof_p_11.1.040
Auto Parallel:	Yes
File System:	ReiserFS
System State:	Run level 3 (multi-user)

Continued on next page

SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

NovaScale T810 F2 (Intel Xeon X3460, 2.80 GHz)

SPECfp2006 = 36.3

SPECfp_base2006 = 34.9

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

Test date: Sep-2009
Hardware Availability: Dec-2009
Software Availability: Jul-2009

L3 Cache: 8 MB I+D on chip per chip
Other Cache: None
Memory: 8 GB (4 x 2 GB DDR3-1333 DR UDIMM)
Disk Subsystem: 1 x 160 GB 7200 RPM SATA
Other Hardware: None

Base Pointers: 64-bit
Peak Pointers: 64-bit
Other Software: Binutils 2.18.50.0.7.20080502

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	191	71.1	**191**	**71.0**	192	70.8	193	70.5	**193**	**70.5**	192	70.8
416.gamess	**838**	**23.4**	839	23.4	836	23.4	**782**	**25.0**	782	25.0	781	25.1
433.milc	197	46.6	**197**	**46.5**	198	46.3	206	44.7	206	44.6	**206**	**44.6**
434.zeusmp	258	35.3	258	35.3	**258**	**35.3**	258	35.2	**258**	**35.2**	258	35.2
435.gromacs	314	22.7	**316**	**22.6**	318	22.4	**322**	**22.2**	320	22.3	325	22.0
436.cactusADM	125	95.6	124	96.4	**124**	**96.4**	**114**	**104**	114	105	115	104
437.leslie3d	327	28.7	**326**	**28.8**	325	28.9	327	28.7	**326**	**28.8**	325	28.9
444.namd	409	19.6	**409**	**19.6**	409	19.6	409	19.6	**409**	**19.6**	409	19.6
447.dealII	319	35.8	331	34.6	**319**	**35.8**	**310**	**36.9**	310	36.9	310	36.9
450.soplex	307	27.2	320	26.0	**308**	**27.1**	307	27.2	320	26.0	**308**	**27.1**
453.povray	190	28.0	**190**	**28.0**	190	28.0	149	35.7	**149**	**35.6**	150	35.4
454.calculix	**291**	**28.3**	293	28.2	291	28.3	287	28.7	287	28.7	**287**	**28.7**
459.GemsFDTD	**308**	**34.5**	307	34.5	308	34.5	293	36.2	**293**	**36.2**	294	36.1
465.tonto	**430**	**22.9**	430	22.9	432	22.8	339	29.1	338	29.1	**338**	**29.1**
470.lbm	258	53.2	271	50.7	**261**	**52.6**	258	53.2	271	50.7	**261**	**52.6**
481.wrf	**293**	**38.1**	293	38.1	293	38.2	**292**	**38.3**	292	38.2	291	38.3
482.sphinx3	485	40.2	**472**	**41.3**	471	41.4	485	40.2	**472**	**41.3**	471	41.4

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
```

Platform Notes

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

General Notes

```
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to granularity=fine,scatter
KMP_STACKSIZE set to 200M
The Dell PowerEdge T110 (Intel Xeon X3460, 2.80 GHz) and
the Bull NovaScale T810 F2 (Intel Xeon X3460, 2.80 GHz) models are electronically equivalent.
The results have been measured on a Dell PowerEdge T110 (Intel Xeon X3460, 2.80 GHz) model.
```

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 -opt-prefetch
```

Continued on next page

Base Optimization Flags (Continued)

C++ benchmarks:
`-xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch`

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

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

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

470.lbm: `basepeak = yes`

482.sphinx3: `basepeak = yes`

C++ benchmarks:

444.namd: `basepeak = yes`

Continued on next page

Peak Optimization Flags (Continued)

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- -opt-prefetch`

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) `-static`(pass 2) `-prof-use`(pass 2) `-unroll4 -ansi-alias`

Fortran benchmarks:

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

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: `Same as 410.bwaves`

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) `-static`(pass 2) `-prof-use`(pass 2) `-unroll2 -Ob0 -opt-prefetch -parallel`

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`

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: `-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 -opt-prefetch -parallel -auto-ilp32`

454.calculix: `-xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32`

481.wrf: `-xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch -parallel -auto-ilp32`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/Intel-ic11.1-fp-linux64-revA.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Intel-ic11.1-fp-linux64-revA.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 03:58:11 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 22 December 2009.