



SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

NovaScale T860 E1
(Intel Xeon X5460,3.16GHz)

SPECfp®_rate2006 = 42.5

SPECfp_rate_base2006 = 39.1

CPU2006 license: 20

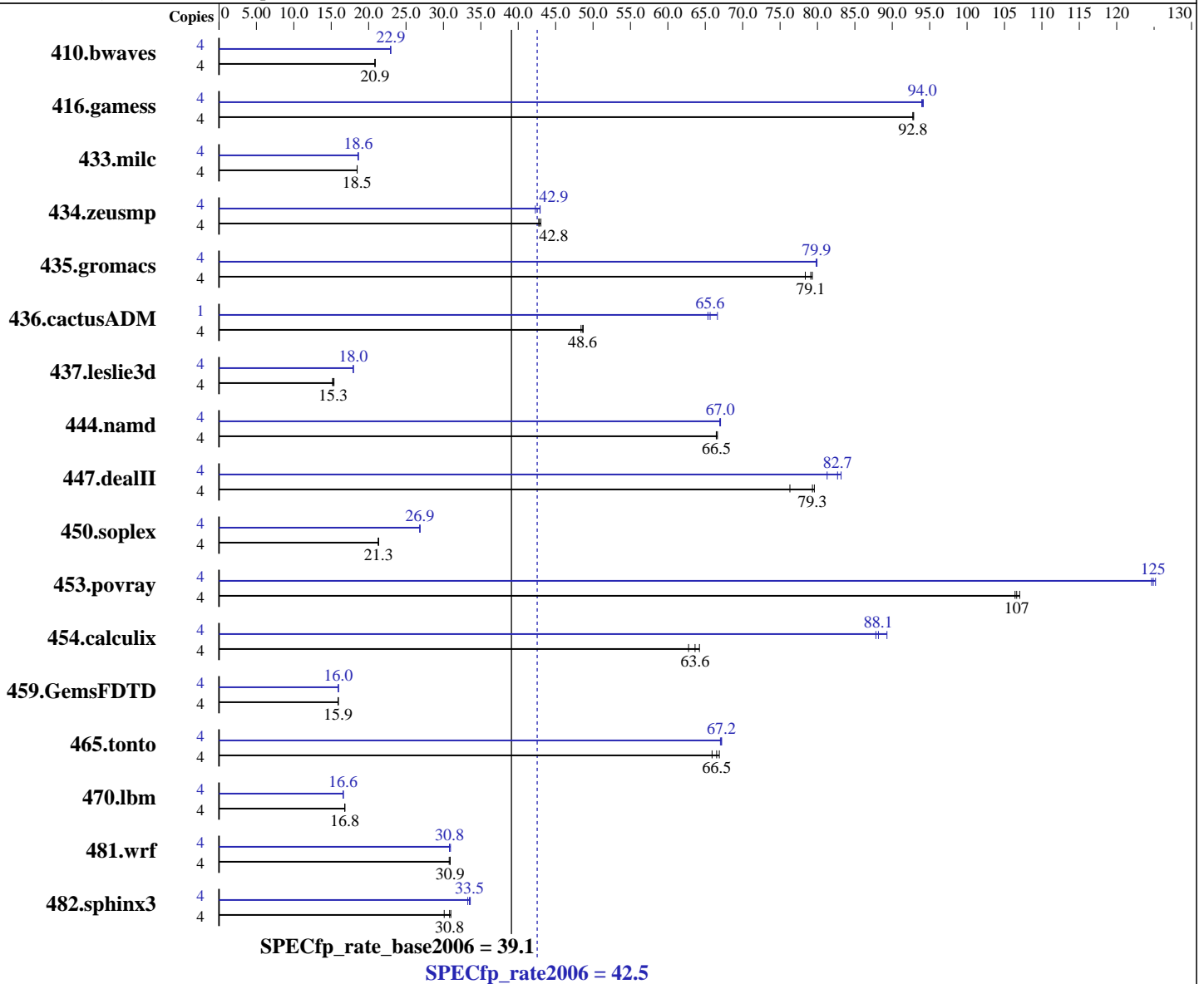
Test sponsor: Bull SAS

Tested by: NEC Corporation

Test date: May-2008

Hardware Availability: Apr-2008

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon X5460
 CPU Characteristics: 3.16 GHz, 2x6 MB L2 shared, 1333 MHz bus
 CPU MHz: 3167
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip
 CPU(s) orderable: 1,2 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 12 MB I+D on chip per chip, 6 MB shared / 2 cores

Continued on next page

Software

Operating System: SUSE Linux Enterprise Server 10 (x86_64) SP1, Kernel 2.6.16.46-0.12-smpp
 Compiler: Intel C++ and Fortran Compiler for Linux32 and Linux64 version 10.1 Build 20070913 Package ID: l_cc_p_10.1.008, l_fc_p_10.1.008
 Auto Parallel: Yes
 File System: ReiserFS

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

NovaScale T860 E1
(Intel Xeon X5460,3.16GHz)

SPECfp_rate2006 = 42.5

SPECfp_rate_base2006 = 39.1

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

Test date: May-2008
Hardware Availability: Apr-2008
Software Availability: Nov-2007

L3 Cache: None
Other Cache: None
Memory: 16 GB (8x2 GB PC2-5300F, 2 rank, CL5-5-5, ECC)
Disk Subsystem: 1x73.2 GB SAS, 15000RPM
Other Hardware: None

System State: Run level 3 (multi-user)
Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other Software: binutils-2.17.tar.gz, Version 2.17

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	<u>2605</u>	<u>20.9</u>	2605	20.9	2608	20.8	4	2370	22.9	2368	23.0	<u>2369</u>	<u>22.9</u>
416.gamess	4	844	92.8	843	92.9	<u>844</u>	<u>92.8</u>	4	832	94.2	<u>833</u>	<u>94.0</u>	834	93.9
433.milc	4	1989	18.5	1988	18.5	<u>1989</u>	<u>18.5</u>	4	1970	18.6	1978	18.6	<u>1971</u>	<u>18.6</u>
434.zeusmp	4	846	43.0	852	42.7	<u>850</u>	<u>42.8</u>	4	861	42.3	848	42.9	<u>848</u>	<u>42.9</u>
435.gromacs	4	<u>361</u>	<u>79.1</u>	364	78.4	360	79.3	4	357	79.9	358	79.8	<u>358</u>	<u>79.9</u>
436.cactusADM	4	<u>983</u>	<u>48.6</u>	982	48.7	988	48.4	1	183	65.4	179	66.6	<u>182</u>	<u>65.6</u>
437.leslie3d	4	<u>2465</u>	<u>15.3</u>	2446	15.4	2477	15.2	4	2098	17.9	<u>2094</u>	<u>18.0</u>	2093	18.0
444.namd	4	483	66.5	<u>482</u>	<u>66.5</u>	481	66.6	4	<u>479</u>	<u>67.0</u>	479	66.9	478	67.0
447.dealII	4	575	79.6	<u>577</u>	<u>79.3</u>	600	76.3	4	550	83.2	<u>553</u>	<u>82.7</u>	563	81.3
450.soplex	4	1568	21.3	1563	21.3	<u>1565</u>	<u>21.3</u>	4	<u>1242</u>	<u>26.9</u>	1242	26.9	1243	26.8
453.povray	4	<u>200</u>	<u>107</u>	200	106	199	107	4	170	125	171	125	<u>170</u>	<u>125</u>
454.calculix	4	514	64.2	526	62.8	<u>519</u>	<u>63.6</u>	4	370	89.3	376	87.8	<u>374</u>	<u>88.1</u>
459.GemsFDTD	4	<u>2663</u>	<u>15.9</u>	2665	15.9	2662	15.9	4	2660	16.0	<u>2660</u>	<u>16.0</u>	2658	16.0
465.tonto	4	589	66.9	597	65.9	<u>592</u>	<u>66.5</u>	4	587	67.0	<u>586</u>	<u>67.2</u>	586	67.2
470.lbm	4	3269	16.8	<u>3269</u>	<u>16.8</u>	3268	16.8	4	<u>3310</u>	<u>16.6</u>	3311	16.6	3309	16.6
481.wrf	4	<u>1446</u>	<u>30.9</u>	1446	30.9	1452	30.8	4	1450	30.8	<u>1450</u>	<u>30.8</u>	1444	30.9
482.sphinx3	4	<u>2529</u>	<u>30.8</u>	2590	30.1	2516	31.0	4	2321	33.6	2344	33.3	<u>2329</u>	<u>33.5</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
'/usr/bin/taskset' used to bind processes to CPUs
OMP_NUM_THREADS set to number of cores

Platform Notes

Bios settings:
Hardware Prefetcher: Disabled
Adjacent Cache Line Prefetch: Disabled
Intel SpeedStep Technology: Disabled



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

NovaScale T860 E1
(Intel Xeon X5460,3.16GHz)

SPECfp_rate2006 = 42.5

SPECfp_rate_base2006 = 39.1

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

Test date: May-2008
Hardware Availability: Apr-2008
Software Availability: Nov-2007

General Notes

All benchmarks compiled in 64-bit mode except 437.leslie3d, 450.soplex, 470.lbm and 482.sphinx3, for peak, are compiled in 32-bit mode

The NEC Express5800/120Lj(Intel Xeon X5460) and the Bull NovaScale T860 E1(Intel Xeon X5460,3.16GHz) models are electronically equivalent. The results have been measured on a NEC Express5800/120Lj(Intel Xeon X5460) model.

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icc ifort

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:
-fast

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

NovaScale T860 E1
(Intel Xeon X5460,3.16GHz)

SPECfp_rate2006 = 42.5

SPECfp_rate_base2006 = 39.1

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

Test date: May-2008
Hardware Availability: Apr-2008
Software Availability: Nov-2007

Base Optimization Flags (Continued)

C++ benchmarks:
-fast

Fortran benchmarks:
-fast

Benchmarks using both Fortran and C:
-fast

Peak Compiler Invocation

C benchmarks (except as noted below):

```
/opt/intel/cc/10.1.008/bin/icc -L/opt/intel/cc/10.1.008/lib  
-I/opt/intel/cc/10.1.008/include
```

433.milc: icc

C++ benchmarks (except as noted below):

icpc

```
450.soplex: /opt/intel/cc/10.1.008/bin/icpc -L/opt/intel/cc/10.1.008/lib  
-I/opt/intel/cc/10.1.008/include
```

Fortran benchmarks (except as noted below):

ifort

```
437.leslie3d: /opt/intel/fc/10.1.008/bin/ifort -L/opt/intel/fc/10.1.008/lib  
-I/opt/intel/fc/10.1.008/include
```

Benchmarks using both Fortran and C:

icc ifort

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  
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
```

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

NovaScale T860 E1
(Intel Xeon X5460,3.16GHz)

SPECfp_rate2006 = 42.5

SPECfp_rate_base2006 = 39.1

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

Test date: May-2008
Hardware Availability: Apr-2008
Software Availability: Nov-2007

Peak Portability Flags (Continued)

465.tonto: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

433.milc: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias
-auto-ilp32
470.lbm: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-scalar-rep- -prefetch -opt-malloc-options=3
482.sphinx3: -fast -unroll2

C++ benchmarks:

444.namd: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias
-auto-ilp32
447.dealII: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-ansi-alias -scalar-rep-
450.soplex: -prof-gen(pass 1) -prof-use(pass 2) -fast
-opt-malloc-options=3
453.povray: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4
-ansi-alias

Fortran benchmarks:

410.bwaves: -fast -prefetch
416.gamess: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0
-ansi-alias -scalar-rep-
434.zeusmp: -prof-gen(pass 1) -prof-use(pass 2) -fast
437.leslie3d: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch
-opt-malloc-options=3
459.GemsFDTD: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0
-prefetch
465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4 -auto

Benchmarks using both Fortran and C:

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

NovaScale T860 E1
(Intel Xeon X5460,3.16GHz)

SPECfp_rate2006 = 42.5

SPECfp_rate_base2006 = 39.1

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

Test date: May-2008
Hardware Availability: Apr-2008
Software Availability: Nov-2007

Peak Optimization Flags (Continued)

435.gromacs: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch
-auto-ilp32

436.cactusADM: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-prefetch -parallel -auto-ilp32

454.calculix: -fast -unroll-aggressive -auto-ilp32

481.wrf: -fast -auto-ilp32

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/NEC-Intel-ic10.1-FP-intel64-linux-flags.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/NEC-Intel-ic10.1-FP-intel64-linux-flags.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 v1.0.
Report generated on Tue Jul 22 17:35:18 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 11 June 2008.