



SPEC[®] CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

NovaScale R480 E1
(Intel Xeon E7330, 2.40 GHz)

SPECfp[®]2006 = 18.6

SPECfp_base2006 = 16.2

CPU2006 license: 20

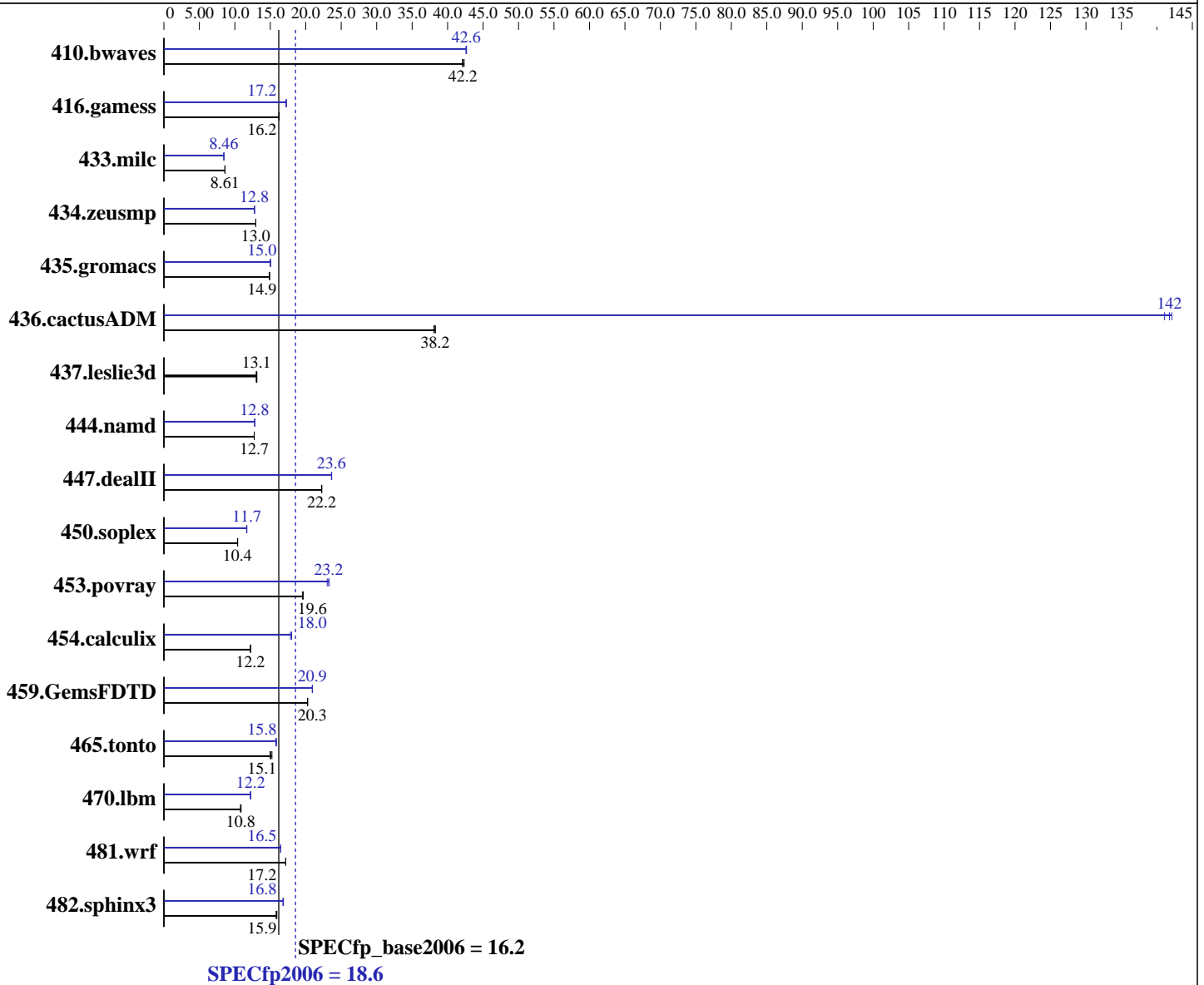
Test sponsor: Bull SAS

Tested by: Bull SAS

Test date: Aug-2008

Hardware Availability: Jan-2008

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon E7330
 CPU Characteristics: 1066 MHz system bus
 CPU MHz: 2400
 FPU: Integrated
 CPU(s) enabled: 16 cores, 4 chips, 4 cores/chip
 CPU(s) orderable: 1 to 4 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 6 MB I+D on chip per chip, 3 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-smp
 Compiler: Intel C++ and Fortran Compiler 10.1 for Linux Build 20070913 Package ID: l_cc_p_10.1.008, l_fc_p_10.1.008
 Auto Parallel: Yes
 File System: ext2
 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

NovaScale R480 E1
(Intel Xeon E7330, 2.40 GHz)

SPECfp2006 = 18.6

SPECfp_base2006 = 16.2

CPU2006 license: 20

Test sponsor: Bull SAS

Tested by: Bull SAS

Test date: Aug-2008

Hardware Availability: Jan-2008

Software Availability: Nov-2007

L3 Cache: None
Other Cache: None
Memory: 32 GB (16x2 GB) FB-DIMM PC2-5300F ECC CL5
Disk Subsystem: 1x146 GB SAS, 10000 RPM
Other Hardware: None

Peak Pointers: 32/64-bit
Other Software: Binutils 2.17.50.0.15

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	323	42.1	<u>322</u>	<u>42.2</u>	321	42.3	319	42.7	319	42.6	<u>319</u>	<u>42.6</u>
416.gamess	1204	16.3	1207	16.2	<u>1206</u>	<u>16.2</u>	1136	17.2	<u>1136</u>	<u>17.2</u>	1134	17.3
433.milc	1067	8.61	<u>1067</u>	<u>8.61</u>	1066	8.61	1086	8.45	<u>1086</u>	<u>8.46</u>	1085	8.46
434.zeusmp	703	13.0	702	13.0	<u>702</u>	<u>13.0</u>	<u>713</u>	<u>12.8</u>	712	12.8	713	12.8
435.gromacs	<u>479</u>	<u>14.9</u>	480	14.9	479	14.9	475	15.0	475	15.0	<u>475</u>	<u>15.0</u>
436.cactusADM	314	38.1	<u>313</u>	<u>38.2</u>	312	38.3	84.7	141	84.1	142	<u>84.3</u>	<u>142</u>
437.leslie3d	717	13.1	<u>719</u>	<u>13.1</u>	722	13.0	717	13.1	<u>719</u>	<u>13.1</u>	722	13.0
444.namd	629	12.7	<u>630</u>	<u>12.7</u>	630	12.7	626	12.8	<u>626</u>	<u>12.8</u>	626	12.8
447.dealII	515	22.2	514	22.3	<u>514</u>	<u>22.2</u>	484	23.6	<u>484</u>	<u>23.6</u>	484	23.7
450.soplex	801	10.4	<u>804</u>	<u>10.4</u>	805	10.4	713	11.7	716	11.7	<u>714</u>	<u>11.7</u>
453.povray	<u>271</u>	<u>19.6</u>	272	19.5	271	19.6	<u>229</u>	<u>23.2</u>	231	23.0	229	23.3
454.calculix	674	12.2	<u>675</u>	<u>12.2</u>	676	12.2	458	18.0	<u>458</u>	<u>18.0</u>	462	17.8
459.GemsFDTD	524	20.3	524	20.2	<u>524</u>	<u>20.3</u>	507	20.9	<u>507</u>	<u>20.9</u>	507	20.9
465.tonto	646	15.2	<u>653</u>	<u>15.1</u>	657	15.0	620	15.9	<u>622</u>	<u>15.8</u>	623	15.8
470.lbm	1272	10.8	<u>1268</u>	<u>10.8</u>	1262	10.9	1129	12.2	<u>1122</u>	<u>12.2</u>	1121	12.3
481.wrf	650	17.2	<u>650</u>	<u>17.2</u>	650	17.2	678	16.5	679	16.5	<u>678</u>	<u>16.5</u>
482.sphinx3	1224	15.9	1232	15.8	<u>1226</u>	<u>15.9</u>	1162	16.8	1157	16.8	<u>1157</u>	<u>16.8</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
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to physical,0
KMP_STACKSIZE set to 200M

General Notes

All benchmarks compiled in 64-bit mode except 450.soplex, 470.lbm and 482.sphinx3, at peak, are compiled in 32-bit mode
BIOS settings :
Hardware Prefetcher : Enabled
Adjacent Cache-Line Prefetch : Enabled



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

NovaScale R480 E1
(Intel Xeon E7330, 2.40 GHz)

SPECfp2006 = 18.6

SPECfp_base2006 = 16.2

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

Test date: Aug-2008
Hardware Availability: Jan-2008
Software Availability: Nov-2007

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 -parallel

C++ benchmarks:
-fast -parallel

Fortran benchmarks:
-fast -parallel

Benchmarks using both Fortran and C:
-fast -parallel



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

NovaScale R480 E1
(Intel Xeon E7330, 2.40 GHz)

SPECfp2006 = 18.6

SPECfp_base2006 = 16.2

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

Test date: Aug-2008
Hardware Availability: Jan-2008
Software Availability: Nov-2007

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:

ifort

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  
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  
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
```

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

NovaScale R480 E1
(Intel Xeon E7330, 2.40 GHz)

SPECfp2006 = 18.6

SPECfp_base2006 = 16.2

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

Test date: Aug-2008
Hardware Availability: Jan-2008
Software Availability: Nov-2007

Peak Optimization Flags (Continued)

482.sphinx3: -fast -unroll2

C++ benchmarks:

444.namd: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias
-auto-ilp32

447.dealIII: -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 -parallel

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: basepeak = yes

459.GemsFDTD: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0
-prefetch -parallel

465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4 -auto

Benchmarks using both Fortran and C:

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 -parallel -prefetch -auto-ilp32

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

http://www.spec.org/cpu2006/flags/EM64T_Intel101_fp_flags.20090713.00.html

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

http://www.spec.org/cpu2006/flags/EM64T_Intel101_fp_flags.20090713.00.xml



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

NovaScale R480 E1
(Intel Xeon E7330, 2.40 GHz)

SPECfp2006 = 18.6

SPECfp_base2006 = 16.2

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

Test date: Aug-2008
Hardware Availability: Jan-2008
Software Availability: Nov-2007

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 19:17:18 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 2 September 2008.