



SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp®2006 = 37.0

PowerEdge T610 (Intel Xeon E5620, 2.40 GHz)

SPECfp_base2006 = 34.3

CPU2006 license: 55

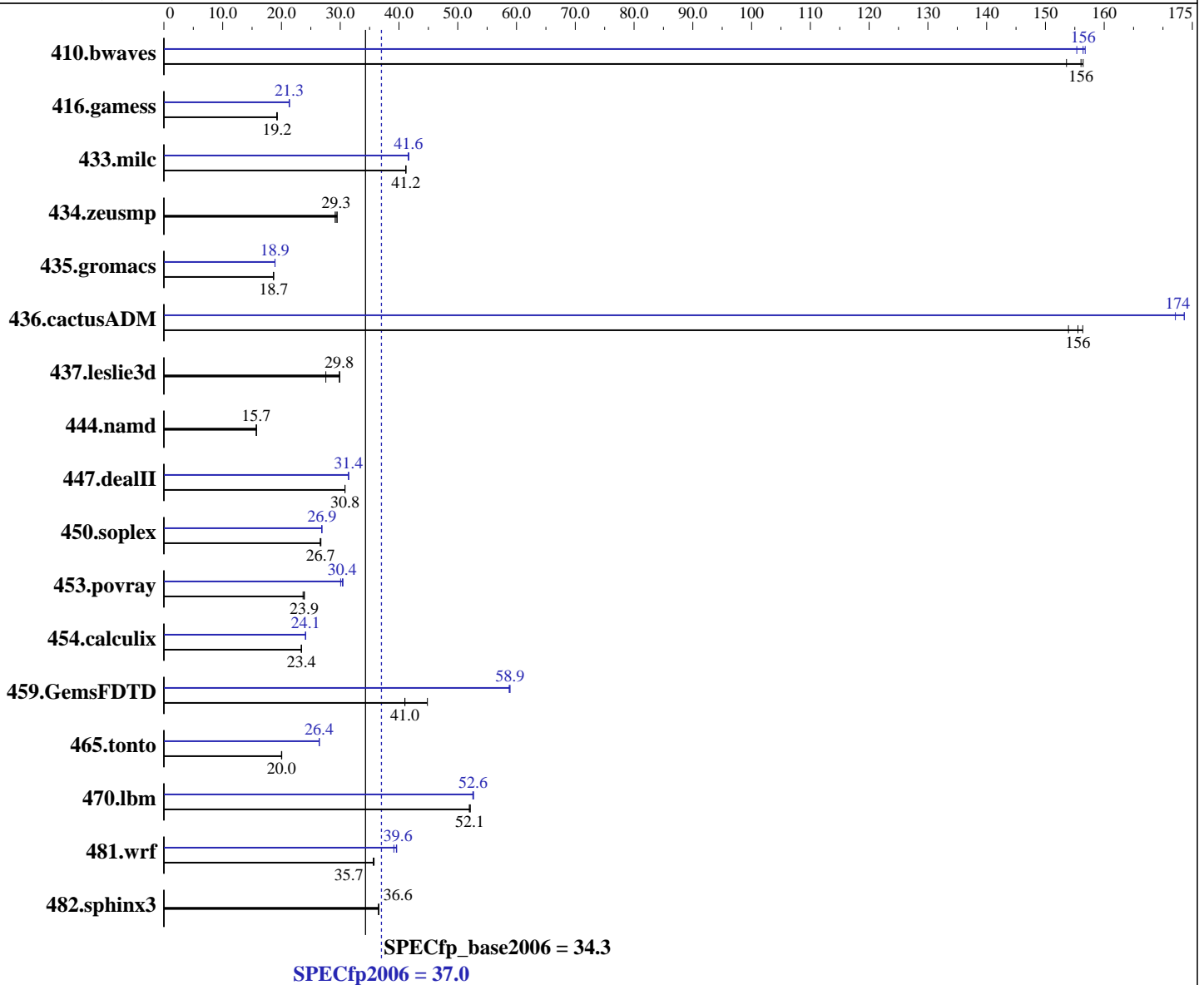
Test date: Apr-2010

Test sponsor: Dell Inc.

Hardware Availability: Mar-2010

Tested by: Dell Inc.

Software Availability: Dec-2009



Hardware

CPU Name: Intel Xeon E5620
 CPU Characteristics: Intel Turbo Boost Technology up to 2.67 GHz
 CPU MHz: 2400
 FPU: Integrated
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip, 2 threads/core
 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 (x86_64), Kernel 2.6.27.19-5-smp
 Compiler: Intel C++ and Fortran Professional Compiler for IA32 and Intel 64, Version 11.1 Build 20091130 Package ID: l_cproc_p_11.1.064, l_cprof_p_11.1.064
 Auto Parallel: Yes
 File System: ext3
 System State: Run level 3 (multi-user)

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp2006 = 37.0

PowerEdge T610 (Intel Xeon E5620, 2.40 GHz)

SPECfp_base2006 = 34.3

CPU2006 license: 55

Test date: Apr-2010

Test sponsor: Dell Inc.

Hardware Availability: Mar-2010

Tested by: Dell Inc.

Software Availability: Dec-2009

L3 Cache: 12 MB I+D on chip per chip
 Other Cache: None
 Memory: 48 GB (12 x 4 GB DDR3-1333 DR CL9, ECC, downclocked to 1066 MHz)
 Disk Subsystem: 1 x 146 GB 15000 RPM SAS
 Other Hardware: None

Base Pointers: 64-bit
 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 | 88.5 | 154 | 86.9 | 156 | <u>87.1</u> | <u>156</u> | 87.5 | 155 | 86.7 | 157 | <u>86.9</u> | <u>156</u> |
| 416.gamess | <u>1018</u> | <u>19.2</u> | 1019 | 19.2 | 1014 | 19.3 | 919 | 21.3 | 916 | 21.4 | <u>917</u> | <u>21.3</u> |
| 433.milc | <u>223</u> | <u>41.2</u> | 223 | 41.2 | 223 | 41.1 | <u>221</u> | <u>41.6</u> | 220 | 41.7 | 221 | 41.6 |
| 434.zeusmp | 309 | 29.5 | 312 | 29.1 | <u>310</u> | <u>29.3</u> | 309 | 29.5 | 312 | 29.1 | <u>310</u> | <u>29.3</u> |
| 435.gromacs | <u>382</u> | <u>18.7</u> | 382 | 18.7 | 384 | 18.6 | 378 | 18.9 | <u>378</u> | <u>18.9</u> | 378 | 18.9 |
| 436.cactusADM | 77.6 | 154 | <u>76.8</u> | <u>156</u> | 76.4 | 156 | 68.8 | 174 | 69.4 | 172 | <u>68.8</u> | <u>174</u> |
| 437.leslie3d | 314 | 29.9 | 341 | 27.6 | <u>315</u> | <u>29.8</u> | 314 | 29.9 | 341 | 27.6 | <u>315</u> | <u>29.8</u> |
| 444.namd | 510 | 15.7 | <u>510</u> | <u>15.7</u> | 510 | 15.7 | 510 | 15.7 | <u>510</u> | <u>15.7</u> | 510 | 15.7 |
| 447.dealII | <u>371</u> | <u>30.8</u> | 371 | 30.8 | 371 | 30.8 | 364 | 31.4 | 364 | 31.4 | <u>364</u> | <u>31.4</u> |
| 450.soplex | <u>313</u> | <u>26.7</u> | 314 | 26.6 | 312 | 26.7 | <u>310</u> | <u>26.9</u> | 311 | 26.9 | 310 | 26.9 |
| 453.povray | <u>223</u> | <u>23.9</u> | 225 | 23.7 | 223 | 23.9 | 177 | 30.1 | 175 | 30.5 | <u>175</u> | <u>30.4</u> |
| 454.calculix | 352 | 23.4 | <u>353</u> | <u>23.4</u> | 353 | 23.4 | 342 | 24.1 | 342 | 24.1 | <u>342</u> | <u>24.1</u> |
| 459.GemsFDTD | 237 | 44.8 | 259 | 41.0 | <u>259</u> | <u>41.0</u> | 181 | 58.7 | <u>180</u> | <u>58.9</u> | 180 | 58.9 |
| 465.tonto | 491 | 20.1 | <u>492</u> | <u>20.0</u> | 492 | 20.0 | 372 | 26.4 | <u>372</u> | <u>26.4</u> | 372 | 26.4 |
| 470.lbm | <u>264</u> | <u>52.1</u> | 264 | 52.1 | 264 | 52.0 | 261 | 52.7 | 261 | 52.6 | <u>261</u> | <u>52.6</u> |
| 481.wrf | 312 | 35.8 | <u>313</u> | <u>35.7</u> | 314 | 35.6 | 285 | 39.1 | 282 | 39.6 | <u>282</u> | <u>39.6</u> |
| 482.sphinx3 | <u>533</u> | <u>36.6</u> | 533 | 36.6 | 534 | 36.5 | <u>533</u> | <u>36.6</u> | 533 | 36.6 | 534 | 36.5 |

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

Platform Notes

BIOS Settings:

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

Data Reuse = Disabled (Default = Enabled)



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp2006 = 37.0

PowerEdge T610 (Intel Xeon E5620, 2.40 GHz)

SPECfp_base2006 = 34.3

CPU2006 license: 55

Test date: Apr-2010

Test sponsor: Dell Inc.

Hardware Availability: Mar-2010

Tested by: Dell Inc.

Software Availability: Dec-2009

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 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 SLES 10 with Binutils 2.18.50.0.7.20080502

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 -parallel -opt-prefetch

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp2006 = 37.0

PowerEdge T610 (Intel Xeon E5620, 2.40 GHz)

SPECfp_base2006 = 34.3

CPU2006 license: 55

Test date: Apr-2010

Test sponsor: Dell Inc.

Hardware Availability: Mar-2010

Tested by: Dell Inc.

Software Availability: Dec-2009

Base Optimization Flags (Continued)

C++ benchmarks:

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

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

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)
-ansi-alias

470.lbm: -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)
-parallel -ansi-alias -auto-ilp32

482.sphinx3: basepeak = yes

C++ benchmarks:

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp2006 = 37.0

PowerEdge T610 (Intel Xeon E5620, 2.40 GHz)

SPECfp_base2006 = 34.3

CPU2006 license: 55

Test date: Apr-2010

Test sponsor: Dell Inc.

Hardware Availability: Mar-2010

Tested by: Dell Inc.

Software Availability: Dec-2009

Peak Optimization Flags (Continued)

444.namd: basepeak = yes

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- -auto-ilp32

450.soplex: -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-malloc-options=3 -auto-ilp32

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: 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) -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)
-inline-calloc -opt-malloc-options=3 -auto -unroll4

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: Same as 454.calculix



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp2006 = 37.0

PowerEdge T610 (Intel Xeon E5620, 2.40 GHz)

SPECfp_base2006 = 34.3

CPU2006 license: 55

Test date: Apr-2010

Test sponsor: Dell Inc.

Hardware Availability: Mar-2010

Tested by: Dell Inc.

Software Availability: Dec-2009

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100330.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100330.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 07:00:20 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 11 May 2010.