



SPEC[®] CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp[®]2006 = 63.0

PowerEdge R220 (Intel Xeon E3-1240L v3, 2.00 GHz)

SPECfp_base2006 = 61.6

CPU2006 license: 55

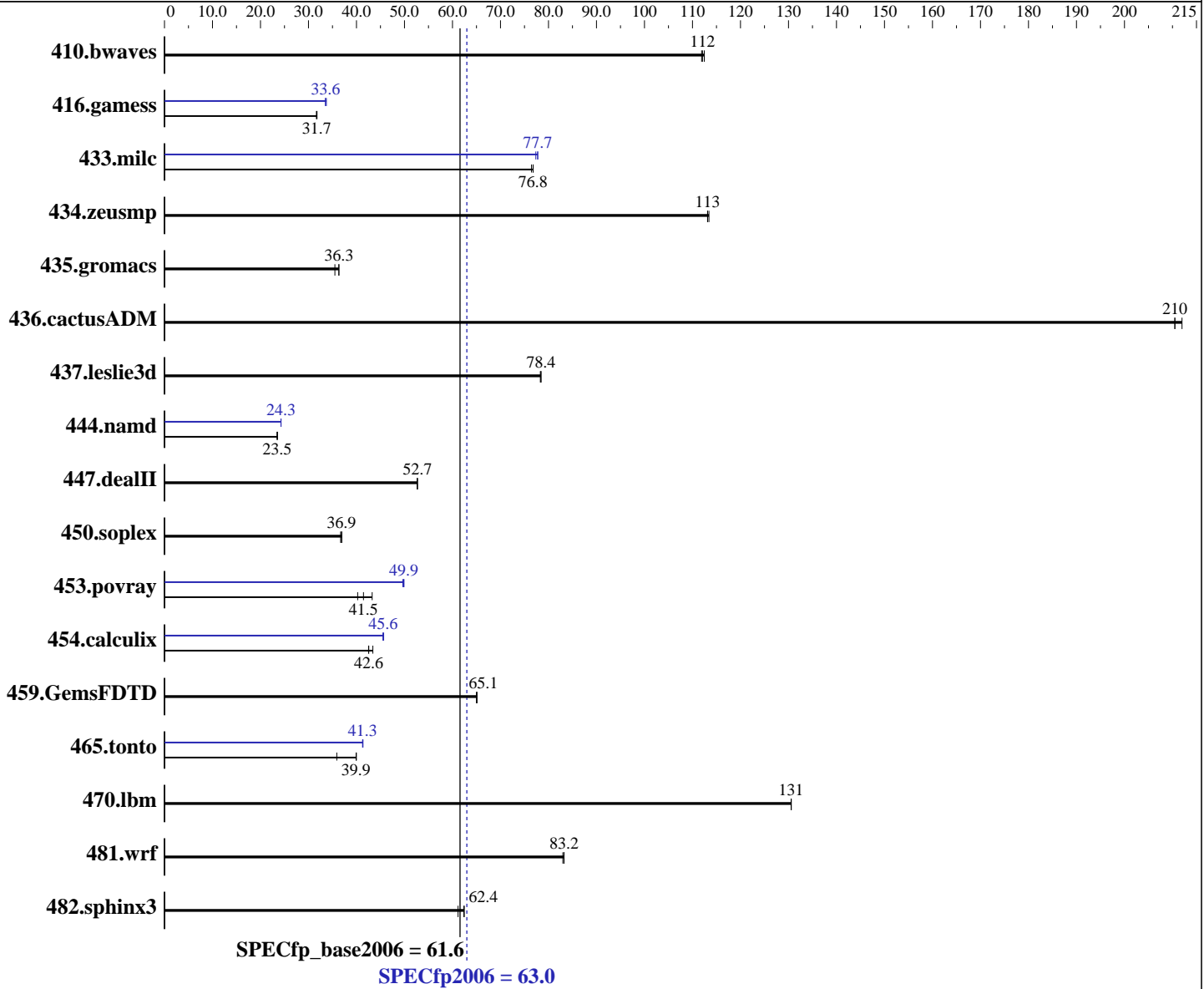
Test date: Oct-2014

Test sponsor: Dell Inc.

Hardware Availability: Mar-2014

Tested by: Dell Inc.

Software Availability: Sep-2014



Hardware

CPU Name: Intel Xeon E3-1240L v3
 CPU Characteristics: Intel Turbo Boost Technology up to 3.00 GHz
 CPU MHz: 2000
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip
 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: SUSE Linux Enterprise Server 11 (x86_64)
 3.0.76-0.11-default
 Compiler: C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux;
 Fortran: Version 14.0.0.080 of Intel Fortran Studio XE for Linux
 Auto Parallel: Yes
 File System: ext2
 System State: Run level 3 (multi-user)

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp2006 = 63.0

PowerEdge R220 (Intel Xeon E3-1240L v3, 2.00 GHz)

SPECfp_base2006 = 61.6

CPU2006 license: 55

Test date: Oct-2014

Test sponsor: Dell Inc.

Hardware Availability: Mar-2014

Tested by: Dell Inc.

Software Availability: Sep-2014

L3 Cache: 8 MB I+D on chip per chip
Other Cache: None
Memory: 32 GB (4 x 8 GB 2Rx8 PC3L-12800E-11)
Disk Subsystem: 1 x 300 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 | 121 | 112 | <u>121</u> | <u>112</u> | 121 | 112 | 121 | 112 | <u>121</u> | <u>112</u> | 121 | 112 |
| 416.gamess | 618 | 31.7 | 616 | 31.8 | 618 | 31.7 | 580 | 33.7 | 584 | 33.6 | 584 | 33.5 |
| 433.milc | 120 | 76.5 | <u>120</u> | 76.8 | 120 | 76.8 | 118 | 77.7 | 119 | 77.4 | 118 | 77.8 |
| 434.zeusmp | 80.4 | 113 | 80.2 | 113 | 80.4 | 113 | 80.4 | 113 | 80.2 | 113 | 80.4 | 113 |
| 435.gromacs | 201 | 35.5 | 197 | 36.3 | 197 | 36.3 | 201 | 35.5 | 197 | 36.3 | 197 | 36.3 |
| 436.cactusADM | 56.4 | 212 | 56.8 | 210 | 56.8 | 210 | 56.4 | 212 | 56.8 | 210 | 56.8 | 210 |
| 437.leslie3d | 120 | 78.3 | <u>120</u> | 78.4 | 120 | 78.4 | 120 | 78.3 | <u>120</u> | 78.4 | 120 | 78.4 |
| 444.namd | 341 | 23.5 | 342 | 23.5 | 341 | 23.5 | 330 | 24.3 | 330 | 24.3 | 330 | 24.3 |
| 447.dealII | 217 | 52.7 | 217 | 52.7 | 217 | 52.7 | 217 | 52.7 | 217 | 52.7 | 217 | 52.7 |
| 450.soplex | 227 | 36.7 | 226 | 36.9 | 226 | 36.9 | 227 | 36.7 | 226 | 36.9 | 226 | 36.9 |
| 453.povray | 128 | 41.5 | 123 | 43.3 | 132 | 40.2 | 107 | 49.9 | 107 | 49.7 | 107 | 49.9 |
| 454.calculix | 194 | 42.5 | 194 | 42.6 | 190 | 43.4 | 181 | 45.6 | 181 | 45.5 | 181 | 45.7 |
| 459.GemsFDTD | 163 | 65.1 | 163 | 65.1 | 163 | 65.0 | 163 | 65.1 | 163 | 65.1 | 163 | 65.0 |
| 465.tonto | 274 | 35.9 | 247 | 39.9 | 246 | 40.0 | 238 | 41.3 | 238 | 41.4 | 238 | 41.3 |
| 470.lbm | 105 | 131 | 105 | 131 | 105 | 131 | 105 | 131 | 105 | 131 | 105 | 131 |
| 481.wrf | 134 | 83.2 | 135 | 83.0 | 134 | 83.2 | 134 | 83.2 | 135 | 83.0 | 134 | 83.2 |
| 482.sphinx3 | 312 | 62.4 | 312 | 62.5 | 319 | 61.2 | 312 | 62.4 | 312 | 62.5 | 319 | 61.2 |

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

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

Platform Notes

BIOS Configuration:
Virtualization Technology disabled
Execute Disable disabled
System Profile set to Performance
Sysinfo program /root/cpu2006-1.2/config/sysinfo.rev6818
\$Rev: 6818 \$ \$Date:: 2012-07-17 #\$ e86d102572650a6e4d596a3cee98f191
running on linux Wed Oct 15 10:46:36 2014

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see:

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp2006 = 63.0

PowerEdge R220 (Intel Xeon E3-1240L v3, 2.00 GHz)

SPECfp_base2006 = 61.6

CPU2006 license: 55

Test date: Oct-2014

Test sponsor: Dell Inc.

Hardware Availability: Mar-2014

Tested by: Dell Inc.

Software Availability: Sep-2014

Platform Notes (Continued)

<http://www.spec.org/cpu2006/Docs/config.html#sysinfo>

From /proc/cpuinfo

model name : Intel(R) Xeon(R) CPU E3-1240L v3 @ 2.00GHz

1 "physical id"s (chips)

4 "processors"

cores, siblings (Caution: counting these is hw and system dependent. The following excerpts from /proc/cpuinfo might not be reliable. Use with caution.)

cpu cores : 4

siblings : 4

physical 0: cores 0 1 2 3

cache size : 8192 KB

From /proc/meminfo

MemTotal: 32809896 kB

HugePages_Total: 0

Hugepagesize: 2048 kB

/usr/bin/lsb_release -d

SUSE Linux Enterprise Server 11 (x86_64)

From /etc/*release* /etc/*version*

SuSE-release:

SUSE Linux Enterprise Server 11 (x86_64)

VERSION = 11

PATCHLEVEL = 3

uname -a:

Linux linux 3.0.76-0.11-default #1 SMP Fri Jun 14 08:21:43 UTC 2013 (ccab990)

x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Oct 15 09:25 last=S

SPEC is set to: /root/cpu2006-1.2

Filesystem Type Size Used Avail Use% Mounted on

/dev/sda2 ext2 267G 7.7G 258G 3% /

Additional information from dmidecode:

BIOS Dell Inc. 1.3.2 09/11/2014

Memory:

4x Hynix/Hyundai HMT41GU7AFR8A-PB 8 GB 1600 MHz

(End of data from sysinfo program)

General Notes

Environment variables set by runspec before the start of the run:

LD_LIBRARY_PATH = "/root/cpu2006-1.2/libs/32:/root/cpu2006-1.2/libs/64:/root/cpu2006-1.2/sh"

OMP_NUM_THREADS = "4"

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

<http://www.spec.org/>



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp2006 = 63.0

PowerEdge R220 (Intel Xeon E3-1240L v3, 2.00 GHz)

SPECfp_base2006 = 61.6

CPU2006 license: 55

Test date: Oct-2014

Test sponsor: Dell Inc.

Hardware Availability: Mar-2014

Tested by: Dell Inc.

Software Availability: Sep-2014

General Notes (Continued)

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RedHat EL 6.4
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/transparent_hugepage/enabled
runspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>

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:

-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch
-ansi-alias

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp2006 = 63.0

PowerEdge R220 (Intel Xeon E3-1240L v3, 2.00 GHz)

SPECfp_base2006 = 61.6

CPU2006 license: 55

Test date: Oct-2014

Test sponsor: Dell Inc.

Hardware Availability: Mar-2014

Tested by: Dell Inc.

Software Availability: Sep-2014

Base Optimization Flags (Continued)

C++ benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias

Fortran benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch

Benchmarks using both Fortran and C:

-xCORE-AVX2 -ipo -O3 -no-prec-div -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: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-auto-ilp32 -ansi-alias

470.lbm: basepeak = yes

482.sphinx3: basepeak = yes

C++ benchmarks:

444.namd: -xCORE-AVX2(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

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp2006 = 63.0

PowerEdge R220 (Intel Xeon E3-1240L v3, 2.00 GHz)

SPECfp_base2006 = 61.6

CPU2006 license: 55

Test date: Oct-2014

Test sponsor: Dell Inc.

Hardware Availability: Mar-2014

Tested by: Dell Inc.

Software Availability: Sep-2014

Peak Optimization Flags (Continued)

447.dealII: basepeak = yes

450.soplex: basepeak = yes

453.povray: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll4
-ansi-alias

Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: -xCORE-AVX2(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-

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: basepeak = yes

465.tonto: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-inline-alloc -opt-malloc-options=3 -auto -unroll4

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

436.cactusADM: basepeak = yes

454.calculix: -xCORE-AVX2 -ipo -O3 -no-prec-div -auto-ilp32 -ansi-alias

481.wrf: basepeak = yes

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64-revC.html>
<http://www.spec.org/cpu2006/flags/Dell-Platform-Settings-V1.2-revD.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64-revC.xml>
<http://www.spec.org/cpu2006/flags/Dell-Platform-Settings-V1.2-revD.xml>



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp2006 = 63.0

PowerEdge R220 (Intel Xeon E3-1240L v3, 2.00 GHz)

SPECfp_base2006 = 61.6

CPU2006 license: 55

Test date: Oct-2014

Test sponsor: Dell Inc.

Hardware Availability: Mar-2014

Tested by: Dell Inc.

Software Availability: Sep-2014

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 v1.2.
Report generated on Wed Nov 5 10:23:23 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 4 November 2014.