



SPEC[®] CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp[®]_rate2006 = 72.3

PowerEdge M600 (Intel Xeon E5420, 2.50 GHz)

SPECfp_rate_base2006 = 67.3

CPU2006 license: 55

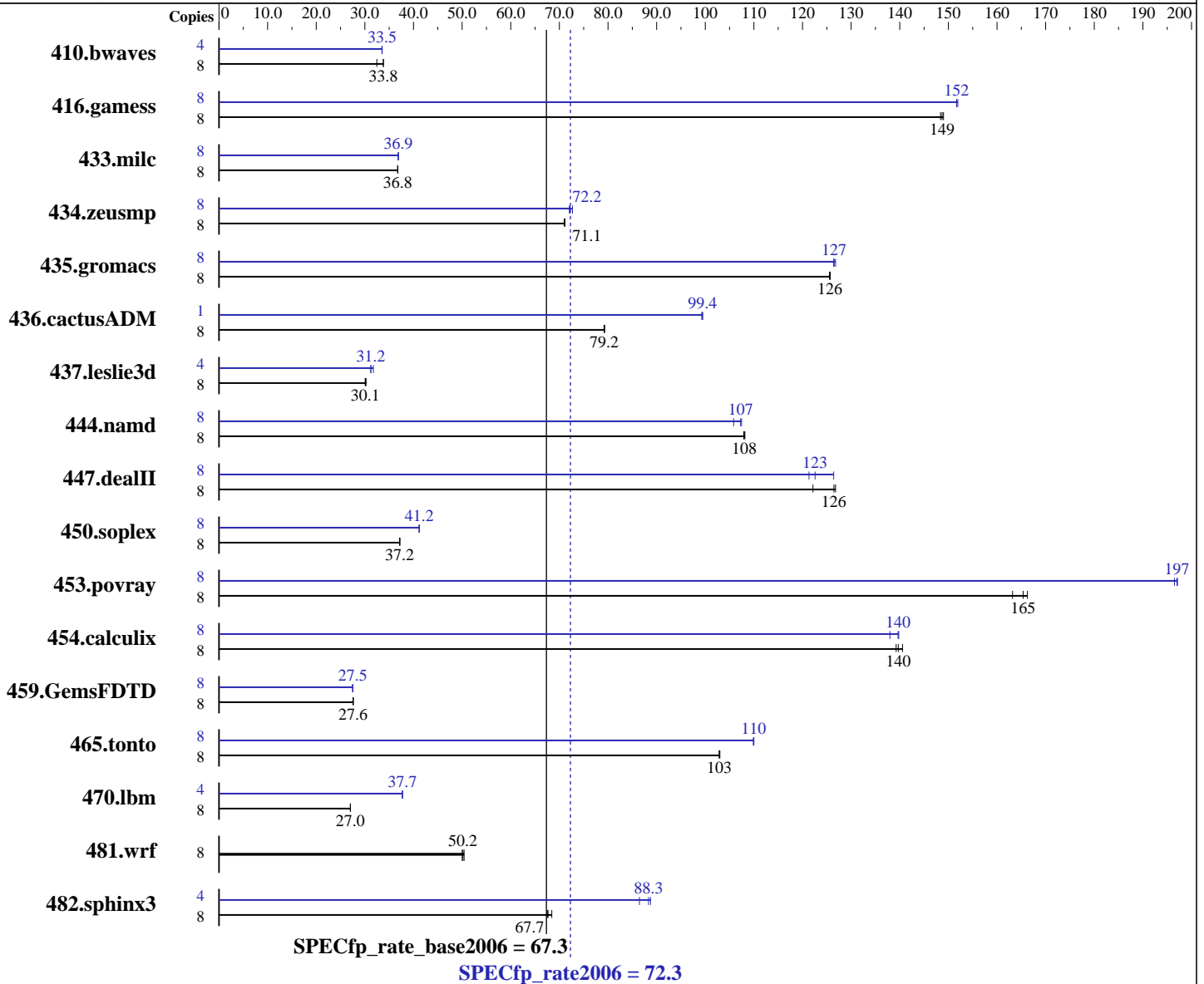
Test date: Sep-2008

Test sponsor: Dell Inc.

Hardware Availability: Sep-2008

Tested by: Dell Inc.

Software Availability: Nov-2008



Hardware

CPU Name: Intel Xeon E5420
 CPU Characteristics: 2500
 CPU MHz: 2500
 FPU: Integrated
 CPU(s) enabled: 8 cores, 2 chips, 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) SP2, Kernel 2.6.16-60.0.21-smp
 Compiler: Intel C++ and Fortran Compiler 11.0 for Linux Build 20080730 Package ID: l_cc_b_11.0.042, l_fc_b_11.0.042
 Auto Parallel: Yes
 File System: ReiserFS
 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

Dell Inc.

SPECfp_rate2006 = 72.3

PowerEdge M600 (Intel Xeon E5420, 2.50 GHz)

SPECfp_rate_base2006 = 67.3

CPU2006 license: 55

Test date: Sep-2008

Test sponsor: Dell Inc.

Hardware Availability: Sep-2008

Tested by: Dell Inc.

Software Availability: Nov-2008

L3 Cache: None
Other Cache: None
Memory: 16 GB (8 x 2 GB 667 MHz ECC CL5 FB-DIMM)
Disk Subsystem: 1 x 80 GB 5400 RPM SATA
Other Hardware: None

Peak Pointers: 32/64-bit
Other Software: Binutils 2.18.50.0.7.20080502

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	8	3349	32.5	<u>3216</u>	<u>33.8</u>	3216	33.8	4	1620	33.6	<u>1621</u>	<u>33.5</u>	1622	33.5
416.gamess	8	1056	148	<u>1053</u>	<u>149</u>	1051	149	8	<u>1033</u>	<u>152</u>	1033	152	1031	152
433.milc	8	1998	36.8	<u>1998</u>	<u>36.8</u>	1998	36.8	8	1992	36.9	<u>1992</u>	<u>36.9</u>	1991	36.9
434.zeusmp	8	1025	71.0	<u>1024</u>	<u>71.1</u>	1023	71.1	8	1002	72.7	1010	72.1	<u>1009</u>	<u>72.2</u>
435.gromacs	8	454	126	455	126	<u>455</u>	<u>126</u>	8	450	127	<u>452</u>	<u>127</u>	452	126
436.cactusADM	8	1205	79.3	<u>1207</u>	<u>79.2</u>	1207	79.2	1	120	99.4	<u>120</u>	<u>99.4</u>	120	99.3
437.leslie3d	8	2486	30.2	<u>2499</u>	<u>30.1</u>	2500	30.1	4	1184	31.8	1204	31.2	<u>1204</u>	<u>31.2</u>
444.namd	8	<u>594</u>	<u>108</u>	594	108	593	108	8	597	107	<u>598</u>	<u>107</u>	606	106
447.dealII	8	<u>724</u>	<u>126</u>	722	127	749	122	8	724	126	<u>747</u>	<u>123</u>	754	121
450.soplex	8	1794	37.2	1795	37.2	<u>1795</u>	<u>37.2</u>	8	<u>1620</u>	<u>41.2</u>	1620	41.2	1621	41.2
453.povray	8	261	163	256	166	<u>257</u>	<u>165</u>	8	216	197	<u>216</u>	<u>197</u>	217	196
454.calculix	8	<u>472</u>	<u>140</u>	474	139	470	141	8	478	138	<u>473</u>	<u>140</u>	472	140
459.GemsFDTD	8	3077	27.6	3075	27.6	<u>3077</u>	<u>27.6</u>	8	3086	27.5	<u>3086</u>	<u>27.5</u>	3087	27.5
465.tonto	8	764	103	765	103	<u>765</u>	<u>103</u>	8	716	110	716	110	<u>716</u>	<u>110</u>
470.lbm	8	4069	27.0	<u>4067</u>	<u>27.0</u>	4067	27.0	4	1459	37.7	1456	37.7	<u>1457</u>	<u>37.7</u>
481.wrf	8	1773	50.4	1787	50.0	<u>1781</u>	<u>50.2</u>	8	1773	50.4	1787	50.0	<u>1781</u>	<u>50.2</u>
482.sphinx3	8	2278	68.4	<u>2304</u>	<u>67.7</u>	2309	67.5	4	<u>883</u>	<u>88.3</u>	878	88.7	902	86.5

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 stack size to unlimited prior to run

Platform Notes

BIOS Settings:
Hardware Prefetcher = Disabled (Default = Enabled)
Adjacent Cache Line Prefetch = Disabled (Default = Enabled)



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp_rate2006 = 72.3

PowerEdge M600 (Intel Xeon E5420, 2.50 GHz)

SPECfp_rate_base2006 = 67.3

CPU2006 license: 55

Test sponsor: Dell Inc.

Tested by: Dell Inc.

Test date: Sep-2008

Hardware Availability: Sep-2008

Software Availability: Nov-2008

General Notes

All benchmarks compiled in 64-bit mode except 437.leslie3d, 450.soplex and 482.sphinx3, at peak, are compiled in 32-bit mode taskset was used to bind processes to cores except for 436.cactusADM peak
OMP_NUM_THREADS set to number of processors
KMP_AFFINITY set to "physical,0"
KMP_STACKSIZE set to 64M

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:

-xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp_rate2006 = 72.3

PowerEdge M600 (Intel Xeon E5420, 2.50 GHz)

SPECfp_rate_base2006 = 67.3

CPU2006 license: 55

Test date: Sep-2008

Test sponsor: Dell Inc.

Hardware Availability: Sep-2008

Tested by: Dell Inc.

Software Availability: Nov-2008

Base Optimization Flags (Continued)

C++ benchmarks:

-xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch

Fortran benchmarks:

-xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch

Benchmarks using both Fortran and C:

-xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch

Peak Compiler Invocation

C benchmarks (except as noted below):

icc

482.sphinx3: /opt/intel/Compiler/11.0/042/bin/ia32/icc
-L/opt/intel/Compiler/11.0/042/ipp/ia32/lib
-I/opt/intel/Compiler/11.0/042/ipp/ia32/include

C++ benchmarks (except as noted below):

icpc

450.soplex: /opt/intel/Compiler/11.0/042/bin/ia32/icpc
-L/opt/intel/Compiler/11.0/042/ipp/ia32/lib
-I/opt/intel/Compiler/11.0/042/ipp/ia32/include

Fortran benchmarks (except as noted below):

ifort

437.leslie3d: /opt/intel/Compiler/11.0/042/bin/ia32/ifort
-L/opt/intel/Compiler/11.0/042/ipp/ia32/lib
-I/opt/intel/Compiler/11.0/042/ipp/ia32/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

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp_rate2006 = 72.3

PowerEdge M600 (Intel Xeon E5420, 2.50 GHz)

SPECfp_rate_base2006 = 67.3

CPU2006 license: 55

Test date: Sep-2008

Test sponsor: Dell Inc.

Hardware Availability: Sep-2008

Tested by: Dell Inc.

Software Availability: Nov-2008

Peak Portability Flags (Continued)

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

Peak Optimization Flags

C benchmarks:

433.milc: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
 -no-prec-div -static -fno-alias
 470.lbm: -xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch
 -auto-ilp32
 482.sphinx3: -xSSE4.1 -ipo -O3 -no-prec-div -static -unroll2

C++ benchmarks:

444.namd: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
 -no-prec-div -static -fno-alias -auto-ilp32
 447.dealII: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
 -no-prec-div -static -unroll2 -ansi-alias -scalar-rep-
 450.soplex: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
 -no-prec-div -static -opt-malloc-options=3
 453.povray: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
 -no-prec-div -static -unroll4 -ansi-alias

Fortran benchmarks:

410.bwaves: -xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch
 416.gamess: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
 -no-prec-div -static -unroll2 -Ob0 -ansi-alias
 -scalar-rep-
 434.zeusmp: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
 -no-prec-div -static
 437.leslie3d: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
 -no-prec-div -static -opt-malloc-options=3 -opt-prefetch

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp_rate2006 = 72.3

PowerEdge M600 (Intel Xeon E5420, 2.50 GHz)

SPECfp_rate_base2006 = 67.3

CPU2006 license: 55

Test date: Sep-2008

Test sponsor: Dell Inc.

Hardware Availability: Sep-2008

Tested by: Dell Inc.

Software Availability: Nov-2008

Peak Optimization Flags (Continued)

459.GemsFDTD: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -static -unroll2 -Ob0 -opt-prefetch

465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -static -unroll4 -auto

Benchmarks using both Fortran and C:

435.gromacs: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -static -opt-prefetch -auto-ilp32

436.cactusADM: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -static -unroll2 -opt-prefetch -parallel
-auto-ilp32

454.calculix: -xSSE4.1 -ipo -O3 -no-prec-div -static -auto-ilp32

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-ic11.0-fp-linux64-revA.20090713.05.html>

<http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090713.02.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-fp-linux64-revA.20090713.05.xml>

<http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090713.02.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 Tue Jul 22 22:18:21 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 14 October 2008.