



SPEC® CFP2006 Result

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Dell Inc.

SPECfp®_rate2006 = 74.4

PowerEdge 1950 III (Intel Xeon E5430, 2.66 GHz)

SPECfp_rate_base2006 = 69.0

CPU2006 license: 55

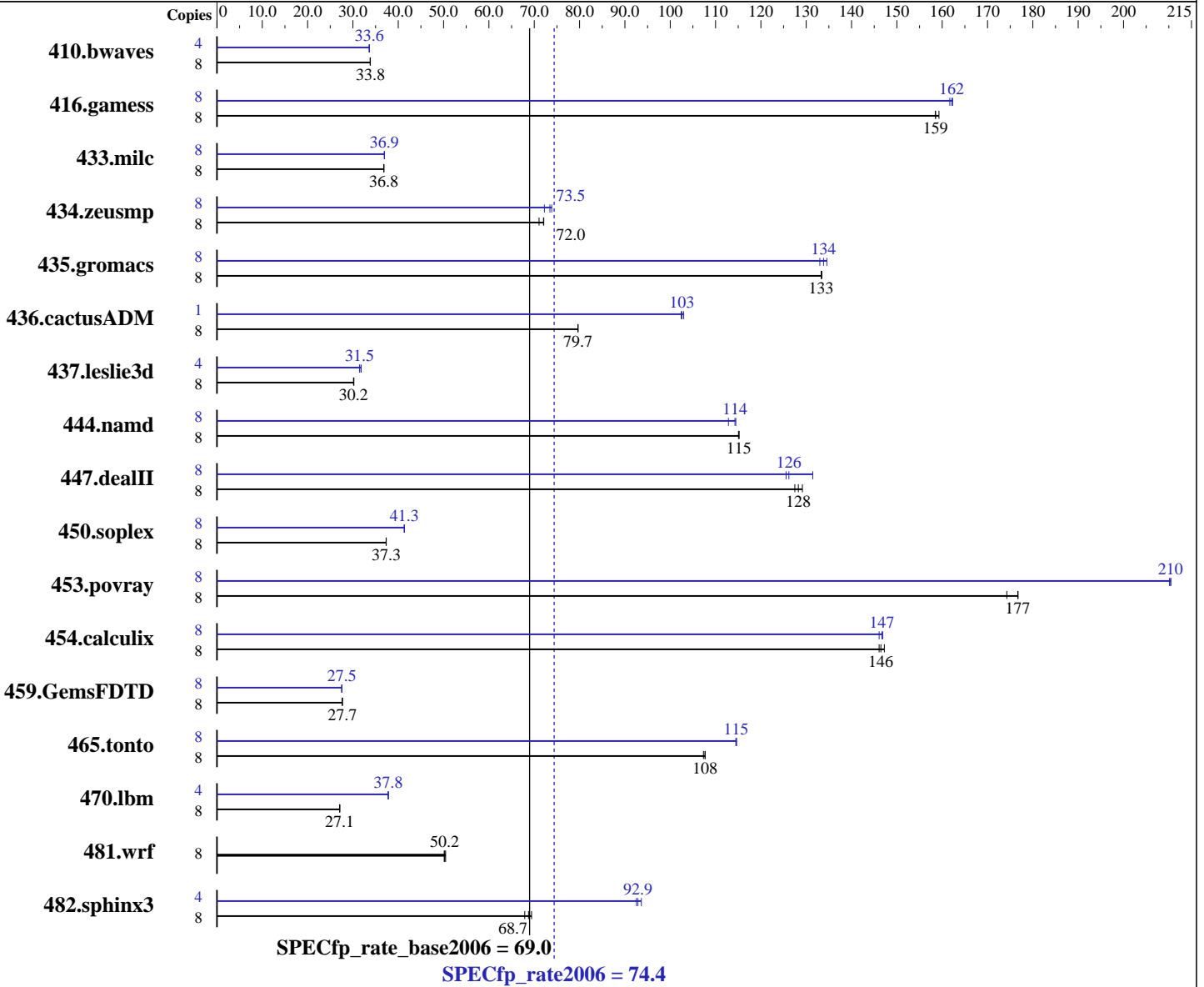
Test date: Oct-2008

Test sponsor: Dell Inc.

Hardware Availability: Sep-2008

Tested by: Dell Inc.

Software Availability: Nov-2008



Hardware

CPU Name: Intel Xeon E5430
 CPU Characteristics: 2666
 CPU MHz: 2666
 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

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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_cproc_b_11.0.042, l_fproc_b_11.0.042
 Auto Parallel: Yes
 File System: ReiserFS
 System State: Run level 3 (multi-user)
 Base Pointers: 64-bit

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L3 Cache: None
Other Cache: None
Memory: 16 GB (8 x 2 GB DDR2-667 FB-DIMM)
Disk Subsystem: 1 x 73 GB 15000 RPM SAS
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	3218	33.8	3212	33.9	<u>3212</u>	<u>33.8</u>	4	1618	33.6	<u>1617</u>	<u>33.6</u>	1617	33.6
416.gamess	8	983	159	988	159	<u>988</u>	<u>159</u>	8	969	162	965	162	<u>966</u>	<u>162</u>
433.milc	8	1994	36.8	1995	36.8	<u>1995</u>	<u>36.8</u>	8	1988	36.9	<u>1988</u>	<u>36.9</u>	1988	36.9
434.zeusmp	8	<u>1011</u>	<u>72.0</u>	1025	71.1	1010	72.1	8	1008	72.2	<u>991</u>	<u>73.5</u>	986	73.9
435.gromacs	8	429	133	428	133	<u>428</u>	<u>133</u>	8	<u>427</u>	<u>134</u>	429	133	425	135
436.cactusADM	8	1200	79.7	1201	79.6	<u>1200</u>	<u>79.7</u>	1	<u>116</u>	<u>103</u>	116	103	117	102
437.leslie3d	8	<u>2493</u>	<u>30.2</u>	2489	30.2	2496	30.1	4	1181	31.8	1194	31.5	<u>1194</u>	<u>31.5</u>
444.namd	8	557	115	558	115	<u>557</u>	<u>115</u>	8	<u>561</u>	<u>114</u>	560	114	569	113
447.dealII	8	718	127	<u>714</u>	<u>128</u>	709	129	8	<u>725</u>	<u>126</u>	729	126	696	131
450.soplex	8	<u>1787</u>	<u>37.3</u>	1788	37.3	1786	37.4	8	1613	41.4	<u>1614</u>	<u>41.3</u>	1615	41.3
453.povray	8	241	177	244	174	<u>241</u>	<u>177</u>	8	<u>202</u>	<u>210</u>	203	210	202	210
454.calculix	8	<u>451</u>	<u>146</u>	448	147	452	146	8	452	146	449	147	<u>450</u>	<u>147</u>
459.GemsFDTD	8	3067	27.7	3072	27.6	<u>3069</u>	<u>27.7</u>	8	<u>3081</u>	<u>27.5</u>	3083	27.5	3081	27.5
465.tonto	8	<u>731</u>	<u>108</u>	731	108	733	107	8	688	114	687	115	<u>687</u>	<u>115</u>
470.lbm	8	4060	27.1	<u>4058</u>	<u>27.1</u>	4058	27.1	4	<u>1454</u>	<u>37.8</u>	1453	37.8	1456	37.8
481.wrf	8	1771	50.5	<u>1778</u>	<u>50.2</u>	1783	50.1	8	1771	50.5	<u>1778</u>	<u>50.2</u>	1783	50.1
482.sphinx3	8	2296	67.9	2246	69.4	<u>2268</u>	<u>68.7</u>	4	<u>839</u>	<u>92.9</u>	833	93.6	842	92.5

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)



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General Notes

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.deallI: -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

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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

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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.deallI: -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

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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>

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.1.

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