



SPEC® CFP2006 Result

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Acer Incorporated

SPECfp®_rate2006 = 75.5

Acer AT310 F1 (Intel Xeon X3430)

SPECfp_rate_base2006 = 73.0

CPU2006 license: 97

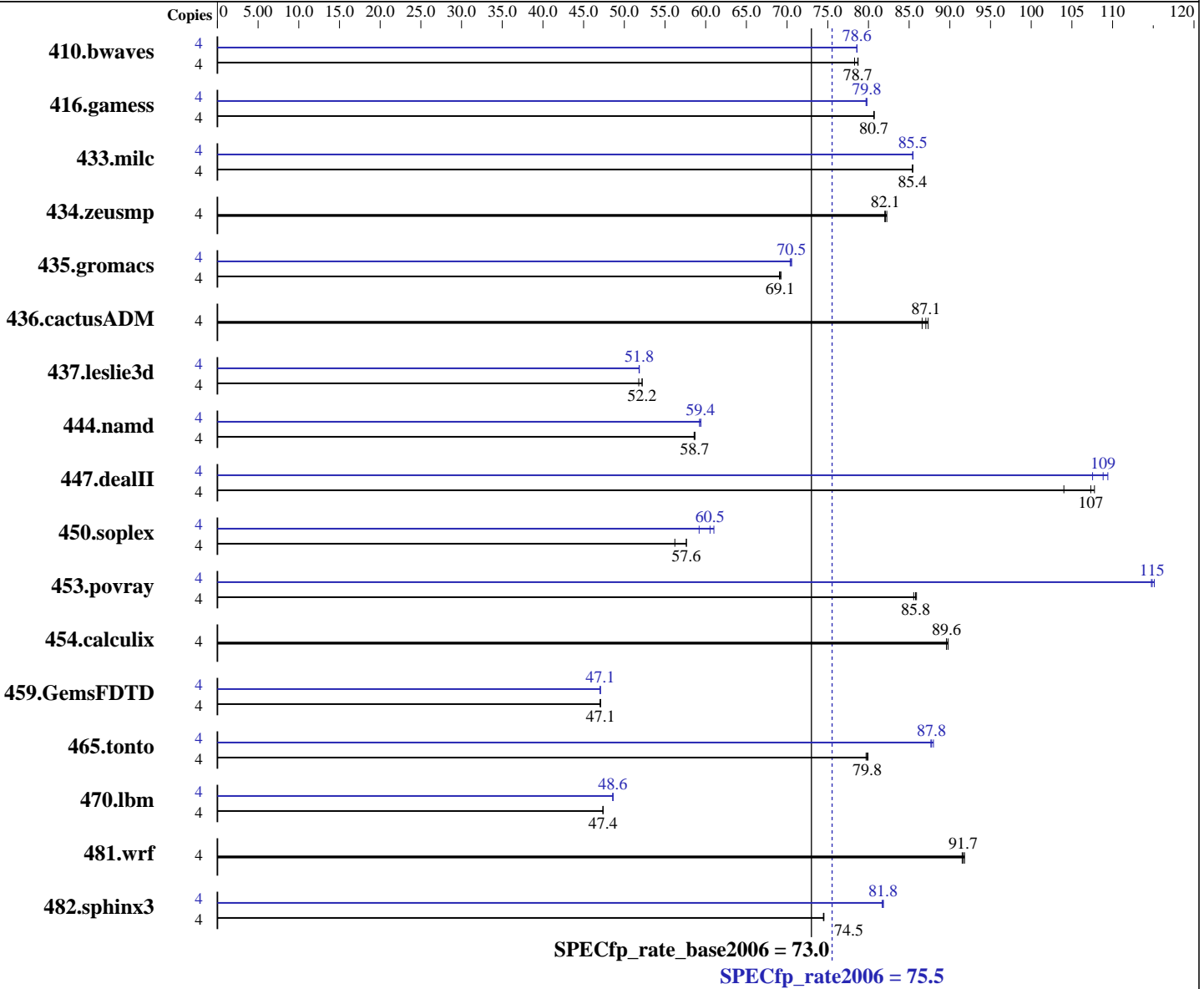
Test sponsor: Acer Incorporated

Tested by: Acer Incorporated

Test date: Mar-2010

Hardware Availability: Mar-2010

Software Availability: Jan-2010



Hardware

CPU Name: Intel Xeon X3430
 CPU Characteristics: Intel Turbo Boost Technology up to 2.80 GHz
 CPU MHz: 2400
 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

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Software

Operating System: SUSE Linux Enterprise Sserver 11 (x86_64)
 Kernel 2.6.27.19-5
 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: No
 File System: ReiserFS
 System State: Multi-user, level 3

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L3 Cache: 8 MB I+D on chip per chip
Other Cache: None
Memory: 8 GB (4 x 2048 MB Registered DDR3-1333)
Disk Subsystem: 1 x 1000 GB 7200RPM SATA HDD
Other Hardware: None

Base Pointers: 64-bit
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	4	694	78.3	690	78.7	<u>691</u>	<u>78.7</u>	4	692	78.6	692	78.6	<u>692</u>	<u>78.6</u>
416.gamess	4	<u>971</u>	<u>80.7</u>	970	80.7	971	80.7	4	<u>982</u>	<u>79.8</u>	983	79.7	981	79.8
433.milc	4	430	85.4	430	85.4	<u>430</u>	<u>85.4</u>	4	430	85.5	430	85.4	<u>430</u>	<u>85.5</u>
434.zeusmp	4	444	82.0	<u>443</u>	<u>82.1</u>	443	82.3	4	444	82.0	<u>443</u>	<u>82.1</u>	443	82.3
435.gromacs	4	412	69.3	414	69.1	<u>413</u>	<u>69.1</u>	4	405	70.5	<u>405</u>	<u>70.5</u>	406	70.4
436.cactusADM	4	552	86.6	<u>549</u>	<u>87.1</u>	547	87.3	4	552	86.6	<u>549</u>	<u>87.1</u>	547	87.3
437.leslie3d	4	726	51.8	<u>721</u>	<u>52.2</u>	720	52.2	4	<u>725</u>	<u>51.8</u>	725	51.8	726	51.8
444.namd	4	<u>547</u>	<u>58.7</u>	548	58.6	547	58.7	4	<u>540</u>	<u>59.4</u>	540	59.4	542	59.2
447.dealII	4	425	108	<u>426</u>	<u>107</u>	440	104	4	418	109	<u>420</u>	<u>109</u>	426	108
450.soplex	4	594	56.2	579	57.6	<u>579</u>	<u>57.6</u>	4	564	59.2	<u>551</u>	<u>60.5</u>	547	61.0
453.povray	4	249	85.6	<u>248</u>	<u>85.8</u>	248	85.9	4	<u>185</u>	<u>115</u>	185	115	185	115
454.calculix	4	367	89.8	<u>368</u>	<u>89.6</u>	368	89.6	4	367	89.8	<u>368</u>	<u>89.6</u>	368	89.6
459.GemsFDTD	4	901	47.1	<u>901</u>	<u>47.1</u>	903	47.0	4	902	47.0	902	47.1	<u>902</u>	<u>47.1</u>
465.tonto	4	<u>493</u>	<u>79.8</u>	492	79.9	494	79.7	4	<u>449</u>	<u>87.8</u>	449	87.7	447	88.0
470.lbm	4	1160	47.4	1160	47.4	<u>1160</u>	<u>47.4</u>	4	1130	48.6	1131	48.6	<u>1131</u>	<u>48.6</u>
481.wrf	4	<u>487</u>	<u>91.7</u>	488	91.5	487	91.8	4	<u>487</u>	<u>91.7</u>	488	91.5	487	91.8
482.sphinx3	4	1047	74.5	1046	74.5	<u>1047</u>	<u>74.5</u>	4	953	81.8	954	81.7	<u>953</u>	<u>81.8</u>

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.
numactl was used to bind copies to the cores

Operating System Notes

'ulimit -s unlimited' was set for stacksize unlimited

General Notes

This result was measured on the Gateway GT310 F1.
These 4 systems are electronically equivalent:
Acer AR320 F1, Acer AT310 F1, Gateway GR320 F1, and Gateway GT310 F1.



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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

C++ benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -static

Fortran benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -static

Benchmarks using both Fortran and C:

-xSSE4.2 -ipo -O3 -no-prec-div -static



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Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m64

482.sphinx3: icc -m32

C++ benchmarks (except as noted below):

icpc -m64

450.soplex: icpc -m32

Fortran benchmarks:

ifort -m64

Benchmarks using both Fortran and C:

icc -m64 ifort -m64

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
470.lbm: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX

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)
-fno-alias -opt-prefetch

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)
-opt-malloc-options=3 -ansi-alias -auto-ilp32

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Peak Optimization Flags (Continued)

482.sphinx3: -xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2

C++ benchmarks:

444.namd: -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)
-fno-alias -auto-ilp32

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-

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

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

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: -xSSE4.2 -ipo -O3 -no-prec-div -static

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

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

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: basepeak = yes

454.calculix: basepeak = yes

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Peak Optimization Flags (Continued)

481.wrf: basepeak = yes

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.20100316.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.20100316.xml>

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For other inquiries, please contact webmaster@spec.org.

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