



SPEC[®] CFP2006 Result

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Acer Incorporated

SPECfp[®]2006 = 24.4

Gateway GR180 F1(Intel Xeon E5502)

SPECfp_base2006 = 23.1

CPU2006 license: 97

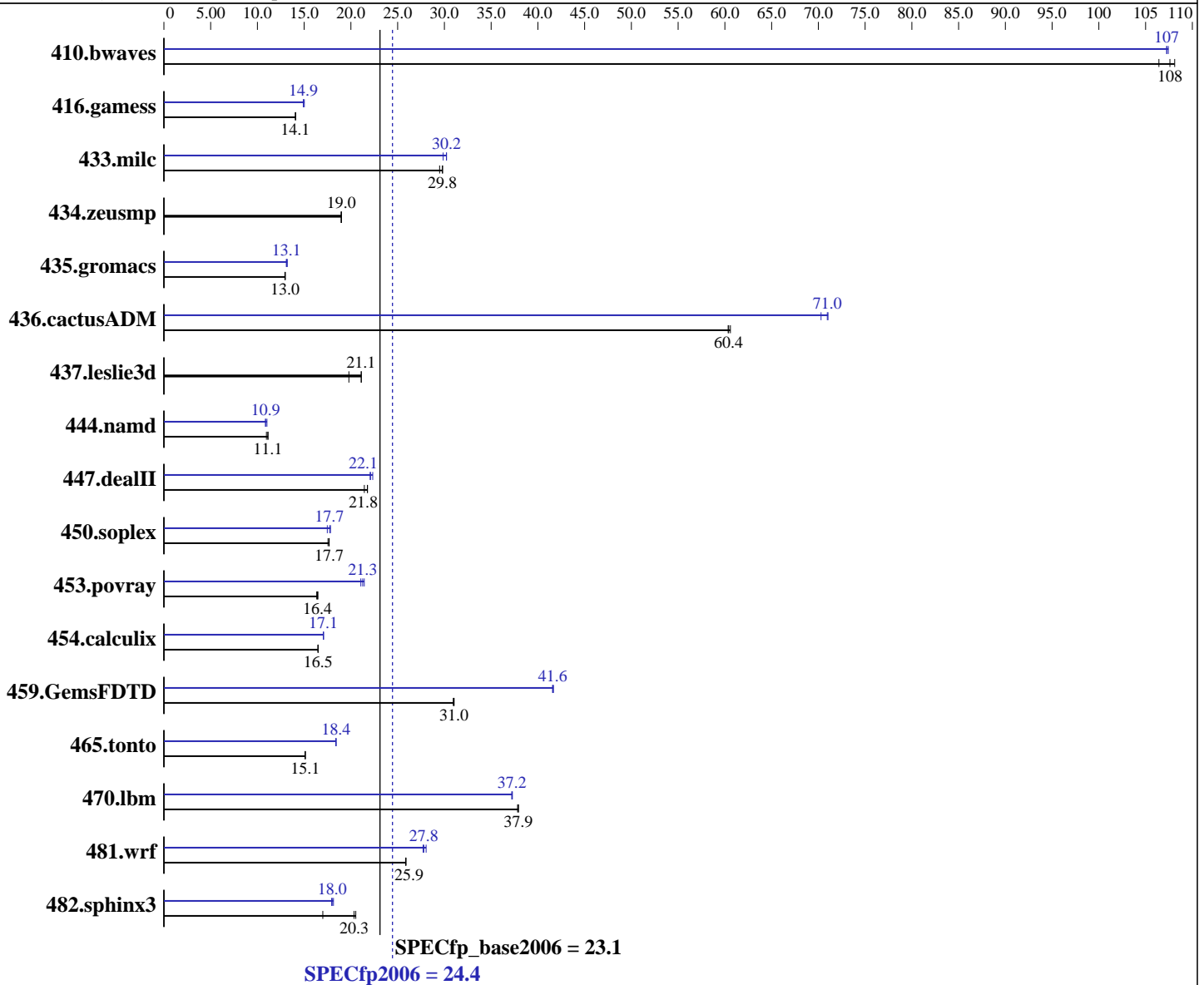
Test sponsor: Acer Incorporated

Tested by: Acer Incorporated

Test date: Apr-2010

Hardware Availability: Jan-2010

Software Availability: Dec-2009



Hardware

CPU Name: Intel Xeon E5502
 CPU Characteristics:
 CPU MHz: 1861
 FPU: Integrated
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip
 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

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Software

Operating System: SUSE Linux Enterprise Server 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: Yes
 File System: ReiserFS
 System State: Run level 3 (multi-user)

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L3 Cache: 4 MB I+D on chip per chip
Other Cache: None
Memory: 24 GB (12 x 2GB DDR3-1333 RDIMM, running at 800 MHz)
Disk Subsystem: 1 x 1000 GB SATA II, 7200 RPM
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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	128	106	126	108	<u>126</u>	<u>108</u>	127	107	<u>127</u>	<u>107</u>	127	107
416.gamess	<u>1391</u>	<u>14.1</u>	1392	14.1	1391	14.1	1304	15.0	1314	14.9	<u>1311</u>	<u>14.9</u>
433.milc	308	29.8	<u>308</u>	<u>29.8</u>	311	29.5	307	29.9	304	30.2	<u>304</u>	<u>30.2</u>
434.zeusmp	480	19.0	479	19.0	<u>480</u>	<u>19.0</u>	480	19.0	479	19.0	<u>480</u>	<u>19.0</u>
435.gromacs	<u>551</u>	<u>13.0</u>	550	13.0	552	12.9	545	13.1	<u>544</u>	<u>13.1</u>	541	13.2
436.cactusADM	198	60.3	197	60.6	<u>198</u>	<u>60.4</u>	<u>168</u>	<u>71.0</u>	170	70.3	168	71.0
437.leslie3d	475	19.8	<u>446</u>	<u>21.1</u>	445	21.1	475	19.8	<u>446</u>	<u>21.1</u>	445	21.1
444.namd	720	11.1	731	11.0	<u>721</u>	<u>11.1</u>	728	11.0	<u>737</u>	<u>10.9</u>	738	10.9
447.dealII	534	21.4	525	21.8	<u>526</u>	<u>21.8</u>	<u>518</u>	<u>22.1</u>	512	22.3	519	22.1
450.soplex	<u>472</u>	<u>17.7</u>	472	17.7	475	17.5	<u>471</u>	<u>17.7</u>	477	17.5	468	17.8
453.povray	326	16.3	323	16.5	<u>324</u>	<u>16.4</u>	248	21.4	<u>250</u>	<u>21.3</u>	253	21.1
454.calculix	<u>501</u>	<u>16.5</u>	501	16.5	500	16.5	483	17.1	<u>484</u>	<u>17.1</u>	484	17.1
459.GemsFDTD	<u>342</u>	<u>31.0</u>	343	30.9	342	31.0	<u>255</u>	<u>41.6</u>	255	41.6	255	41.7
465.tonto	651	15.1	<u>651</u>	<u>15.1</u>	652	15.1	534	18.4	<u>535</u>	<u>18.4</u>	535	18.4
470.lbm	363	37.8	362	37.9	<u>362</u>	<u>37.9</u>	369	37.3	369	37.2	<u>369</u>	<u>37.2</u>
481.wrf	<u>432</u>	<u>25.9</u>	432	25.9	432	25.8	<u>402</u>	<u>27.8</u>	398	28.0	403	27.7
482.sphinx3	950	20.5	1147	17.0	<u>958</u>	<u>20.3</u>	<u>1083</u>	<u>18.0</u>	1086	17.9	1075	18.1

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

Operating System Notes

'ulimit -s unlimited' was set for stacksize unlimited

General Notes

OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to granularity=fine,scatter
KMP_STACKSIZE set to 200M
This result was measured on the Gateway GR180 F1.
The Acer AR180 F1 and Gateway GR180 F1 are electronically equivalent.



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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 -parallel -opt-prefetch

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



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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: -xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32
-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- -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

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Peak Optimization Flags (Continued)

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

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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