



SPEC® CFP2006 Result

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Acer Incorporated

SPECfp®_rate2006 = 42.5

Acer Altos G330 Mk2 (Intel Xeon X3220)

SPECfp_rate_base2006 = 40.2

CPU2006 license: 97

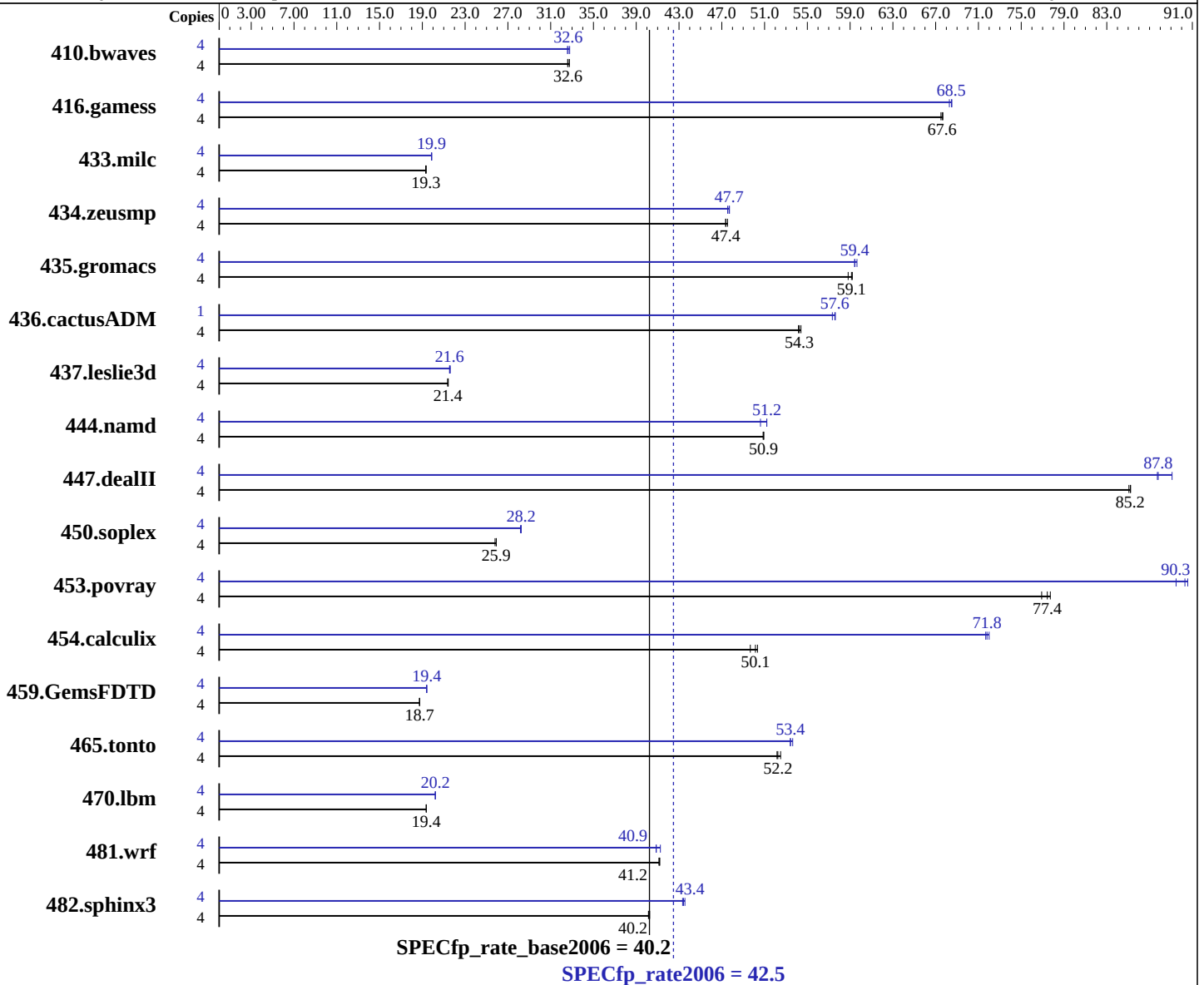
Test sponsor: Acer Incorporated

Tested by: Acer Incorporated

Test date: Dec-2007

Hardware Availability: Nov-2007

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon X3220
CPU Characteristics: 1066 MHz system bus
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: 8 MB I+D on chip per chip, 4 MB shared / 2 cores

Continued on next page

Software

Operating System: SuSE Linux Enterprise Server 10 SP1 EM64T (kernel 2.6.16.46-0.12-smp)
Compiler: Intel C++ and Fortran Compiler 10.1 for Linux Build 20070913 Package ID: l_cc_p_10.1.008, l_fc_p_10.1.008
Auto Parallel: Yes
File System: ReiserFS
System State: Multi-user, run level 3
Base Pointers: 64-bit

Continued on next page



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L3 Cache: None
Other Cache: None
Memory: 8 GB (4 x 2048 MB ECC Unbuffered DDR2-800 CL5)
Disk Subsystem: 1 x 160 GB 7200RPM SATA HDD
Other Hardware: None

Peak Pointers: 32/64-bit
Other Software: Binutils 2.17.50.0.15

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	1660	32.8	1666	32.6	1668	32.6	4	1669	32.6	1666	32.6	1658	32.8
416.gamess	4	1160	67.5	1157	67.7	1158	67.6	4	1147	68.3	1144	68.5	1143	68.5
433.milc	4	1898	19.3	1897	19.4	1902	19.3	4	1849	19.9	1847	19.9	1849	19.9
434.zeusmp	4	768	47.4	769	47.4	766	47.5	4	766	47.5	763	47.7	763	47.7
435.gromacs	4	483	59.1	486	58.8	482	59.2	4	479	59.6	481	59.4	480	59.4
436.cactusADM	4	882	54.2	879	54.4	881	54.3	1	208	57.6	208	57.3	207	57.6
437.leslie3d	4	1757	21.4	1755	21.4	1760	21.4	4	1745	21.5	1740	21.6	1745	21.6
444.namd	4	630	50.9	630	50.9	631	50.9	4	634	50.6	626	51.2	626	51.2
447.dealII	4	537	85.2	537	85.2	538	85.1	4	521	87.8	514	89.1	522	87.7
450.soplex	4	1293	25.8	1287	25.9	1287	25.9	4	1181	28.2	1181	28.2	1184	28.2
453.povray	4	275	77.4	274	77.7	277	76.9	4	236	90.3	238	89.5	235	90.6
454.calculix	4	664	49.7	656	50.3	658	50.1	4	458	72.0	460	71.8	460	71.7
459.GemsFDTD	4	2264	18.7	2265	18.7	2265	18.7	4	2186	19.4	2187	19.4	2188	19.4
465.tonto	4	750	52.5	753	52.2	755	52.2	4	734	53.6	737	53.4	737	53.4
470.lbm	4	2838	19.4	2838	19.4	2838	19.4	4	2718	20.2	2719	20.2	2718	20.2
481.wrf	4	1087	41.1	1085	41.2	1084	41.2	4	1093	40.9	1083	41.3	1093	40.9
482.sphinx3	4	1937	40.3	1941	40.2	1942	40.1	4	1799	43.3	1795	43.4	1790	43.6

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

General Notes

All benchmarks compiled in 64-bit mode except 437.leslie3d, 450.soplex 470.lbm and 482.sphinx3, at peak, are compiled in 32-bit mode

taskset used to bind copies to cores, except for 436.cactusADM peak
OMP_NUM_THREADS was set to number of logical processors as seen by the OS
KMP_AFFINITY was set to physical,0

Base Compiler Invocation

C benchmarks:
icc

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Base Compiler Invocation (Continued)

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:
-fast

C++ benchmarks:
-fast

Fortran benchmarks:
-fast

Benchmarks using both Fortran and C:
-fast



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Peak Compiler Invocation

C benchmarks (except as noted below):

```
/opt/intel/cc/10.1.008/bin/icc -L/opt/intel/cc/10.1.008/lib  
-I/opt/intel/cc/10.1.008/include
```

433.milc: icc

C++ benchmarks (except as noted below):

icpc

```
450.soplex: /opt/intel/cc/10.1.008/bin/icpc -L/opt/intel/cc/10.1.008/lib  
-I/opt/intel/cc/10.1.008/include
```

Fortran benchmarks (except as noted below):

ifort

```
437.leslie3d: /opt/intel/fc/10.1.008/bin/ifort -L/opt/intel/fc/10.1.008/lib  
-I/opt/intel/fc/10.1.008/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  
453.povray: -DSPEC_CPU_LP64  
454.calculix: -DSPEC_CPU_LP64 -nofor_main  
459.GemsFDTD: -DSPEC_CPU_LP64  
465.tonto: -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) -fast -fno-alias  
-auto-ilp32
```

```
470.lbm: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2  
-scalar-rep- -prefetch -opt-malloc-options=3
```

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Peak Optimization Flags (Continued)

482.sphinx3: -fast -unroll2

C++ benchmarks:

444.namd: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias
-auto-ilp32

447.dealII: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-ansi-alias -scalar-rep-

450.soplex: -prof-gen(pass 1) -prof-use(pass 2) -fast
-opt-malloc-options=3

453.povray: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4
-ansi-alias

Fortran benchmarks:

410.bwaves: -fast -prefetch

416.gamess: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0
-ansi-alias -scalar-rep-

434.zeusmp: -prof-gen(pass 1) -prof-use(pass 2) -fast

437.leslie3d: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch
-opt-malloc-options=3

459.GemsFDTD: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0
-prefetch

465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4 -auto

Benchmarks using both Fortran and C:

435.gromacs: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch
-auto-ilp32

436.cactusADM: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-prefetch -parallel -auto-ilp32

454.calculix: -fast -unroll-aggressive -auto-ilp32

481.wrf: -fast -auto-ilp32

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic10.1-FP-intel64-linux-flags.20090714.06.html>



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You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Intel-ic10.1-FP-intel64-linux-flags.20090714.06.xml>

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