



SPEC[®] CFP2006 Result

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Acer Incorporated

SPECfp[®]_rate2006 = 36.2

Acer Altos R720 (Intel Xeon E5405)

SPECfp_rate_base2006 = 33.7

CPU2006 license: 97

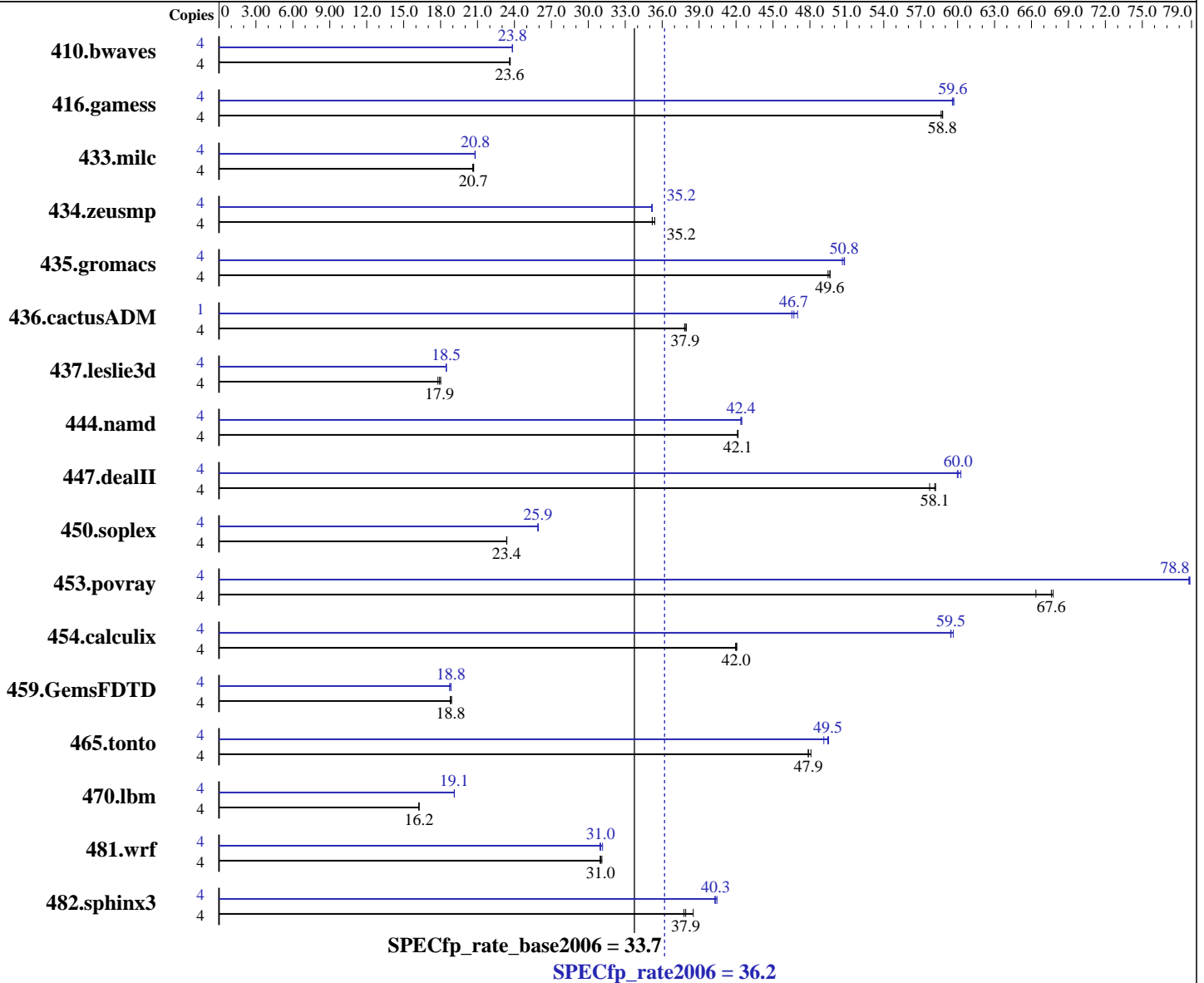
Test sponsor: Acer Incorporated

Tested by: Acer Incorporated

Test date: Mar-2008

Hardware Availability: Nov-2007

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon E5405
 CPU Characteristics: 1333MHz system bus
 CPU MHz: 2000
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 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 SP1 (x86_64)
 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, level 3
 Base Pointers: 64-bit

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L3 Cache: None
Other Cache: None
Memory: 16 GB (8 x 2048MB ECC FB-DIMM DDR2-667 CL5-5-5)
Disk Subsystem: 1 x 73GB 10000RPM SAS 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	2297	23.7	<u>2302</u>	<u>23.6</u>	2303	23.6	4	<u>2280</u>	<u>23.8</u>	2280	23.8	2280	23.8
416.gamess	4	1335	58.7	<u>1333</u>	<u>58.8</u>	1332	58.8	4	<u>1314</u>	<u>59.6</u>	1312	59.7	1315	59.6
433.milc	4	<u>1777</u>	<u>20.7</u>	1782	20.6	1775	20.7	4	1764	20.8	<u>1764</u>	<u>20.8</u>	1766	20.8
434.zeusmp	4	1028	35.4	<u>1034</u>	<u>35.2</u>	1034	35.2	4	1034	35.2	1036	35.1	<u>1035</u>	<u>35.2</u>
435.gromacs	4	<u>576</u>	<u>49.6</u>	577	49.5	575	49.6	4	562	50.8	<u>562</u>	<u>50.8</u>	564	50.6
436.cactusADM	4	1259	38.0	1264	37.8	<u>1262</u>	<u>37.9</u>	1	<u>256</u>	<u>46.7</u>	257	46.5	254	47.0
437.leslie3d	4	2114	17.8	2088	18.0	<u>2098</u>	<u>17.9</u>	4	2035	18.5	<u>2036</u>	<u>18.5</u>	2039	18.4
444.namd	4	761	42.2	762	42.1	<u>761</u>	<u>42.1</u>	4	<u>756</u>	<u>42.4</u>	757	42.4	755	42.5
447.dealII	4	793	57.7	786	58.2	<u>787</u>	<u>58.1</u>	4	759	60.3	763	60.0	<u>762</u>	<u>60.0</u>
450.soplex	4	1428	23.4	<u>1427</u>	<u>23.4</u>	1427	23.4	4	1286	25.9	<u>1287</u>	<u>25.9</u>	1288	25.9
453.povray	4	<u>315</u>	<u>67.6</u>	314	67.8	321	66.4	4	270	78.9	<u>270</u>	<u>78.8</u>	270	78.8
454.calculix	4	<u>785</u>	<u>42.0</u>	786	42.0	784	42.1	4	555	59.4	553	59.7	<u>555</u>	<u>59.5</u>
459.GemsFDTD	4	2259	18.8	2246	18.9	<u>2254</u>	<u>18.8</u>	4	2266	18.7	<u>2254</u>	<u>18.8</u>	2253	18.8
465.tonto	4	819	48.1	<u>822</u>	<u>47.9</u>	822	47.9	4	795	49.5	<u>796</u>	<u>49.5</u>	801	49.1
470.lbm	4	3384	16.2	<u>3383</u>	<u>16.2</u>	3383	16.2	4	2875	19.1	2875	19.1	<u>2875</u>	<u>19.1</u>
481.wrf	4	<u>1441</u>	<u>31.0</u>	1443	31.0	1436	31.1	4	1444	31.0	1434	31.2	<u>1441</u>	<u>31.0</u>
482.sphinx3	4	2064	37.8	2023	38.5	<u>2056</u>	<u>37.9</u>	4	1936	40.3	<u>1932</u>	<u>40.3</u>	1927	40.5

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

General Notes

This result was measured on the Acer Altos R520.
The Altos R720 and Altos R520 are electronically equivalent.

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

BIOS Settings

Hardware Prefetcher set to OFF

Adjacent Cache Line Prefetch set to OFF

All results but peak 436.cactusADM used taskset to bind processes to cores.

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General Notes (Continued)

"ulimit -s unlimited" was set for stacksize unlimited
OMP_NUM_THREADS set to number of cores

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:

-fast

C++ benchmarks:

-fast

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Base Optimization Flags (Continued)

Fortran benchmarks:

-fast

Benchmarks using both Fortran and C:

-fast

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



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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

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

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Peak Optimization Flags (Continued)

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-linux64-revC.20090713.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic10.1-fp-linux64-revC.20090713.xml>

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Tested with SPEC CPU2006 v1.0.
Report generated on Tue Jul 22 17:32:58 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 11 June 2008.