



# SPEC<sup>®</sup> CFP2006 Result

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## Acer Incorporated

## SPECfp<sup>®</sup>\_rate2006 = 30.5

## Acer Altos G540 (Intel Xeon E5320)

## SPECfp\_rate\_base2006 = 28.4

CPU2006 license: 97

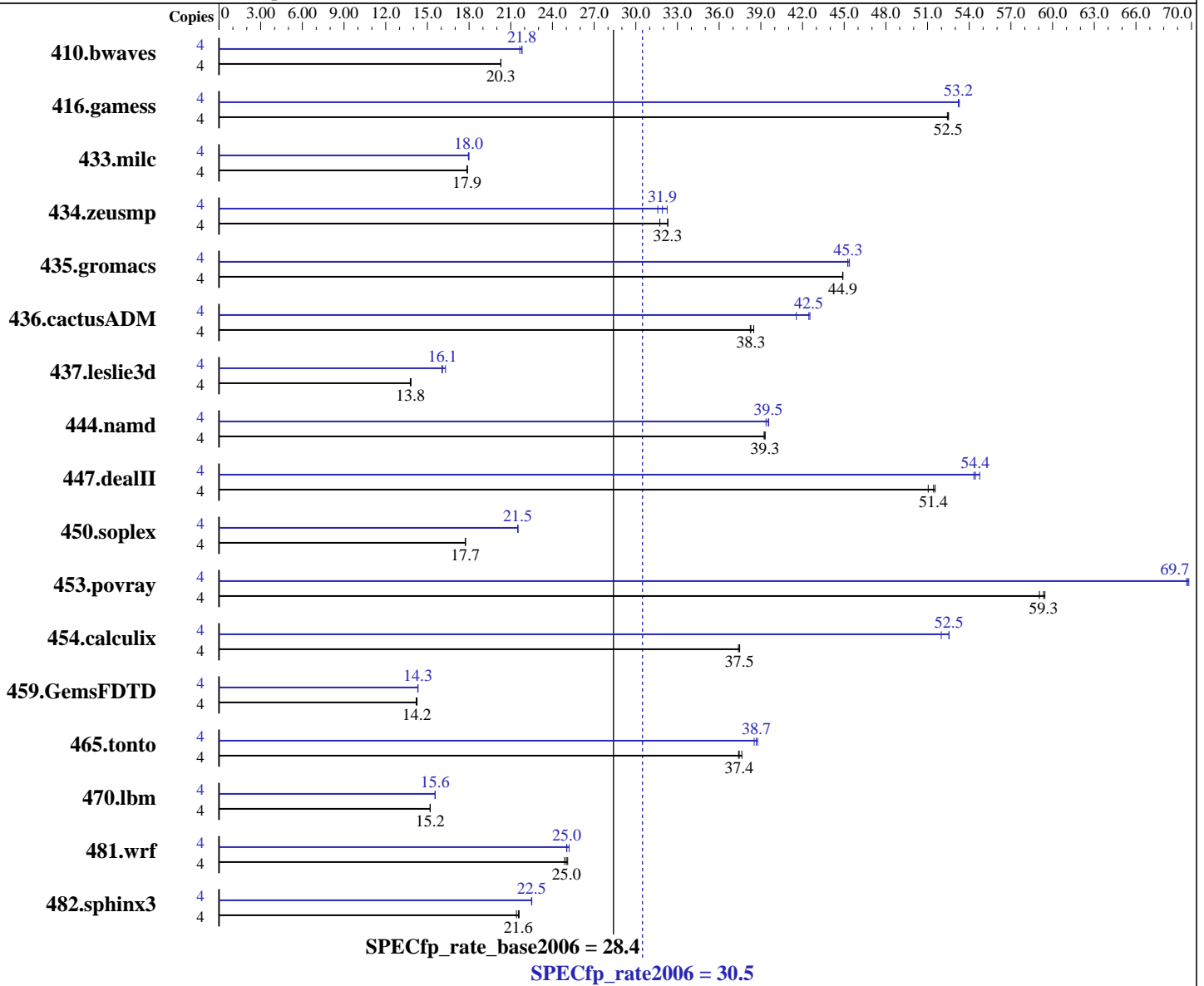
Test sponsor: Acer Incorporated

Tested by: Acer Incorporated

Test date: Sep-2007

Hardware Availability: Nov-2006

Software Availability: Nov-2007



### Hardware

CPU Name: Intel Xeon E5320  
 CPU Characteristics: 1066MHz system bus  
 CPU MHz: 1860  
 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: 8 MB I+D on chip per chip, 4 MB shared / 2 cores

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### Software

Operating System: SUSE Linux Enterprise Server 10 EM64T (kernel 2.6.16.21-0.8-smp)  
 Compiler: Intel C++ and Fortran Compiler for Linux32 and Linux64 version 10.1 Build 20070725  
 Auto Parallel: No  
 File System: ReiserFS  
 System State: Multi-user, run 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 73 GB 10000RPM SAS HDD  
Other Hardware: None

Peak Pointers: 32/64-bit  
Other Software: MicroQuill SmartHeap Library 8.1

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	2680	20.3	2678	20.3	<b>2679</b>	<b>20.3</b>	4	2511	21.7	2492	21.8	<b>2494</b>	<b>21.8</b>
416.gamess	4	<b>1492</b>	<b>52.5</b>	1491	52.5	1494	52.4	4	1470	53.3	<b>1472</b>	<b>53.2</b>	1472	53.2
433.milc	4	2053	17.9	2057	17.9	<b>2056</b>	<b>17.9</b>	4	2041	18.0	2046	18.0	<b>2042</b>	<b>18.0</b>
434.zeusmp	4	1147	31.7	1126	32.3	<b>1127</b>	<b>32.3</b>	4	<b>1140</b>	<b>31.9</b>	1128	32.3	1153	31.6
435.gromacs	4	<b>636</b>	<b>44.9</b>	636	44.9	636	44.9	4	<b>631</b>	<b>45.3</b>	629	45.4	631	45.3
436.cactusADM	4	1250	38.2	1242	38.5	<b>1249</b>	<b>38.3</b>	4	<b>1126</b>	<b>42.5</b>	1124	42.5	1150	41.6
437.leslie3d	4	<b>2728</b>	<b>13.8</b>	2720	13.8	2731	13.8	4	2306	16.3	2343	16.0	<b>2337</b>	<b>16.1</b>
444.namd	4	816	39.3	818	39.2	<b>816</b>	<b>39.3</b>	4	811	39.6	<b>811</b>	<b>39.5</b>	815	39.4
447.dealII	4	<b>890</b>	<b>51.4</b>	896	51.0	888	51.5	4	836	54.8	842	54.3	<b>841</b>	<b>54.4</b>
450.soplex	4	1882	17.7	1879	17.8	<b>1882</b>	<b>17.7</b>	4	<b>1551</b>	<b>21.5</b>	1552	21.5	1550	21.5
453.povray	4	360	59.1	358	59.4	<b>359</b>	<b>59.3</b>	4	306	69.7	<b>305</b>	<b>69.7</b>	305	69.8
454.calculix	4	880	37.5	<b>881</b>	<b>37.5</b>	883	37.4	4	<b>628</b>	<b>52.5</b>	635	52.0	628	52.6
459.GemsFDTD	4	<b>2978</b>	<b>14.2</b>	2991	14.2	2977	14.3	4	2961	14.3	2966	14.3	<b>2965</b>	<b>14.3</b>
465.tonto	4	1046	37.6	1053	37.4	<b>1051</b>	<b>37.4</b>	4	1022	38.5	<b>1018</b>	<b>38.7</b>	1015	38.8
470.lbm	4	<b>3615</b>	<b>15.2</b>	3615	15.2	3616	15.2	4	3533	15.6	<b>3533</b>	<b>15.6</b>	3533	15.6
481.wrf	4	1780	25.1	1796	24.9	<b>1787</b>	<b>25.0</b>	4	1786	25.0	1773	25.2	<b>1784</b>	<b>25.0</b>
482.sphinx3	4	3641	21.4	3609	21.6	<b>3617</b>	<b>21.6</b>	4	<b>3464</b>	<b>22.5</b>	3462	22.5	3466	22.5

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

## General Notes

All results used taskset to bind processes to cores

## Base Compiler Invocation

C benchmarks:  
icc

C++ benchmarks:  
icpc

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## Base Compiler Invocation (Continued)

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

## Peak Compiler Invocation

C benchmarks (except as noted below):

/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/icc  
 -L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib

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## Peak Compiler Invocation (Continued)

C benchmarks (except as noted below) (continued):

-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/include

433.milc: icc

C++ benchmarks (except as noted below):

icpc

450.soplex: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/icpc

-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib

-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/include

Fortran benchmarks (except as noted below):

ifort

437.leslie3d: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/ifort

-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib

-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/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

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## Peak Optimization Flags (Continued)

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 -auto-ilp32

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

481.wrf: -fast -auto-ilp32



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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.20090714.17.html>

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.20090714.17.xml>

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