



# SPEC® CFP2006 Result

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Acer Incorporated

**SPECfp®\_rate2006 = 45.0**

Acer Altos G540 (Intel Xeon E5310)

**SPECfp\_rate\_base2006 = 42.5**

CPU2006 license: 97

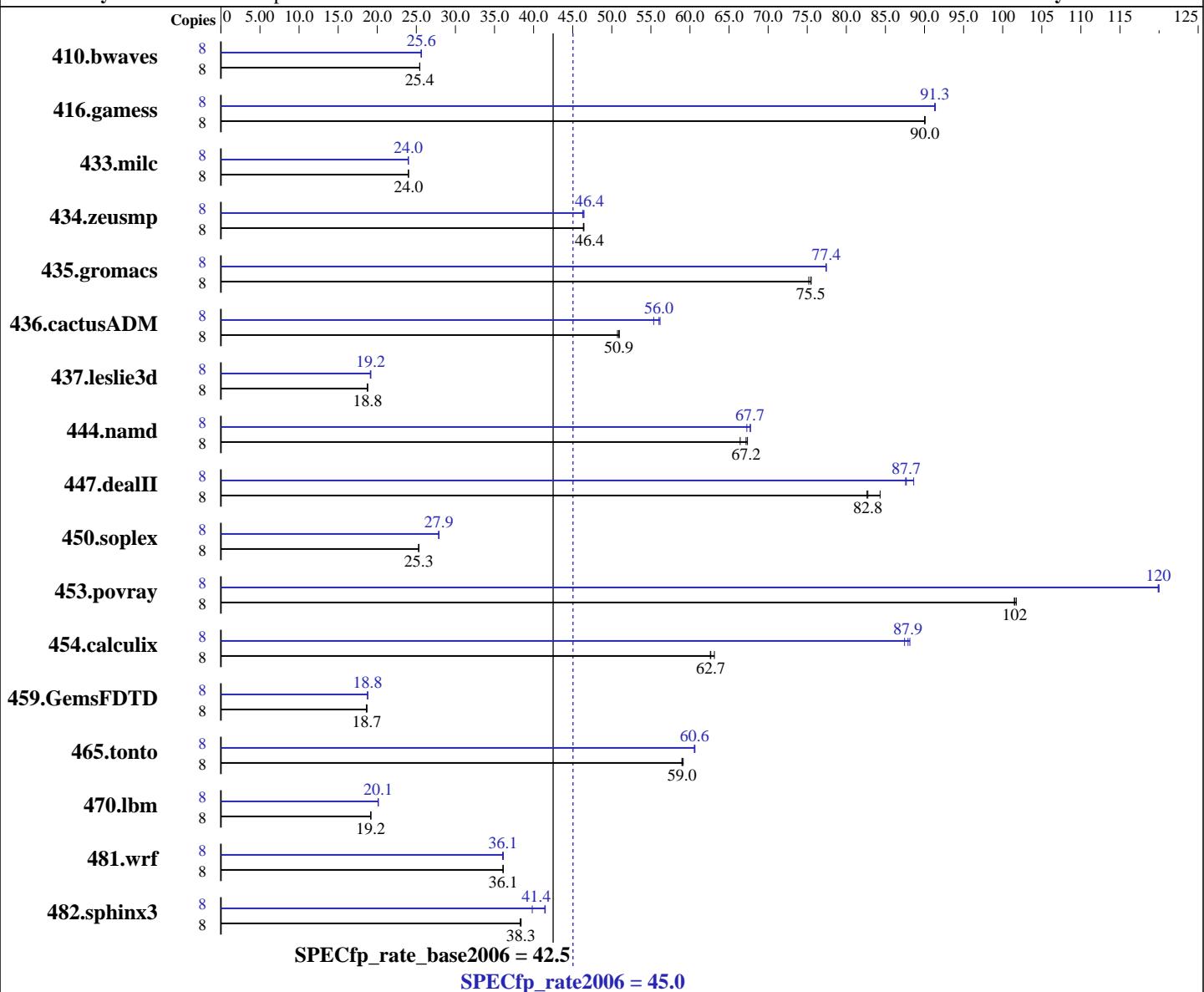
Test date: Oct-2007

Test sponsor: Acer Incorporated

Hardware Availability: Nov-2006

Tested by: Acer Incorporated

Software Availability: Nov-2007



## Hardware

CPU Name: Intel Xeon E5310  
CPU Characteristics: 1066MHz system bus  
CPU MHz: 1600  
FPU: Integrated  
CPU(s) enabled: 8 cores, 2 chips, 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

## 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    | 8      | 4272        | 25.4        | 4275        | 25.4        | <b>4274</b> | <b>25.4</b> | 8      | <b>4242</b> | <b>25.6</b> | 4243        | 25.6        | 4241        | 25.6        |
| 416.gamess    | 8      | 1740        | 90.0        | <b>1740</b> | <b>90.0</b> | 1739        | 90.1        | 8      | <b>1715</b> | <b>91.3</b> | 1714        | 91.4        | 1715        | 91.3        |
| 433.milc      | 8      | 3061        | 24.0        | <b>3061</b> | <b>24.0</b> | 3063        | 24.0        | 8      | <b>3062</b> | <b>24.0</b> | <b>3064</b> | <b>24.0</b> | 3064        | 24.0        |
| 434.zeusmp    | 8      | 1570        | 46.4        | <b>1568</b> | <b>46.4</b> | 1568        | 46.4        | 8      | <b>1567</b> | <b>46.4</b> | 1573        | 46.3        | <b>1570</b> | <b>46.4</b> |
| 435.gromacs   | 8      | <b>757</b>  | <b>75.5</b> | 757         | 75.5        | 760         | 75.2        | 8      | 738         | 77.4        | <b>738</b>  | <b>77.4</b> | 738         | 77.4        |
| 436.cactusADM | 8      | <b>1878</b> | <b>50.9</b> | 1885        | 50.7        | 1876        | 51.0        | 8      | <b>1706</b> | <b>56.0</b> | 1727        | 55.4        | 1702        | 56.2        |
| 437.leslie3d  | 8      | 4006        | 18.8        | <b>4007</b> | <b>18.8</b> | 4019        | 18.7        | 8      | 3921        | 19.2        | 3935        | 19.1        | <b>3926</b> | <b>19.2</b> |
| 444.namd      | 8      | 966         | 66.4        | <b>955</b>  | <b>67.2</b> | 953         | 67.4        | 8      | 947         | 67.7        | <b>948</b>  | <b>67.7</b> | 954         | 67.3        |
| 447.dealII    | 8      | 1085        | 84.3        | 1107        | 82.6        | <b>1106</b> | <b>82.8</b> | 8      | 1033        | 88.6        | <b>1044</b> | <b>87.7</b> | 1045        | 87.6        |
| 450.soplex    | 8      | <b>2636</b> | <b>25.3</b> | 2636        | 25.3        | 2638        | 25.3        | 8      | <b>2393</b> | <b>27.9</b> | 2396        | 27.8        | 2391        | 27.9        |
| 453.povray    | 8      | <b>419</b>  | <b>102</b>  | 418         | 102         | 419         | 101         | 8      | 355         | 120         | <b>355</b>  | <b>120</b>  | 355         | 120         |
| 454.calculix  | 8      | <b>1053</b> | <b>62.7</b> | 1054        | 62.6        | 1046        | 63.1        | 8      | 749         | 88.1        | 755         | 87.5        | <b>751</b>  | <b>87.9</b> |
| 459.GemsFDTD  | 8      | 4563        | 18.6        | <b>4550</b> | <b>18.7</b> | 4543        | 18.7        | 8      | 4525        | 18.8        | <b>4524</b> | <b>18.8</b> | 4520        | 18.8        |
| 465.tonto     | 8      | <b>1334</b> | <b>59.0</b> | 1335        | 59.0        | 1331        | 59.1        | 8      | 1300        | 60.6        | 1298        | 60.6        | <b>1299</b> | <b>60.6</b> |
| 470.lbm       | 8      | 5733        | 19.2        | <b>5733</b> | <b>19.2</b> | 5732        | 19.2        | 8      | 5463        | 20.1        | <b>5463</b> | <b>20.1</b> | 5462        | 20.1        |
| 481.wrf       | 8      | 2474        | 36.1        | 2477        | 36.1        | <b>2475</b> | <b>36.1</b> | 8      | <b>2476</b> | <b>36.1</b> | 2473        | 36.1        | 2479        | 36.0        |
| 482.sphinx3   | 8      | 4072        | 38.3        | 4060        | 38.4        | <b>4066</b> | <b>38.3</b> | 8      | 3915        | 39.8        | 3758        | 41.5        | <b>3764</b> | <b>41.4</b> |

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/cmpllr/usr3/alrahate/compilers/icl0.1mainline/20070725/Linux32/bin/icc  
-L/home/cmpllr/usr3/alrahate/compilers/icl0.1mainline/20070725/Linux32/lib

Continued on next page



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## Peak Compiler Invocation (Continued)

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

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

433.milc: icc

C++ benchmarks (except as noted below):

icpc

450.soplex: /home/cmpllr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/icpc  
 -L/home/cmpllr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib  
 -I/home/cmpllr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/include

Fortran benchmarks (except as noted below):

ifort

437.leslie3d: /home/cmpllr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/ifort  
 -L/home/cmpllr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib  
 -I/home/cmpllr/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 -unroll12  
-scalar-rep- -prefetch -opt-malloc-options=3

482.sphinx3: -fast -unroll12

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 -unroll12  
-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 -unroll14  
-ansi-alias

Fortran benchmarks:

410.bwaves: -fast -prefetch

416.gamess: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll12 -O0  
-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 -unroll12 -O0  
-prefetch

465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll14 -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 -unroll12  
-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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