



# SPEC<sup>®</sup> CFP2006 Result

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## Acer Incorporated

## SPECfp<sup>®</sup>\_rate2006 = 44.4

## Acer Altos R520 (Intel Xeon E5310)

## SPECfp\_rate\_base2006 = 42.4

CPU2006 license: 97

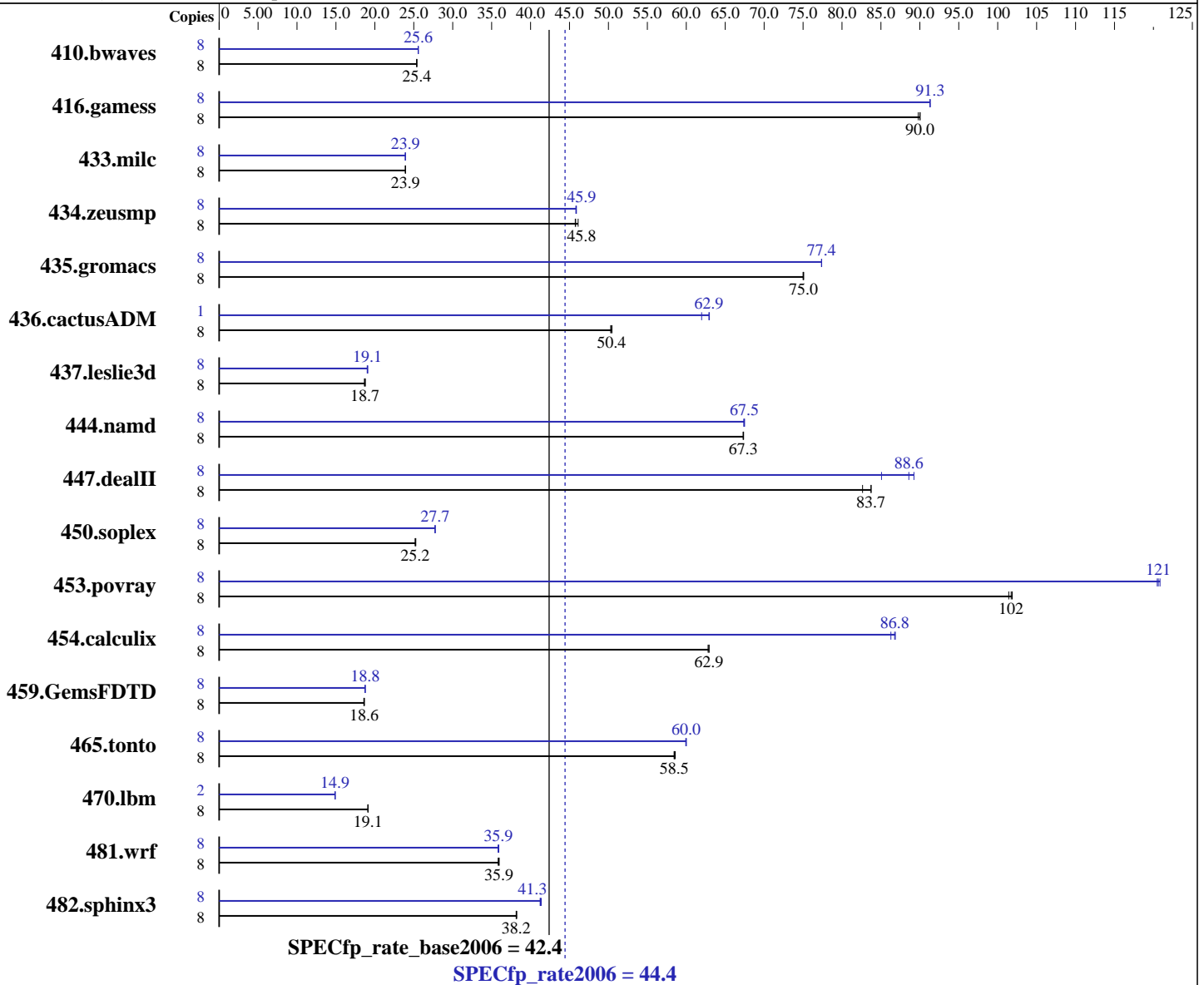
Test sponsor: Acer Incorporated

Tested by: Acer Incorporated

Test date: Oct-2007

Hardware Availability: Nov-2006

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

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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: Yes  
 File System: ReiserFS  
 System State: Multi-user, level 3  
 Base Pointers: 64-bit

Continued on next page



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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 10000PRM 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	4284	25.4	<b><u>4283</u></b>	<b><u>25.4</u></b>	4282	25.4	8	4250	25.6	4253	25.6	<b><u>4251</u></b>	<b><u>25.6</u></b>
416.gamess	8	1740	90.0	1744	89.8	<b><u>1740</u></b>	<b><u>90.0</u></b>	8	1716	91.3	<b><u>1715</u></b>	<b><u>91.3</u></b>	1715	91.3
433.milc	8	3068	23.9	<b><u>3070</u></b>	<b><u>23.9</u></b>	3071	23.9	8	<b><u>3071</u></b>	<b><u>23.9</u></b>	3071	23.9	3070	23.9
434.zeusmp	8	<b><u>1590</u></b>	<b><u>45.8</u></b>	1592	45.7	1579	46.1	8	<b><u>1587</u></b>	<b><u>45.9</u></b>	1586	45.9	1589	45.8
435.gromacs	8	762	75.0	<b><u>761</u></b>	<b><u>75.0</u></b>	761	75.1	8	738	77.4	<b><u>738</u></b>	<b><u>77.4</u></b>	738	77.4
436.cactusADM	8	<b><u>1897</u></b>	<b><u>50.4</u></b>	1895	50.5	1901	50.3	1	190	63.0	<b><u>190</u></b>	<b><u>62.9</u></b>	193	62.0
437.leslie3d	8	4004	18.8	4031	18.7	<b><u>4016</u></b>	<b><u>18.7</u></b>	8	3955	19.0	<b><u>3944</u></b>	<b><u>19.1</u></b>	3941	19.1
444.namd	8	952	67.4	953	67.3	<b><u>953</u></b>	<b><u>67.3</u></b>	8	<b><u>951</u></b>	<b><u>67.5</u></b>	952	67.4	951	67.5
447.dealII	8	1093	83.7	1107	82.6	<b><u>1093</u></b>	<b><u>83.7</u></b>	8	<b><u>1033</u></b>	<b><u>88.6</u></b>	1076	85.1	1026	89.2
450.soplex	8	<b><u>2648</u></b>	<b><u>25.2</u></b>	2650	25.2	2641	25.3	8	2406	27.7	2405	27.7	<b><u>2405</u></b>	<b><u>27.7</u></b>
453.povray	8	<b><u>418</u></b>	<b><u>102</u></b>	418	102	420	101	8	352	121	353	120	<b><u>353</u></b>	<b><u>121</u></b>
454.calculix	8	1049	62.9	<b><u>1049</u></b>	<b><u>62.9</u></b>	1051	62.8	8	<b><u>761</u></b>	<b><u>86.8</u></b>	765	86.3	760	86.9
459.GemsFDTD	8	4549	18.7	<b><u>4559</u></b>	<b><u>18.6</u></b>	4567	18.6	8	4531	18.7	<b><u>4526</u></b>	<b><u>18.8</u></b>	4522	18.8
465.tonto	8	<b><u>1347</u></b>	<b><u>58.5</u></b>	1344	58.6	1347	58.4	8	1313	59.9	<b><u>1312</u></b>	<b><u>60.0</u></b>	1312	60.0
470.lbm	8	5750	19.1	<b><u>5750</u></b>	<b><u>19.1</u></b>	5750	19.1	2	<b><u>1845</u></b>	<b><u>14.9</u></b>	1845	14.9	1845	14.9
481.wrf	8	<b><u>2487</u></b>	<b><u>35.9</u></b>	2494	35.8	2485	36.0	8	2494	35.8	2488	35.9	<b><u>2490</u></b>	<b><u>35.9</u></b>
482.sphinx3	8	4087	38.2	<b><u>4086</u></b>	<b><u>38.2</u></b>	4078	38.2	8	3769	41.4	<b><u>3778</u></b>	<b><u>41.3</u></b>	3782	41.2

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

## General Notes

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

### BIOS Settings

Hardware Prefetcher set to OFF

Adjacent Cache Line Prefetch set to OFF

Optimization for high-frequency FSB applications set to OFF

All results used taskset to bind processes to cores.



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CPU2006 license: 97

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Test date: Oct-2007

Hardware Availability: Nov-2006

Software Availability: Nov-2007

## 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.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):

```
/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/icc
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib
-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.deallI: -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 -parallel -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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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.0.  
Report generated on Tue Jul 22 14:10:23 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 14 November 2007.