



# SPEC® CFP2006 Result

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## Acer Incorporated

## SPECfp®\_rate2006 = 34.3

## Acer Altos R720 (Intel Xeon E5345)

## SPECfp\_rate\_base2006 = 32.2

CPU2006 license: 97

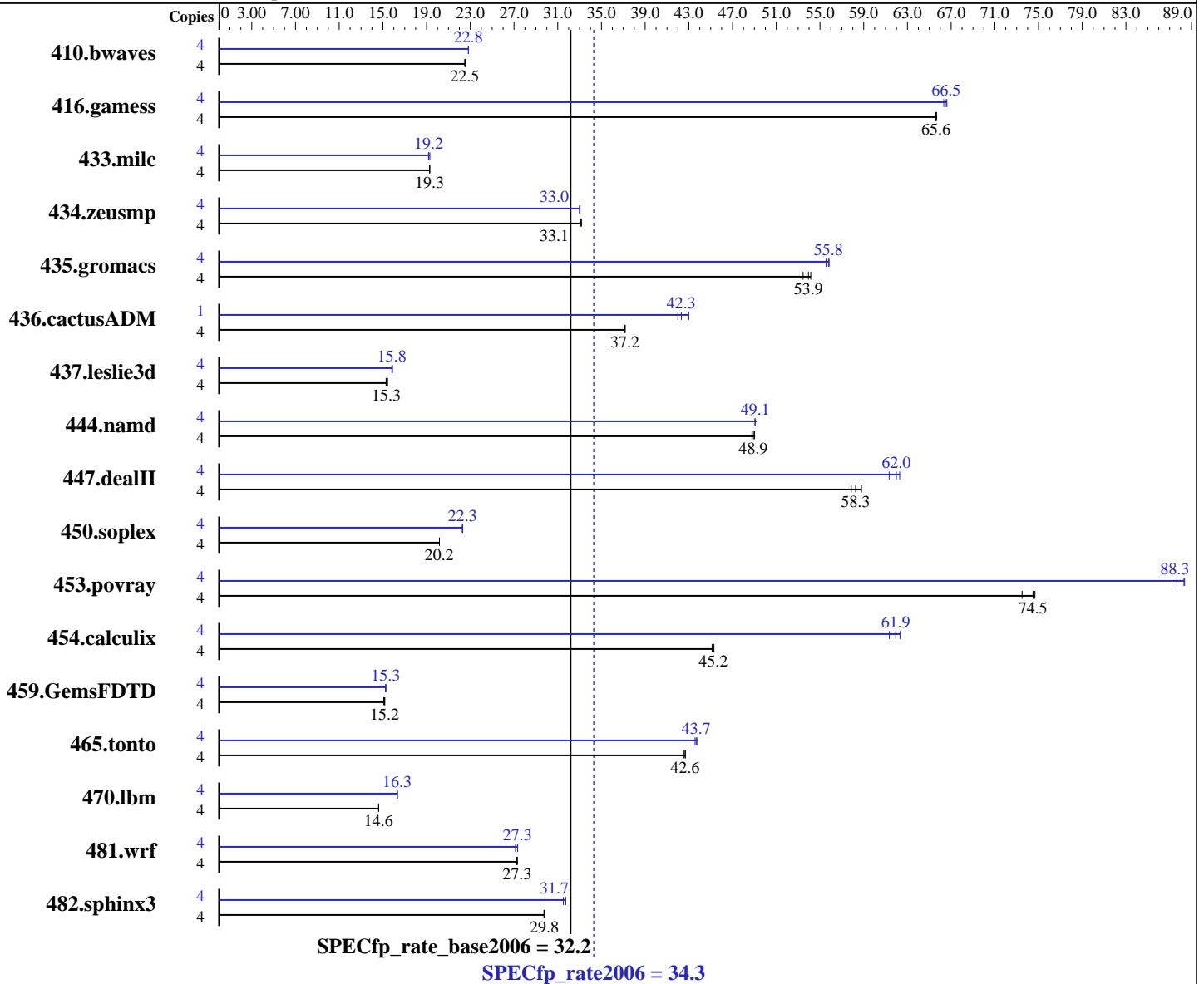
Test sponsor: Acer Incorporated

Tested by: Acer Incorporated

Test date: Oct-2007

Hardware Availability: Nov-2006

Software Availability: Nov-2007



### Hardware

CPU Name: Intel Xeon E5345  
 CPU Characteristics: 1333MHz system bus  
 CPU MHz: 2330  
 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: 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 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	4	2413	22.5	<b><u>2415</u></b>	<b><u>22.5</u></b>	2416	22.5	4	2380	22.8	2382	22.8	<b><u>2381</u></b>	<b><u>22.8</u></b>
416.gamess	4	1194	65.6	<b><u>1193</u></b>	<b><u>65.6</u></b>	1193	65.7	4	<b><u>1177</u></b>	<b><u>66.5</u></b>	1181	66.3	1176	66.6
433.milc	4	1903	19.3	1906	19.3	<b><u>1906</u></b>	<b><u>19.3</u></b>	4	1915	19.2	<b><u>1912</u></b>	<b><u>19.2</u></b>	1903	19.3
434.zeusmp	4	<b><u>1098</u></b>	<b><u>33.1</u></b>	1098	33.2	1099	33.1	4	1104	33.0	1101	33.0	<b><u>1103</u></b>	<b><u>33.0</u></b>
435.gromacs	4	534	53.5	527	54.2	<b><u>529</u></b>	<b><u>53.9</u></b>	4	511	55.8	514	55.6	<b><u>512</u></b>	<b><u>55.8</u></b>
436.cactusADM	4	1287	37.1	<b><u>1286</u></b>	<b><u>37.2</u></b>	1286	37.2	1	278	43.0	285	42.0	<b><u>282</u></b>	<b><u>42.3</u></b>
437.leslie3d	4	2437	15.4	2459	15.3	<b><u>2454</u></b>	<b><u>15.3</u></b>	4	2377	15.8	<b><u>2375</u></b>	<b><u>15.8</u></b>	2367	15.9
444.namd	4	654	49.0	<b><u>656</u></b>	<b><u>48.9</u></b>	658	48.8	4	<b><u>654</u></b>	<b><u>49.1</u></b>	654	49.1	651	49.2
447.dealII	4	791	57.9	778	58.8	<b><u>785</u></b>	<b><u>58.3</u></b>	4	746	61.3	<b><u>738</u></b>	<b><u>62.0</u></b>	735	62.3
450.soplex	4	1654	20.2	<b><u>1654</u></b>	<b><u>20.2</u></b>	1654	20.2	4	1495	22.3	<b><u>1496</u></b>	<b><u>22.3</u></b>	1498	22.3
453.povray	4	290	73.5	285	74.7	<b><u>286</u></b>	<b><u>74.5</u></b>	4	241	88.4	243	87.7	<b><u>241</u></b>	<b><u>88.3</u></b>
454.calculix	4	731	45.1	<b><u>730</u></b>	<b><u>45.2</u></b>	729	45.3	4	<b><u>533</u></b>	<b><u>61.9</u></b>	530	62.3	538	61.3
459.GemsFDTD	4	2798	15.2	<b><u>2798</u></b>	<b><u>15.2</u></b>	2816	15.1	4	2785	15.2	<b><u>2781</u></b>	<b><u>15.3</u></b>	2778	15.3
465.tonto	4	922	42.7	<b><u>923</u></b>	<b><u>42.6</u></b>	925	42.5	4	<b><u>901</u></b>	<b><u>43.7</u></b>	903	43.6	900	43.7
470.lbm	4	3760	14.6	3762	14.6	<b><u>3762</u></b>	<b><u>14.6</u></b>	4	3369	16.3	<b><u>3368</u></b>	<b><u>16.3</u></b>	3368	16.3
481.wrf	4	1637	27.3	1639	27.3	<b><u>1638</u></b>	<b><u>27.3</u></b>	4	1647	27.1	<b><u>1635</u></b>	<b><u>27.3</u></b>	1635	27.3
482.sphinx3	4	2613	29.8	2622	29.7	<b><u>2619</u></b>	<b><u>29.8</u></b>	4	<b><u>2458</u></b>	<b><u>31.7</u></b>	2473	31.5	2456	31.7

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.

### BIOS Settings

Hardware Prefetcher set to OFF

Adjacent Cache Line Prefetch set to OFF

Optimization for high-frequency FSB applications set to ON

All results used taskset to bind processes to cores.



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CPU2006 license: 97

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Tested by: Acer Incorporated

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).

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