



# SPEC® CFP2006 Result

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## Acer Incorporated

## SPECfp®\_rate2006 = 25.6

## Acer Altos R520 (Intel Xeon 5150)

## SPECfp\_rate\_base2006 = 23.7

CPU2006 license: 97

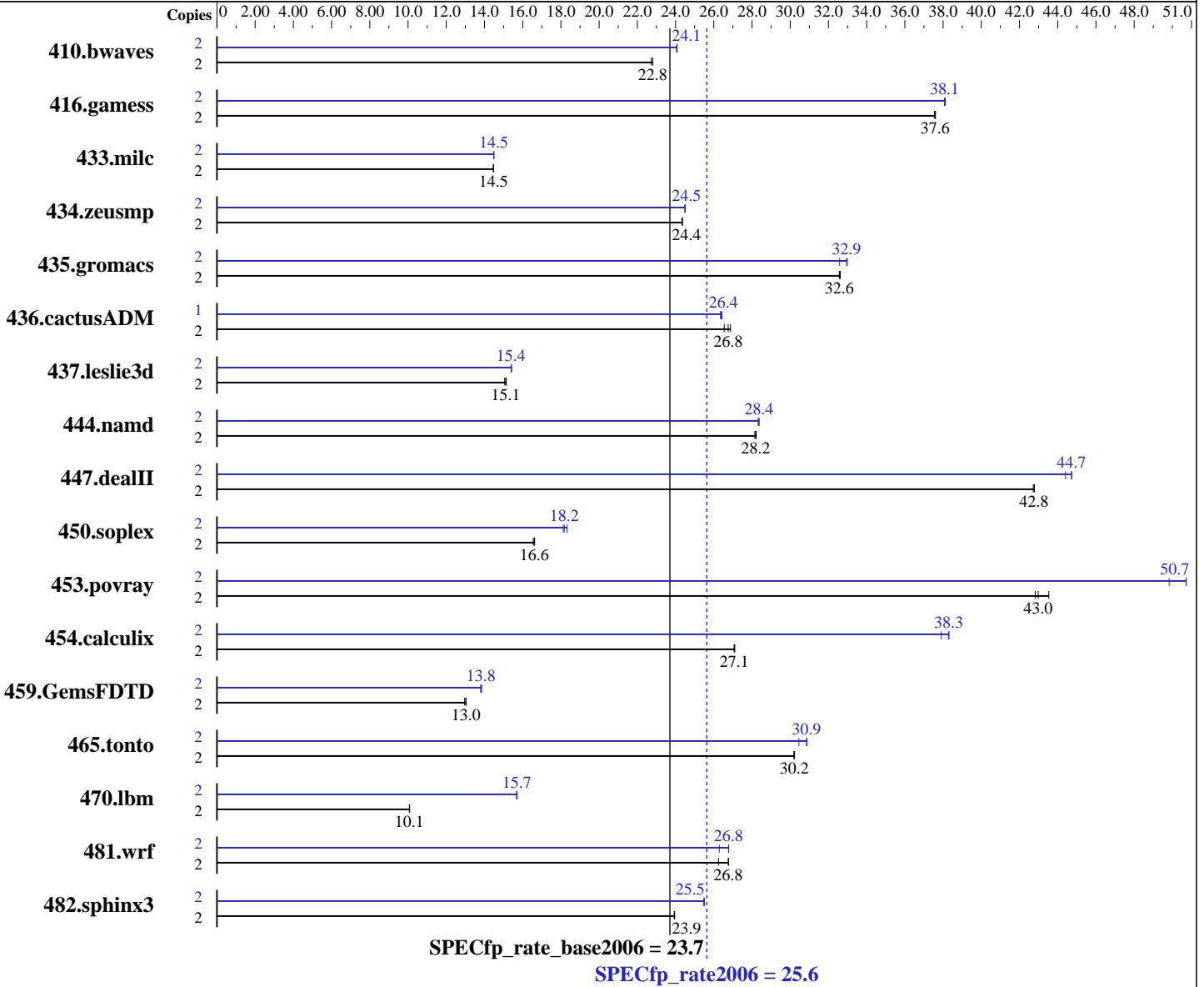
Test sponsor: Acer Incorporated

Tested by: Acer Incorporated

Test date: Dec-2007

Hardware Availability: Nov-2006

Software Availability: Nov-2007



### Hardware

CPU Name: Intel Xeon 5150  
 CPU Characteristics: 1333MHz system bus  
 CPU MHz: 2660  
 FPU: Integrated  
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip  
 CPU(s) orderable: 1, 2 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 4 MB I+D on chip per chip

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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 10000PRM 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	2	1191	22.8	<u>1192</u>	<u>22.8</u>	1196	22.7	2	1129	24.1	1130	24.1	<u>1129</u>	<u>24.1</u>
416.gamess	2	<u>1042</u>	<u>37.6</u>	1041	37.6	1043	37.5	2	1028	38.1	1027	38.1	<u>1028</u>	<u>38.1</u>
433.milc	2	1268	14.5	<u>1269</u>	<u>14.5</u>	1269	14.5	2	1266	14.5	1268	14.5	<u>1267</u>	<u>14.5</u>
434.zeusmp	2	748	24.3	747	24.4	<u>747</u>	<u>24.4</u>	2	743	24.5	743	24.5	<u>743</u>	<u>24.5</u>
435.gromacs	2	438	32.6	<u>438</u>	<u>32.6</u>	438	32.6	2	438	32.6	<u>433</u>	<u>32.9</u>	433	33.0
436.cactusADM	2	900	26.5	889	26.9	<u>893</u>	<u>26.8</u>	1	452	26.4	<u>453</u>	<u>26.4</u>	453	26.4
437.leslie3d	2	1242	15.1	1248	15.1	<u>1244</u>	<u>15.1</u>	2	1221	15.4	<u>1221</u>	<u>15.4</u>	1219	15.4
444.namd	2	<u>569</u>	<u>28.2</u>	570	28.1	568	28.2	2	566	28.3	<u>565</u>	<u>28.4</u>	565	28.4
447.dealII	2	<u>535</u>	<u>42.8</u>	535	42.8	536	42.7	2	<u>512</u>	<u>44.7</u>	512	44.7	515	44.4
450.soplex	2	1003	16.6	1008	16.6	<u>1004</u>	<u>16.6</u>	2	920	18.1	910	18.3	<u>918</u>	<u>18.2</u>
453.povray	2	<u>248</u>	<u>43.0</u>	244	43.5	248	42.8	2	210	50.7	<u>210</u>	<u>50.7</u>	214	49.8
454.calculix	2	<u>609</u>	<u>27.1</u>	610	27.1	609	27.1	2	<u>431</u>	<u>38.3</u>	431	38.3	435	37.9
459.GemsFDTD	2	1628	13.0	1637	13.0	<u>1629</u>	<u>13.0</u>	2	1532	13.8	<u>1535</u>	<u>13.8</u>	1537	13.8
465.tonto	2	<u>651</u>	<u>30.2</u>	652	30.2	651	30.2	2	646	30.5	637	30.9	<u>638</u>	<u>30.9</u>
470.lbm	2	2725	10.1	<u>2727</u>	<u>10.1</u>	2729	10.1	2	1750	15.7	1752	15.7	<u>1751</u>	<u>15.7</u>
481.wrf	2	835	26.8	851	26.2	<u>835</u>	<u>26.8</u>	2	<u>834</u>	<u>26.8</u>	850	26.3	834	26.8
482.sphinx3	2	<u>1629</u>	<u>23.9</u>	1627	24.0	1629	23.9	2	1529	25.5	<u>1529</u>	<u>25.5</u>	1530	25.5

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

### BIOS Settings

Hardware Prefetcher set to ON

Adjacent Cache Line Prefetch set to ON

All results used taskset to bind processes to cores.  
"ulimit -s unlimited" was set for stacksize unlimited  
OMP\_NUM\_THREADS set to number of cores



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Tested by: Acer Incorporated

Test date: Dec-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):

```
/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.deall: -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
```

```
470.lbm: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-scalar-rep- -prefetch -opt-malloc-options=3
```

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## Peak Optimization Flags (Continued)

482.sphinx3: -fast -unroll2

### C++ benchmarks:

444.namd: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias  
-auto-ilp32

447.dealIII: -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

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.20090714.08.html>



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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.20090714.08.xml>

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