



# SPEC® CFP2006 Result

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## Acer Incorporated

### SPECfp®\_rate2006 = 38.0

## Acer Altos R520 (Intel Xeon E5205)

### SPECfp\_rate\_base2006 = 34.9

CPU2006 license: 97

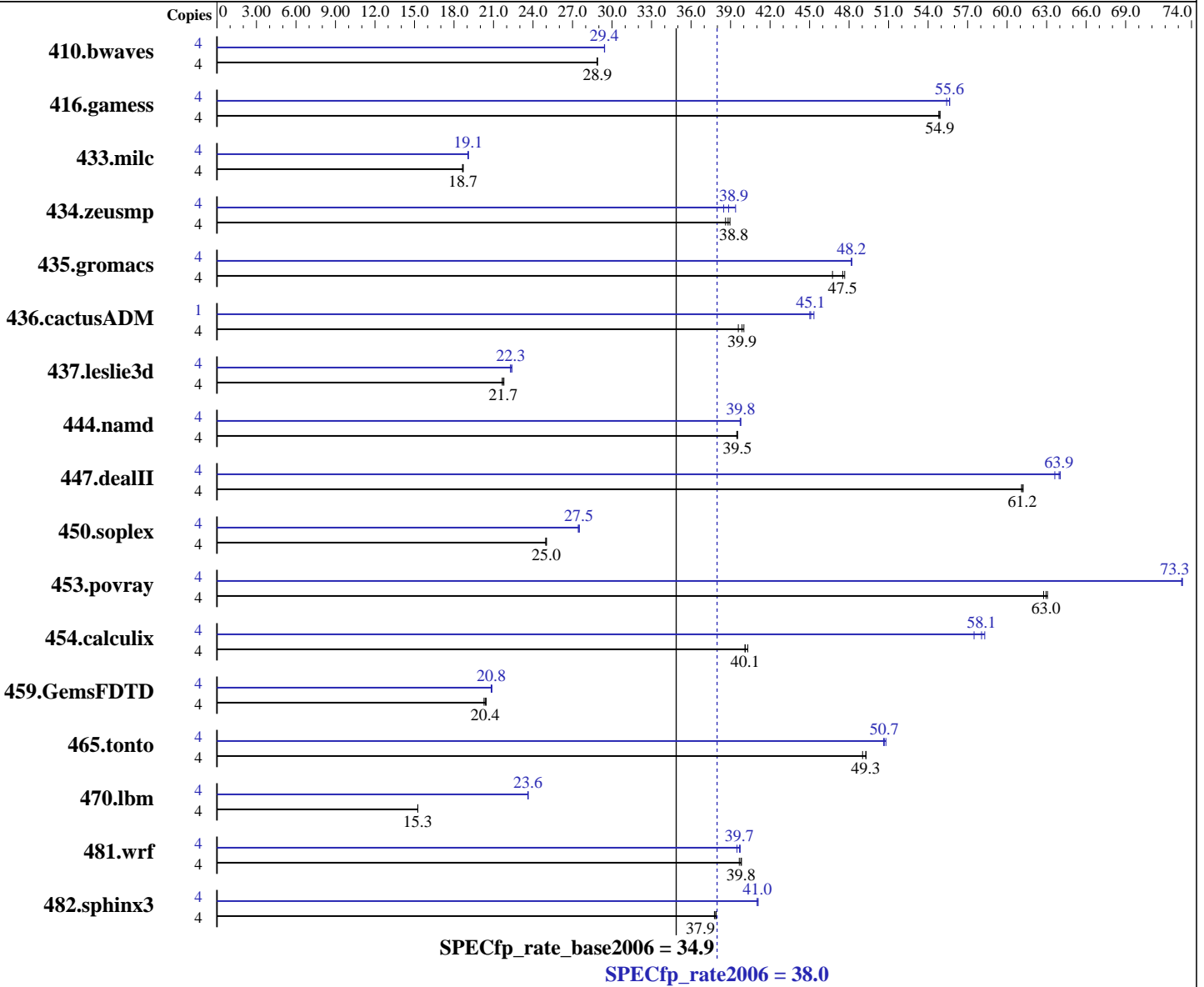
Test sponsor: Acer Incorporated

Tested by: Acer Incorporated

Test date: Mar-2008

Hardware Availability: Nov-2007

Software Availability: Nov-2007



### Hardware

CPU Name: Intel Xeon E5205  
 CPU Characteristics: 1066MHz system bus  
 CPU MHz: 1860  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip  
 CPU(s) orderable: 1, 2 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 6 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	4	1883	28.9	1882	28.9	<b>1882</b>	<b>28.9</b>	4	1847	29.4	<b>1847</b>	<b>29.4</b>	1848	29.4
416.gamess	4	<b>1427</b>	<b>54.9</b>	1427	54.9	1429	54.8	4	1414	55.4	<b>1408</b>	<b>55.6</b>	1408	55.6
433.milc	4	1964	18.7	<b>1965</b>	<b>18.7</b>	1970	18.6	4	<b>1924</b>	<b>19.1</b>	1926	19.1	1923	19.1
434.zeusmp	4	942	38.6	<b>938</b>	<b>38.8</b>	934	39.0	4	<b>937</b>	<b>38.9</b>	924	39.4	946	38.5
435.gromacs	4	611	46.7	<b>601</b>	<b>47.5</b>	599	47.7	4	<b>593</b>	<b>48.2</b>	593	48.2	592	48.2
436.cactusADM	4	<b>1199</b>	<b>39.9</b>	1195	40.0	1207	39.6	1	<b>265</b>	<b>45.1</b>	264	45.3	265	45.0
437.leslie3d	4	<b>1730</b>	<b>21.7</b>	1736	21.7	1726	21.8	4	1687	22.3	<b>1686</b>	<b>22.3</b>	1678	22.4
444.namd	4	<b>812</b>	<b>39.5</b>	813	39.5	812	39.5	4	807	39.8	807	39.7	<b>807</b>	<b>39.8</b>
447.dealII	4	747	61.2	749	61.1	<b>748</b>	<b>61.2</b>	4	715	64.0	719	63.6	<b>716</b>	<b>63.9</b>
450.soplex	4	1337	25.0	<b>1334</b>	<b>25.0</b>	1333	25.0	4	<b>1214</b>	<b>27.5</b>	1212	27.5	1216	27.4
453.povray	4	337	63.1	<b>338</b>	<b>63.0</b>	339	62.8	4	290	73.3	291	73.3	<b>290</b>	<b>73.3</b>
454.calculix	4	<b>823</b>	<b>40.1</b>	823	40.1	819	40.3	4	<b>568</b>	<b>58.1</b>	574	57.5	566	58.3
459.GemsFDTD	4	2093	20.3	2076	20.4	<b>2084</b>	<b>20.4</b>	4	2032	20.9	2038	20.8	<b>2037</b>	<b>20.8</b>
465.tonto	4	799	49.3	<b>799</b>	<b>49.3</b>	803	49.0	4	775	50.8	778	50.6	<b>777</b>	<b>50.7</b>
470.lbm	4	3604	15.3	<b>3603</b>	<b>15.3</b>	3603	15.3	4	2327	23.6	<b>2327</b>	<b>23.6</b>	2326	23.6
481.wrf	4	<b>1123</b>	<b>39.8</b>	1127	39.7	1122	39.8	4	1125	39.7	<b>1126</b>	<b>39.7</b>	1132	39.5
482.sphinx3	4	<b>2058</b>	<b>37.9</b>	2064	37.8	2057	37.9	4	1897	41.1	<b>1900</b>	<b>41.0</b>	1900	41.0

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 but peak 436.cactusADM used taskset to bind  
processes to cores.

"ulimit -s unlimited" was set for stacksize unlimited

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Tested by: Acer Incorporated

Test date: Mar-2008

Hardware Availability: Nov-2007

Software Availability: Nov-2007

## General Notes (Continued)

OMP\_NUM\_THREADS set to number of cores

## 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

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## Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:

-fast

## 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.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
```



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**Test date:** Mar-2008

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**Software Availability:** Nov-2007

## 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

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

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## Peak Optimization Flags (Continued)

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-linux64-revC.20090713.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Intel-ic10.1-fp-linux64-revC.20090713.xml>

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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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