



# SPEC<sup>®</sup> CFP2006 Result

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## Acer Incorporated

## SPECfp<sup>®</sup>\_rate2006 = 38.3

## Acer Altos R520 (Intel Xeon X5365)

## SPECfp\_rate\_base2006 = 36.0

CPU2006 license: 97

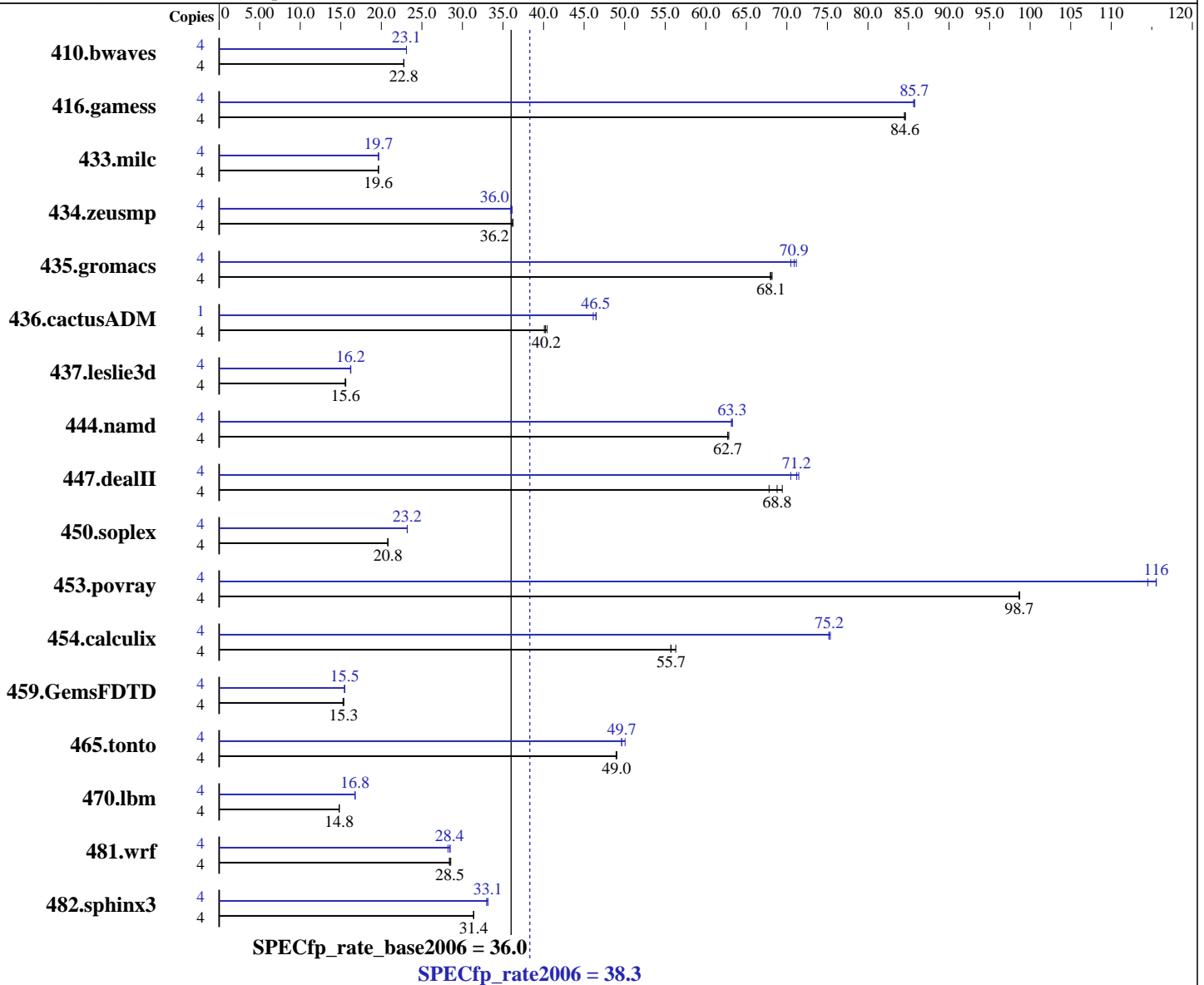
Test sponsor: Acer Incorporated

Tested by: Acer Incorporated

Test date: Dec-2007

Hardware Availability: Nov-2007

Software Availability: Nov-2007



### Hardware

CPU Name: Intel Xeon X5365  
 CPU Characteristics: 1333MHz system bus  
 CPU MHz: 3000  
 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 SP1 EM64T (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	<b><u>2386</u></b>	<b><u>22.8</u></b>	2386	22.8	2389	22.8	4	2354	23.1	<b><u>2354</u></b>	<b><u>23.1</u></b>	2353	23.1
416.gamess	4	926	84.6	<b><u>926</u></b>	<b><u>84.6</u></b>	927	84.5	4	915	85.6	<b><u>914</u></b>	<b><u>85.7</u></b>	913	85.8
433.milc	4	1871	19.6	1869	19.6	<b><u>1869</u></b>	<b><u>19.6</u></b>	4	1871	19.6	1867	19.7	<b><u>1869</u></b>	<b><u>19.7</u></b>
434.zeusmp	4	<b><u>1006</u></b>	<b><u>36.2</u></b>	1005	36.2	1009	36.1	4	<b><u>1012</u></b>	<b><u>36.0</u></b>	1008	36.1	1012	36.0
435.gromacs	4	420	68.0	419	68.2	<b><u>420</u></b>	<b><u>68.1</u></b>	4	<b><u>403</u></b>	<b><u>70.9</u></b>	401	71.2	405	70.5
436.cactusADM	4	1182	40.4	<b><u>1188</u></b>	<b><u>40.2</u></b>	1192	40.1	1	257	46.5	<b><u>257</u></b>	<b><u>46.5</u></b>	259	46.1
437.leslie3d	4	2407	15.6	2420	15.5	<b><u>2413</u></b>	<b><u>15.6</u></b>	4	<b><u>2320</u></b>	<b><u>16.2</u></b>	2320	16.2	2315	16.2
444.namd	4	<b><u>512</u></b>	<b><u>62.7</u></b>	510	62.8	512	62.7	4	507	63.3	508	63.2	<b><u>507</u></b>	<b><u>63.3</u></b>
447.dealII	4	659	69.4	<b><u>665</u></b>	<b><u>68.8</u></b>	675	67.8	4	<b><u>643</u></b>	<b><u>71.2</u></b>	649	70.5	640	71.5
450.soplex	4	<b><u>1603</u></b>	<b><u>20.8</u></b>	1604	20.8	1603	20.8	4	<b><u>1438</u></b>	<b><u>23.2</u></b>	1439	23.2	1437	23.2
453.povray	4	216	98.6	216	98.7	<b><u>216</u></b>	<b><u>98.7</u></b>	4	184	116	<b><u>184</u></b>	<b><u>116</u></b>	186	115
454.calculix	4	<b><u>592</u></b>	<b><u>55.7</u></b>	586	56.3	593	55.7	4	438	75.4	439	75.2	<b><u>439</u></b>	<b><u>75.2</u></b>
459.GemsFDTD	4	<b><u>2767</u></b>	<b><u>15.3</u></b>	2779	15.3	2762	15.4	4	2746	15.5	<b><u>2743</u></b>	<b><u>15.5</u></b>	2742	15.5
465.tonto	4	804	48.9	<b><u>803</u></b>	<b><u>49.0</u></b>	803	49.0	4	793	49.6	<b><u>793</u></b>	<b><u>49.7</u></b>	786	50.1
470.lbm	4	3713	14.8	3712	14.8	<b><u>3712</u></b>	<b><u>14.8</u></b>	4	<b><u>3280</u></b>	<b><u>16.8</u></b>	3279	16.8	3280	16.8
481.wrf	4	1574	28.4	<b><u>1570</u></b>	<b><u>28.5</u></b>	1564	28.6	4	<b><u>1572</u></b>	<b><u>28.4</u></b>	1568	28.5	1583	28.2
482.sphinx3	4	<b><u>2485</u></b>	<b><u>31.4</u></b>	2482	31.4	2486	31.4	4	<b><u>2354</u></b>	<b><u>33.1</u></b>	2351	33.2	2364	33.0

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 Setting

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

Test sponsor: Acer Incorporated

Tested by: Acer Incorporated

Test date: Dec-2007

Hardware Availability: Nov-2007

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.20090714.06.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.20090714.06.xml>

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