



# SPEC<sup>®</sup> CFP2006 Result

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## Acer Incorporated

## SPECfp<sup>®</sup>\_rate2006 = 36.2

## Acer Altos R520 (Intel X5355)

## SPECfp\_rate\_base2006 = 34.0

CPU2006 license: 97

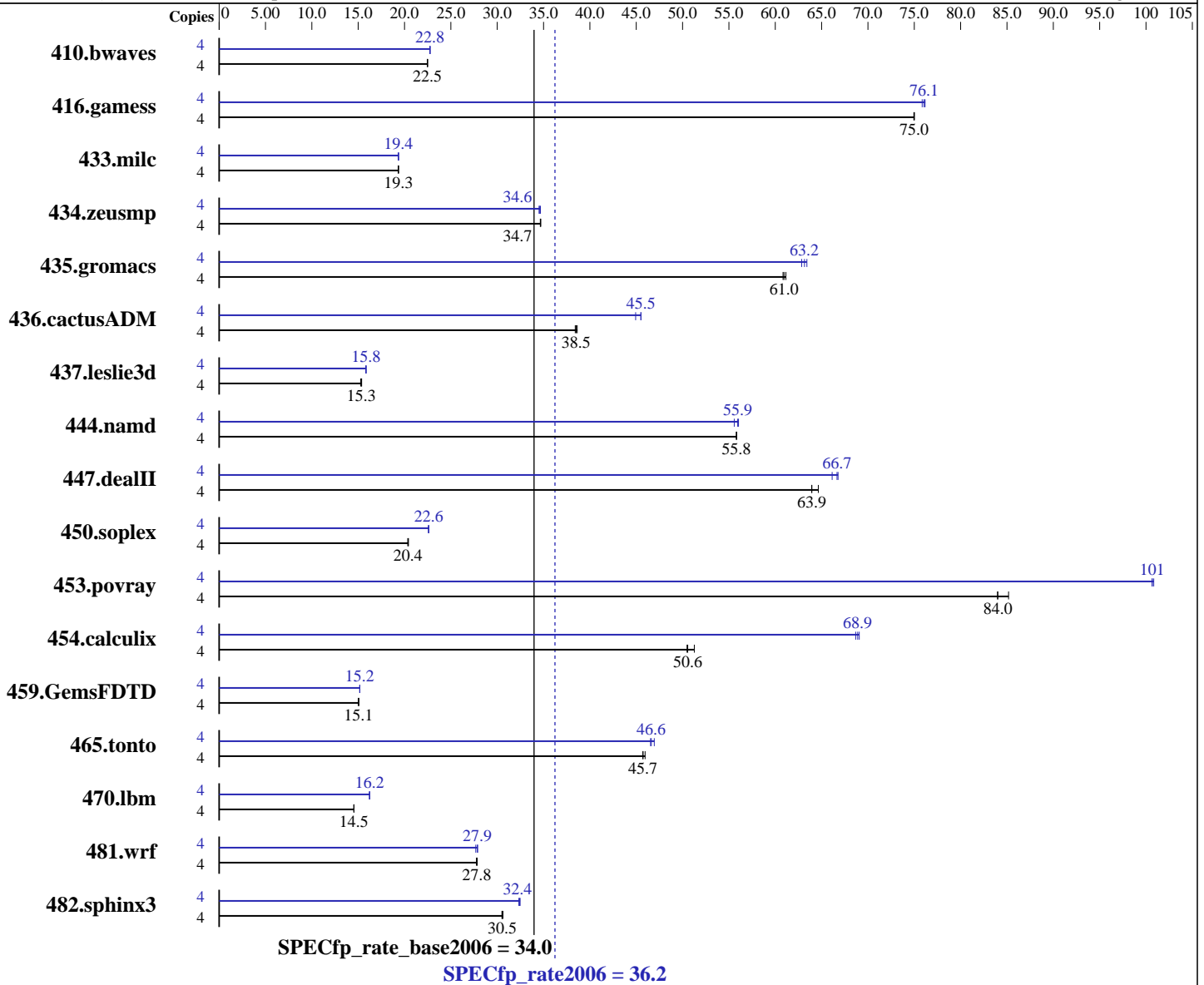
Test sponsor: Acer Incorporated

Tested by: Acer Incorporated

Test date: Sep-2007

Hardware Availability: Nov-2006

Software Availability: Aug-2007



### Hardware

CPU Name: Intel Xeon X5355  
 CPU Characteristics: 1333MHz system bus  
 CPU MHz: 2660  
 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: No  
 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	2420	22.5	2417	22.5	<b>2418</b>	<b>22.5</b>	4	<b>2389</b>	<b>22.8</b>	2390	22.7	2389	22.8
416.gamess	4	1045	75.0	<b>1045</b>	<b>75.0</b>	1044	75.0	4	1033	75.9	<b>1030</b>	<b>76.1</b>	1028	76.2
433.milc	4	1897	19.4	<b>1898</b>	<b>19.3</b>	1901	19.3	4	<b>1898</b>	<b>19.4</b>	1897	19.4	1900	19.3
434.zeusmp	4	1049	34.7	1050	34.7	<b>1050</b>	<b>34.7</b>	4	<b>1053</b>	<b>34.6</b>	1050	34.7	1054	34.5
435.gromacs	4	467	61.1	469	60.8	<b>469</b>	<b>61.0</b>	4	<b>452</b>	<b>63.2</b>	454	62.9	450	63.4
436.cactusADM	4	1237	38.6	1244	38.4	<b>1241</b>	<b>38.5</b>	4	<b>1051</b>	<b>45.5</b>	1064	44.9	1050	45.5
437.leslie3d	4	2446	15.4	2463	15.3	<b>2450</b>	<b>15.3</b>	4	<b>2373</b>	<b>15.8</b>	2375	15.8	2371	15.9
444.namd	4	575	55.8	<b>575</b>	<b>55.8</b>	575	55.8	4	573	56.0	577	55.6	<b>573</b>	<b>55.9</b>
447.dealII	4	708	64.6	716	63.9	<b>716</b>	<b>63.9</b>	4	685	66.8	692	66.1	<b>686</b>	<b>66.7</b>
450.soplex	4	1633	20.4	1638	20.4	<b>1638</b>	<b>20.4</b>	4	1478	22.6	<b>1476</b>	<b>22.6</b>	1474	22.6
453.povray	4	250	85.2	253	84.0	<b>253</b>	<b>84.0</b>	4	211	101	<b>211</b>	<b>101</b>	211	101
454.calculix	4	<b>653</b>	<b>50.6</b>	644	51.3	654	50.5	4	<b>479</b>	<b>68.9</b>	478	69.1	480	68.7
459.GemsFDTD	4	<b>2818</b>	<b>15.1</b>	2828	15.0	2814	15.1	4	2796	15.2	2798	15.2	<b>2797</b>	<b>15.2</b>
465.tonto	4	856	46.0	861	45.7	<b>861</b>	<b>45.7</b>	4	846	46.5	838	46.9	<b>844</b>	<b>46.6</b>
470.lbm	4	3780	14.5	<b>3780</b>	<b>14.5</b>	3779	14.5	4	<b>3386</b>	<b>16.2</b>	3386	16.2	3386	16.2
481.wrf	4	1605	27.8	1609	27.8	<b>1607</b>	<b>27.8</b>	4	1614	27.7	1602	27.9	<b>1604</b>	<b>27.9</b>
482.sphinx3	4	<b>2552</b>	<b>30.5</b>	2546	30.6	2555	30.5	4	2411	32.3	<b>2405</b>	<b>32.4</b>	2401	32.5

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.

### BIOS Settings

Snoop Filter set to OFF  
Snoop Filter preserves cache coherency while  
minimizing snoops to remote nodes.

Adjacent Cache Line Prefetch set to OFF  
Prefetch data in order to shorten execution cycles  
and maximize data processing efficiency.

Optimization for high-frequency FSB applications set to ON

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## General Notes (Continued)

All results used taskset to bind processes to 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.deallI: -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

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## Base Optimization Flags (Continued)

Fortran benchmarks:

-fast

Benchmarks using both Fortran and C:

-fast

## 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.dealII: -DSPEC_CPU_LP64
453.povray: -DSPEC_CPU_LP64
454.calculix: -DSPEC_CPU_LP64 -nofor_main
459.GemsFDTD: -DSPEC_CPU_LP64
```

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## Peak Portability Flags (Continued)

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

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:

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## Peak Optimization Flags (Continued)

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 -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.20090714.17.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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