



# SPEC<sup>®</sup> CFP2006 Result

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## Acer Incorporated

## SPECfp<sup>®</sup>\_rate2006 = 23.3

## Acer Altos G540 (Intel Xeon 5140)

## SPECfp\_rate\_base2006 = 21.6

CPU2006 license: 97

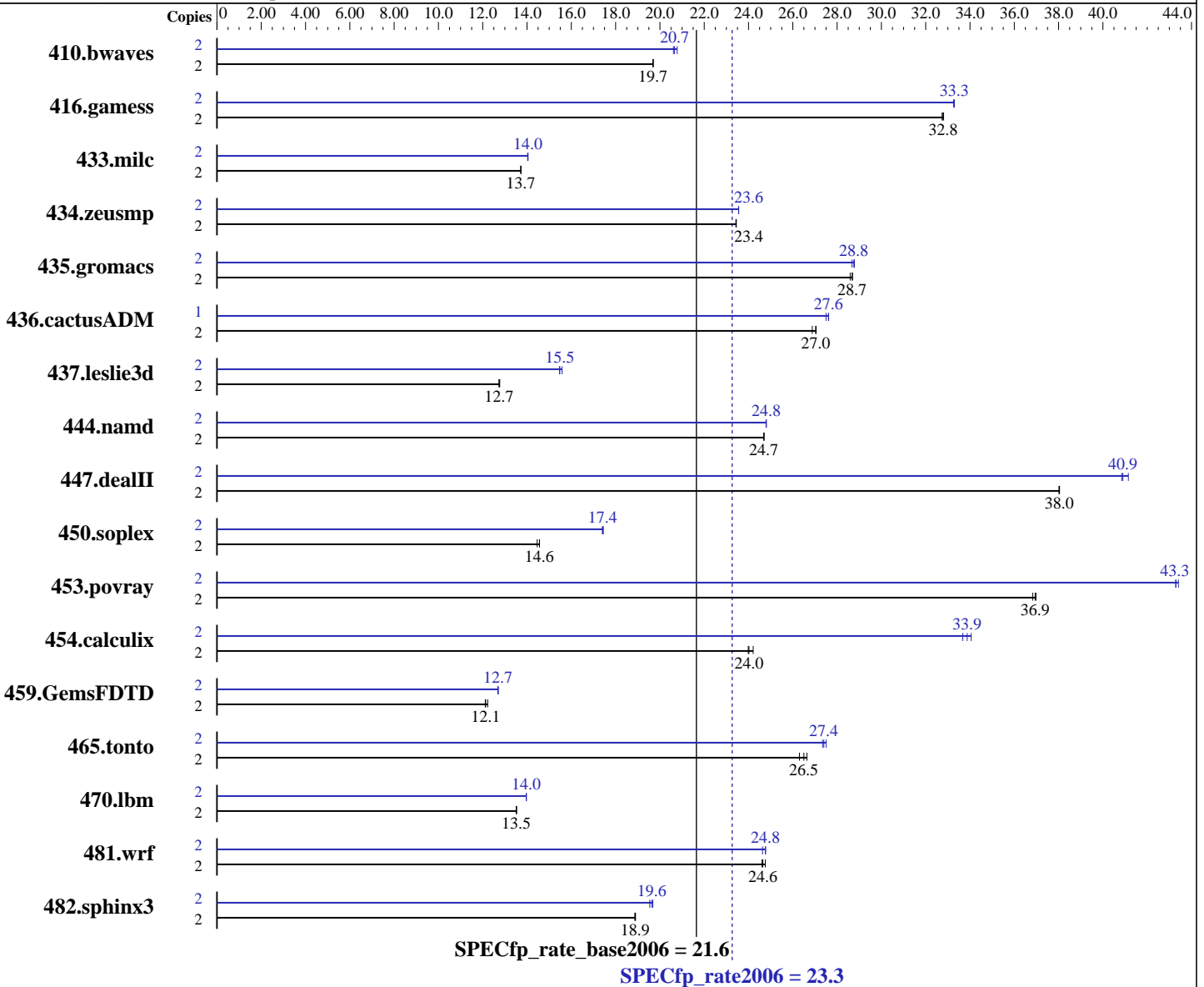
Test sponsor: Acer Incorporated

Tested by: Acer Incorporated

Test date: Oct-2007

Hardware Availability: Nov-2006

Software Availability: Nov-2007



### Hardware

CPU Name: Intel Xeon 5140  
 CPU Characteristics: 1333MHz system bus  
 CPU MHz: 2330  
 FPU: Integrated  
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip  
 CPU(s) orderable: 1, 2 chip  
 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 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, run 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 73 GB 10000RPM 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	2	1381	19.7	<b><u>1381</u></b>	<b><u>19.7</u></b>	1379	19.7	2	1319	20.6	<b><u>1316</u></b>	<b><u>20.7</u></b>	1308	20.8
416.gamess	2	1196	32.7	1194	32.8	<b><u>1194</u></b>	<b><u>32.8</u></b>	2	1177	33.3	1176	33.3	<b><u>1176</u></b>	<b><u>33.3</u></b>
433.milc	2	1338	13.7	<b><u>1338</u></b>	<b><u>13.7</u></b>	1338	13.7	2	1309	14.0	<b><u>1308</u></b>	<b><u>14.0</u></b>	1307	14.0
434.zeusmp	2	777	23.4	776	23.4	<b><u>776</u></b>	<b><u>23.4</u></b>	2	773	23.6	773	23.6	<b><u>773</u></b>	<b><u>23.6</u></b>
435.gromacs	2	498	28.7	<b><u>498</u></b>	<b><u>28.7</u></b>	499	28.6	2	496	28.8	<b><u>497</u></b>	<b><u>28.8</u></b>	498	28.7
436.cactusADM	2	884	27.1	889	26.9	<b><u>884</u></b>	<b><u>27.0</u></b>	1	433	27.6	435	27.5	<b><u>433</u></b>	<b><u>27.6</u></b>
437.leslie3d	2	1472	12.8	<b><u>1475</u></b>	<b><u>12.7</u></b>	1476	12.7	2	1215	15.5	<b><u>1215</u></b>	<b><u>15.5</u></b>	1206	15.6
444.namd	2	649	24.7	650	24.7	<b><u>650</u></b>	<b><u>24.7</u></b>	2	<b><u>647</u></b>	<b><u>24.8</u></b>	647	24.8	647	24.8
447.dealII	2	602	38.0	601	38.0	<b><u>602</u></b>	<b><u>38.0</u></b>	2	556	41.1	560	40.8	<b><u>559</u></b>	<b><u>40.9</u></b>
450.soplex	2	<b><u>1146</u></b>	<b><u>14.6</u></b>	1154	14.5	1145	14.6	2	<b><u>958</u></b>	<b><u>17.4</u></b>	959	17.4	956	17.4
453.povray	2	288	37.0	289	36.8	<b><u>288</u></b>	<b><u>36.9</u></b>	2	246	43.3	245	43.4	<b><u>246</u></b>	<b><u>43.3</u></b>
454.calculix	2	<b><u>687</u></b>	<b><u>24.0</u></b>	688	24.0	682	24.2	2	485	34.1	<b><u>487</u></b>	<b><u>33.9</u></b>	490	33.7
459.GemsFDTD	2	1752	12.1	<b><u>1749</u></b>	<b><u>12.1</u></b>	1736	12.2	2	1673	12.7	<b><u>1673</u></b>	<b><u>12.7</u></b>	1670	12.7
465.tonto	2	739	26.6	748	26.3	<b><u>743</u></b>	<b><u>26.5</u></b>	2	720	27.3	<b><u>718</u></b>	<b><u>27.4</u></b>	715	27.5
470.lbm	2	<b><u>2032</u></b>	<b><u>13.5</u></b>	2032	13.5	2034	13.5	2	1967	14.0	1968	14.0	<b><u>1967</u></b>	<b><u>14.0</u></b>
481.wrf	2	<b><u>906</u></b>	<b><u>24.6</u></b>	902	24.8	908	24.6	2	907	24.6	<b><u>902</u></b>	<b><u>24.8</u></b>	902	24.8
482.sphinx3	2	<b><u>2064</u></b>	<b><u>18.9</u></b>	2063	18.9	2066	18.9	2	1995	19.5	<b><u>1986</u></b>	<b><u>19.6</u></b>	1981	19.7

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

## General Notes

taskset used to bind copies to cores, except for 436.cactusADM peak  
OMP\_NUM\_THREADS was set to number of logical processors as seen by the OS  
KMP\_AFFINITY was set to physical,0

## Base Compiler Invocation

C benchmarks:  
icc

C++ benchmarks:  
icpc

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Hardware Availability: Nov-2006

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## Base Compiler Invocation (Continued)

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

## 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

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## Peak Compiler Invocation (Continued)

C benchmarks (except as noted below) (continued):

-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

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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