



# SPEC<sup>®</sup> CFP2006 Result

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## Acer Incorporated

## SPECfp<sup>®</sup>\_rate2006 = 64.0

## Acer Altos R720 (Intel Xeon E5405)

## SPECfp\_rate\_base2006 = 57.6

CPU2006 license: 97

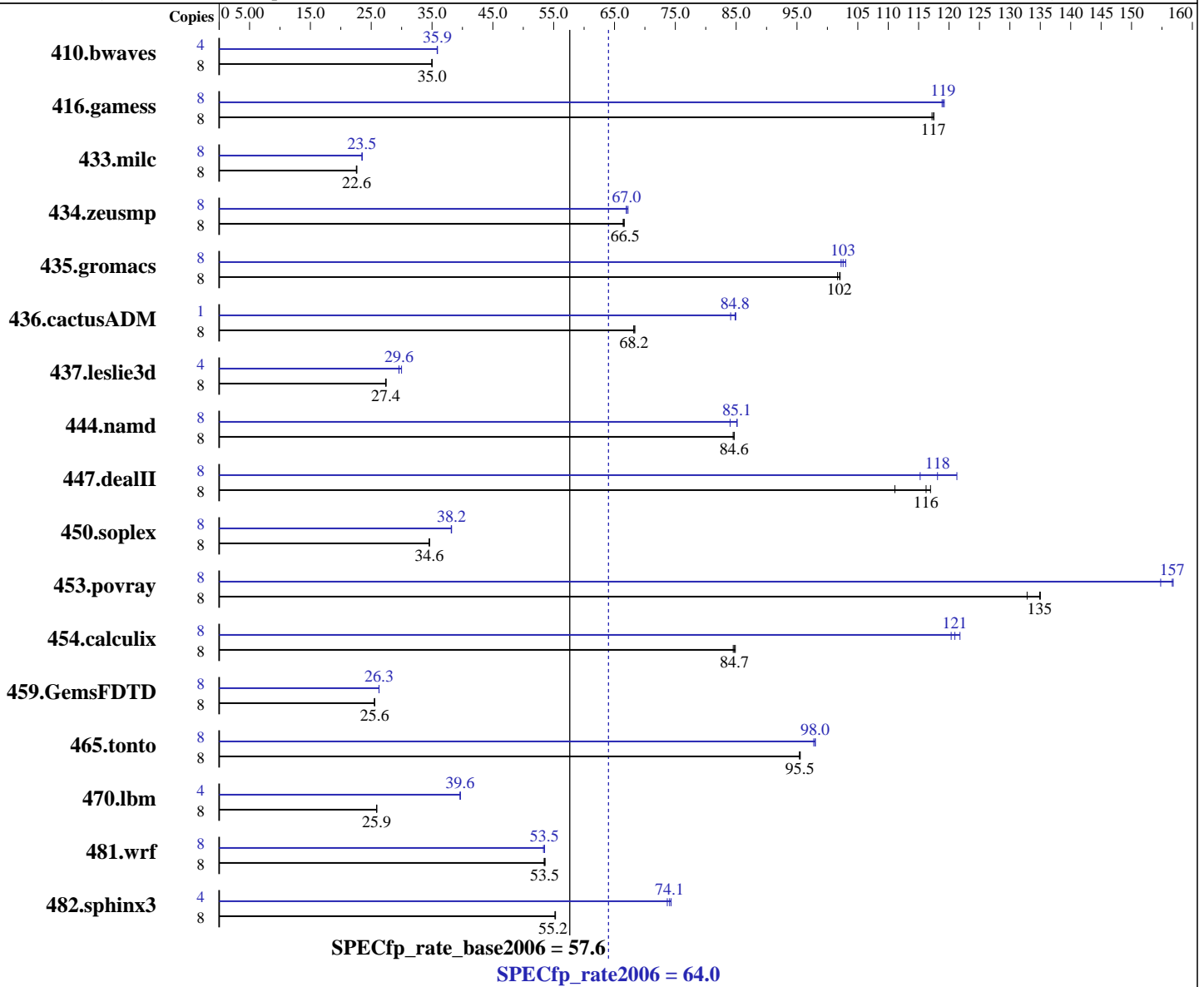
Test sponsor: Acer Incorporated

Tested by: Acer Incorporated

Test date: Jan-2008

Hardware Availability: Nov-2007

Software Availability: Nov-2007



### Hardware

CPU Name: Intel Xeon E5405  
 CPU Characteristics: 1333MHz system bus  
 CPU MHz: 2000  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip  
 CPU(s) orderable: 1, 2 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 12 MB I+D on chip per chip, 6 MB shared / 2 cores

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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	8	3103	35.0	<b><u>3105</u></b>	<b><u>35.0</u></b>	3112	34.9	4	1517	35.8	<b><u>1515</u></b>	<b><u>35.9</u></b>	1515	35.9
416.gamess	8	1333	118	<b><u>1334</u></b>	<b><u>117</u></b>	1337	117	8	1314	119	1318	119	<b><u>1316</u></b>	<b><u>119</u></b>
433.milc	8	3244	22.6	<b><u>3249</u></b>	<b><u>22.6</u></b>	3256	22.6	8	<b><u>3126</u></b>	<b><u>23.5</u></b>	3126	23.5	3123	23.5
434.zeusmp	8	1093	66.6	1096	66.4	<b><u>1094</u></b>	<b><u>66.5</u></b>	8	1087	66.9	<b><u>1087</u></b>	<b><u>67.0</u></b>	1083	67.2
435.gromacs	8	<b><u>560</u></b>	<b><u>102</u></b>	562	102	559	102	8	<b><u>557</u></b>	<b><u>103</u></b>	559	102	554	103
436.cactusADM	8	1399	68.4	1403	68.2	<b><u>1401</u></b>	<b><u>68.2</u></b>	1	141	84.9	<b><u>141</u></b>	<b><u>84.8</u></b>	142	84.1
437.leslie3d	8	<b><u>2743</u></b>	<b><u>27.4</u></b>	2739	27.5	2748	27.4	4	1272	29.6	<b><u>1271</u></b>	<b><u>29.6</u></b>	1254	30.0
444.namd	8	<b><u>758</u></b>	<b><u>84.6</u></b>	758	84.7	759	84.5	8	753	85.2	<b><u>754</u></b>	<b><u>85.1</u></b>	764	84.0
447.dealII	8	783	117	824	111	<b><u>787</u></b>	<b><u>116</u></b>	8	<b><u>775</u></b>	<b><u>118</u></b>	794	115	755	121
450.soplex	8	<b><u>1931</u></b>	<b><u>34.6</u></b>	1929	34.6	1932	34.5	8	<b><u>1747</u></b>	<b><u>38.2</u></b>	1746	38.2	1749	38.2
453.povray	8	315	135	320	133	<b><u>316</u></b>	<b><u>135</u></b>	8	271	157	<b><u>272</u></b>	<b><u>157</u></b>	275	155
454.calculix	8	781	84.5	<b><u>779</u></b>	<b><u>84.7</u></b>	778	84.9	8	548	120	<b><u>546</u></b>	<b><u>121</u></b>	542	122
459.GemsFDTD	8	3328	25.5	<b><u>3318</u></b>	<b><u>25.6</u></b>	3316	25.6	8	<b><u>3229</u></b>	<b><u>26.3</u></b>	3228	26.3	3230	26.3
465.tonto	8	825	95.4	<b><u>825</u></b>	<b><u>95.5</u></b>	824	95.5	8	<b><u>803</u></b>	<b><u>98.0</u></b>	803	98.0	805	97.7
470.lbm	8	4246	25.9	4243	25.9	<b><u>4244</u></b>	<b><u>25.9</u></b>	4	<b><u>1387</u></b>	<b><u>39.6</u></b>	1387	39.6	1386	39.7
481.wrf	8	1673	53.4	1668	53.6	<b><u>1670</u></b>	<b><u>53.5</u></b>	8	<b><u>1670</u></b>	<b><u>53.5</u></b>	1670	53.5	1676	53.3
482.sphinx3	8	2819	55.3	<b><u>2823</u></b>	<b><u>55.2</u></b>	2823	55.2	4	1058	73.7	<b><u>1053</u></b>	<b><u>74.1</u></b>	1049	74.3

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 OFF

Adjacent Cache Line Prefetch set to OFF

All results used taskset to bind processes to cores.  
"ulimit -s unlimited" was set for stacksize unlimited



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CPU2006 license: 97

Test sponsor: Acer Incorporated

Tested by: Acer Incorporated

Test date: Jan-2008

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.20090714.08.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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