



# SPEC® CFP2006 Result

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## Acer Incorporated

Acer AW2000h-AW170h F1 (Intel Xeon X5570, 2.93 GHz)

SPECfp®2006 = 43.7

SPECfp\_base2006 = 40.8

CPU2006 license: 97

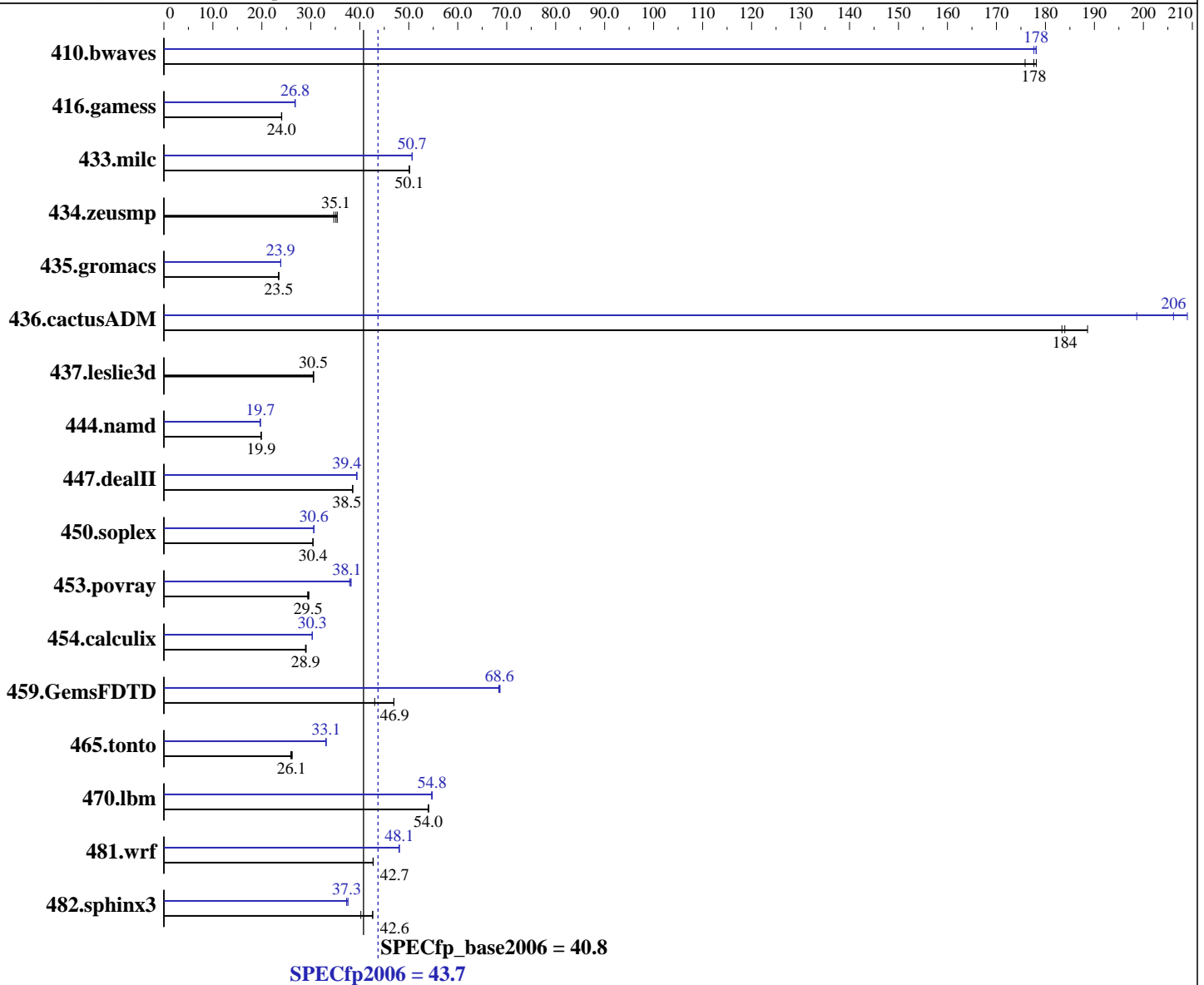
Test sponsor: Acer Incorporated

Tested by: Acer Incorporated

Test date: Jul-2010

Hardware Availability: Aug-2010

Software Availability: Jan-2010



### Hardware

CPU Name: Intel Xeon X5570  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.33 GHz  
 CPU MHz: 2933  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip, 2 threads/core  
 CPU(s) orderable: 1,2 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 256 KB I+D on chip per core

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### Software

Operating System: SUSE Linux Enterprise Server 11 (x86\_64)  
 Kernel 2.6.27.19-5-default  
 Compiler: Intel C++ and Fortran Professional Compiler for IA32 and Intel 64, Version 11.1  
 Build 20091130 Package ID: l\_cproc\_p\_11.1.064, l\_cprof\_p\_11.1.064  
 Auto Parallel: Yes  
 File System: ReiserFS  
 System State: Run level 3 (multi-user)

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L3 Cache: 8 MB I+D on chip per chip  
Other Cache: None  
Memory: 24 GB (6 x 4 GB 2Rx8 PC3-10600R-9, ECC)  
Disk Subsystem: 1 x 1000 GB SATA II, 7200 RPM  
Other Hardware: None

Base Pointers: 64-bit  
Peak Pointers: 32/64-bit  
Other Software: None

## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	77.3	176	<b><u>76.5</u></b>	<b><u>178</u></b>	76.3	178	<b><u>76.5</u></b>	178	<b><u>76.3</u></b>	<b><u>178</u></b>	76.3	178
416.gamess	<b><u>815</u></b>	<b><u>24.0</u></b>	814	24.1	815	24.0	731	26.8	730	26.8	<b><u>731</u></b>	<b><u>26.8</u></b>
433.milc	183	50.1	<b><u>183</u></b>	<b><u>50.1</u></b>	183	50.2	181	50.7	181	50.7	<b><u>181</u></b>	<b><u>50.7</u></b>
434.zeusmp	<b><u>259</u></b>	<b><u>35.1</u></b>	262	34.7	257	35.4	<b><u>259</u></b>	<b><u>35.1</u></b>	262	34.7	257	35.4
435.gromacs	304	23.5	<b><u>304</u></b>	<b><u>23.5</u></b>	306	23.4	<b><u>299</u></b>	<b><u>23.9</u></b>	299	23.9	299	23.9
436.cactusADM	<b><u>65.0</u></b>	<b><u>184</u></b>	65.2	183	63.4	189	60.2	199	57.2	209	<b><u>58.0</u></b>	<b><u>206</u></b>
437.leslie3d	307	30.6	308	30.5	<b><u>308</u></b>	<b><u>30.5</u></b>	307	30.6	308	30.5	<b><u>308</u></b>	<b><u>30.5</u></b>
444.namd	404	19.9	404	19.9	<b><u>404</u></b>	<b><u>19.9</u></b>	<b><u>407</u></b>	<b><u>19.7</u></b>	407	19.7	407	19.7
447.dealII	297	38.6	<b><u>297</u></b>	<b><u>38.5</u></b>	297	38.5	290	39.4	<b><u>290</u></b>	<b><u>39.4</u></b>	290	39.4
450.soplex	274	30.4	<b><u>274</u></b>	<b><u>30.4</u></b>	274	30.5	273	30.6	272	30.6	<b><u>272</u></b>	<b><u>30.6</u></b>
453.povray	181	29.3	<b><u>180</u></b>	<b><u>29.5</u></b>	180	29.6	139	38.2	<b><u>140</u></b>	<b><u>38.1</u></b>	140	37.9
454.calculix	<b><u>285</u></b>	<b><u>28.9</u></b>	285	28.9	284	29.1	272	30.3	272	30.3	<b><u>272</u></b>	<b><u>30.3</u></b>
459.GemsFDTD	<b><u>226</u></b>	<b><u>46.9</u></b>	226	47.0	247	43.0	155	68.6	155	68.4	<b><u>155</u></b>	<b><u>68.6</u></b>
465.tonto	376	26.2	<b><u>377</u></b>	<b><u>26.1</u></b>	380	25.9	297	33.1	297	33.1	<b><u>297</u></b>	<b><u>33.1</u></b>
470.lbm	<b><u>255</u></b>	<b><u>54.0</u></b>	254	54.1	255	53.9	251	54.8	251	54.7	<b><u>251</u></b>	<b><u>54.8</u></b>
481.wrf	262	42.7	<b><u>261</u></b>	<b><u>42.7</u></b>	261	42.8	232	48.1	232	48.0	<b><u>232</u></b>	<b><u>48.1</u></b>
482.sphinx3	<b><u>458</u></b>	<b><u>42.6</u></b>	485	40.2	457	42.7	522	37.3	<b><u>522</u></b>	<b><u>37.3</u></b>	518	37.6

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

## Operating System Notes

'ulimit -s unlimited' was used to set the stack size to unlimited prior to run  
OMP\_NUM\_THREADS set to number of cores  
KMP\_AFFINITY set to granularity=fine,scatter  
KMP\_STACKSIZE set to 200M

## General Notes

Binaries were compiled on SLES 10 with Binutils 2.18.50.0.7.20080502

The Acer AW2000h-AW170h F1, Gateway GW2000h-GW170h F1, Acer AW2000ht-AW170ht F1 and Gateway GW2000ht-GW170ht F1 are electronically equivalent.  
This result was measured on GW2000ht-GW170ht F1.



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## Base Compiler Invocation

C benchmarks:

icc -m64

C++ benchmarks:

icpc -m64

Fortran benchmarks:

ifort -m64

Benchmarks using both Fortran and C:

icc -m64 ifort -m64

## 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:

-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

C++ benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

Fortran benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

Benchmarks using both Fortran and C:

-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch



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## Peak Compiler Invocation

C benchmarks:

icc -m64

C++ benchmarks:

icpc -m64

Fortran benchmarks:

ifort -m64

Benchmarks using both Fortran and C:

icc -m64 ifort -m64

## Peak Portability Flags

Same as Base Portability Flags

## Peak Optimization Flags

C benchmarks:

433.milc: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-ansi-alias

470.lbm: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-parallel -ansi-alias -auto-ilp32

482.sphinx3: -xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32  
-unroll2

C++ benchmarks:

444.namd: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-fno-alias -auto-ilp32

447.dealII: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-unroll2 -ansi-alias -scalar-rep- -auto-ilp32

450.soplex: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-opt-malloc-options=3 -auto-ilp32

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## Peak Optimization Flags (Continued)

453.povray: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-unroll4 -ansi-alias

Fortran benchmarks:

410.bwaves: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch  
-parallel

416.gamess: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-unroll2 -Ob0 -ansi-alias -scalar-rep-

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-unroll2 -Ob0 -opt-prefetch -parallel

465.tonto: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-inline-calloc -opt-malloc-options=3 -auto -unroll4

Benchmarks using both Fortran and C:

435.gromacs: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-opt-prefetch -auto-ilp32

436.cactusADM: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-unroll2 -opt-prefetch -parallel -auto-ilp32

454.calculix: -xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32

481.wrf: Same as 454.calculix

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revG.20101027.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revG.20101027.xml>



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